



**A Social Semiotic Analysis of EFL Students’
Multimodal Composing: The Use of Modes,
Remaking of Signs, and Semiotic Awareness**

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Dedication

*To my dear mother, whose unwavering love and support have been my source of strength
in persevering and completing this degree.*

Abstract

In a world full of multimodal communication, Contemporary communication rarely relies solely on spoken or written form of language, but is increasingly made with multiple modes, e.g. writing, audio, and image. This prompts a call for educators to rethink literacy in language classrooms. Despite a growing interest in multimodality in L2 contexts, the investigation of students' multimodal composing and semiotic awareness remains underexplored, particularly in the Thai EFL context.

This study examines multimodal composing activities of Thai university students in one EFL classroom, drawing on multimodal social semiotics (Bezemer and Kress, 2016) and multiliteracies (Cope and Kalantzis, 2009), to understand three aspects: the multimodal design of the students' produced texts, the remaking of signs, and their semiotic awareness while composing multimodally. The students' multimodal texts produced as part of an L2 multimodal composing project—short summaries, digital posters, and oral presentations of their innovative product—were analysed using social semiotics to gain insights into the first two aspects. Background questionnaires, recordings of planning and composing processes, and interview responses were collected to understand the context and reasons for their semiotic choices, enriching the social semiotic analysis. The recordings and interviews were also deductively and inductively analysed to explore emerging semiotic awareness.

The analysis of two focal cases reveals that Thai EFL students were able to produce expressive multimodal texts, and multimodal composing fostered their semiotic awareness even without any training on multimodal meaning-making. However, material, contextual, and social factors were found to crucially shape the students' semiotic choices, the meaning represented in the texts, and the extent of their semiotic awareness. The findings underscore the need to recognise the critical roles of diverse representational modes, influencing factors, and semiotic awareness for more powerful and accurate communication. The study presents a conceptualisation of the complexity of L2 multimodal composing and offers pedagogical implications to enhance language learners' semiotic repertoire and awareness to meet the evolving communicative demands of the world.

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Declaration

I declare that this thesis is my own work. I have appropriately credited the work of others and no parts of the material presented has been previously submitted for any other award or qualification at Newcastle University or any other educational institutions.

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Pattaramas Jantasin

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List of Abbreviations

CA	Conversation analysis
CALL	Computer-assisted language learning
CMC	Collaborative multimodal composing
ECLS	Education, Communication and Language Science School
EFL	English as a foreign language
HASS	Faculty of Humanities and Social Sciences
L2	Second language learners
SFL	Systemic functional linguistics
SF-MDA	Systemic functional approach to multimodal discourse analysis
TESOL	Teaching English to Speakers of Other Languages

Chapter 1. Introduction

“The world was changing, the communications environment was changing, and it seemed to us that to follow these changes literacy teaching and learning would have to change as well.”

– Cope and Kalantzis (2009, p. 165)

In a world increasingly mediated by advanced digital technologies, the increasing range of tools and communicative modes such as emojis, videos, and moving images has resulted in multiple ways to express meaning. This shift in communication practices has generated new communicative demands which require a reconsideration of what skills are needed for communication and what it means to be literate in this changing world (Belcher, 2017; Li and Storch, 2017; The New London Group, 1996).

This thesis investigates Thai university students’ composing activities in one English as foreign language (EFL) classroom, drawing on a multimodal social semiotic (Bezemer and Kress, 2016) and multiliteracies perspective (Cope and Kalantzis, 2009). It offers novel insights into an existing language learning task by attending to the multimodal design of students’ produced texts, particularly how various means of communication are used to express meaning in students’ multimodal products, changes in meaning from the process of remaking signs across the texts, and instances of semiotic awareness emerging during the composing process. The primary aim is to gain a nuanced understanding of the complexity of multimodal composing and semiotic awareness in an EFL learning context. This first chapter starts with an overview of the background and rationale of the study. It then introduces the context and presents the research questions and aims. A definition of terms is then given before the chapter concludes by setting out the organisation of the thesis.

1.1 Background to the Study

Rather than relying solely on speech and writing, it is commonplace for people to combine multiple *modes*– “socially shaped and culturally given semiotic resource[s] for making meaning” (Kress, 2010, p. 79) – for communication. For example, image and writing are often used together in memes or posters, or speech, gesture, and facial expression combine in spoken interaction. When modes are combined, meaning is derived from the complex interplay of them as an integrated whole, rather than the sum of its separate parts (Baldry

and Thibault, 2006, p.3); meaning is multimodally made. As “all meaning-making is multimodal” (The New London Group, 1996, p. 81), all modes including writing and speech have distinct meaning potentials which can be combined to enhance individuals’ potentials for expressing meanings (Bezemer and Kress, 2016). From this viewpoint, Kress (2015) advocates for a ‘multimodal turn’ in applied linguistics in order to understand the complexity of multimodal communication.

Due to the commonplace nature of multimodal communication in the modern world, scholars have questioned the perceived primacy of writing and speech in language learning and the conventional view of literacy, which focuses on learning the spoken and written form of language (Cope and Kalantzis, 2009; Jewitt, 2013; Kress, 2010). This shift is prompted by the recognition that the conventional focus is no longer adequate for preparing learners to fully participate in the modern social and working life (Gee, 2004; Unsworth, 2011). To meet the evolving communication needs requires more than an emphasis on alphabetical literacy; being literate nowadays requires *multiliteracies*, a new approach that expands conventional language-based literacy (Cope and Kalantzis, 2009; The New London Group, 1996).

Considering multiliteracies in language education is even more vital in today’s digital communication era, with the rapidly growing importance of various means of communication and global interconnectedness. Multiliteracies highlights the diversity of meaning-making across various sociocultural contexts. It underscores the importance of developing students’ ability to negotiate meaning across different contexts and modes of representation (Cope and Kalantzis, 2009) and regards learners as “fully makers and remakers of signs and transformers of meaning” (ibid. p.175). Multiliteracies shifts the focus of language learning to *multimodal literacy* and *semiotic awareness*, i.e. the adaptive ability and recognition to effectively exploit the meaning-making potentials of diverse modes and semiotic resources to achieve communicative purposes in contextually appropriate ways (Nelson, 2012; van Leeuwen, 2017) (Section 2.4.1). This means that, instead of teaching static, fixed structures, discourses, or forms, multiliteracies aims to create active meaning makers who are able to draw on their semiotic repertoire to represent meaning and are open to changes, differences, and innovations (ibid). Language in this view is no longer limited to speech and writing, but is positioned “on the universe of signs in which it is embedded” (Kramsch, 2000, p. 322) as one of the available means for

meaning-making. Accordingly, *language learners* can be understood as multimodal sign-makers who make use of their full semiotic repertoire to negotiate meaning.

The advent of digital technologies has expanded the range of modes available, making it easier for people to use and combine them, and also significantly altered writing practices, giving rise to an increasing prevalence of *multimodal texts*, a form of text that consists of multiple modes such as images, music, and sound (Jewitt, 2009; Kress, 2010). The term *text* is used broadly to refer to semiotic entities of any kind, whether in two, three, or four dimensions (Kress, 2011a); thus, multimodal texts also include 3D models, role playing, and live presentations. Changes in writing practices have resulted in a *reconceptualisation of writing* from the process of creating alphabetic texts to a broader concept of *multimodal composing*, referring to the process of creating multimodal texts by combining multiple modes to express meanings (Hafner, 2018) (Multimodal composing is further discussed in Section 2.6)

Multimodal composing is semiotic practices in which L2 learners are increasingly involved in their daily lives and school settings (Li, 2022). The term ‘L2’ is used in a comprehensive and inclusive manner, referring to any additional languages being learned, and therefore includes foreign languages. In schools, L2 learners may be asked to participate in multimodal composing activities that require them to combine multiple modes across different media, such as creating online newspapers, writing blogs, recording videos, and designing posters. These kinds of activities have also been increasingly integrated into EFL classrooms in Thailand because of the government’s policy to promote the use of technology in education (Ministry of ICT, 2009).

L2 multimodal composing has recently gained increasing scholarly and professional attention as it offers ample opportunities for the learning and development of L2 learners. It can, for example, empower self-expression and identity negotiation through a wide range of resources (Belcher, 2017; Shin and Cimasko, 2008), develop students’ multiliteracy skills and enhance their semiotic awareness (Shin, Cimasko and Yi, 2020; Unsworth and Mills, 2020), promote peer scaffolding (Hafner and Miller, 2011), improve linguistic proficiency (Dzekoe, 2017; Kim and Belcher, 2020), and prepare students for digital-mediated communication and their future employment more effectively (Belcher, 2017). Despite this growing interest, the field of L2 multimodal composing is still in its early stages (Li and Akoto, 2021; Smith, 2017; Yi, Shin and Cimasko, 2020). There has been a

call for educators in the field of English language learning to reconceptualise writing, expand what it means to be literate, and re-examine skills needed for communication in our rapidly changing world (Belcher, 2017; Cope and Kalantzis, 2009; Li and Storch, 2017).

This study responds to this call and offers a novel contribution by adopting a social semiotic lens to investigate how Thai EFL students employ modes, remake signs, and materialise their semiotic awareness in completing multimodal composing tasks as part of a foundation English module in a public university in Thailand. By focusing on learners' sign-making in context, not pedagogy per se, it expands theoretical and methodological understandings of multimodal meaning-making in underexplored EFL environments. Although the activities were not purposively designed to help the students focus on their multimodal literacy, I perceive them as multimodal composing activities since they offer opportunities for students to learn and expand their semiotic repertoire as they explore ways of expressing their ideas through the use of multiple modes (Bezemer and Kress, 2016; Lim and Tan-Chia, 2022). This perception is rooted in social semiotics and the requirement for students to use speech, writing, and other modes in completing tasks; thus, they de facto comprise multimodal composing. The results could be valuable for language educators, encouraging them to expand their understanding of literacy and redesign composing activities to better facilitate language learners in expanding their full semiotic repertoire and awareness for effective communication.

1.2 English Language Teaching and Learning in Thailand

This study takes place in Thailand, a developing country where English is regarded as a foreign language for communication. Despite the fact that English is not widely used in the daily lives of Thais, the Ministry of Education recognises its significance and designates English as a compulsory subject at all levels of education, from pre-primary to higher education (Ministry of Education, 2008). At the university level, undergraduate students are required to take at least four English modules (12 credits), which include foundation courses and English for Specific Purposes (ESP) modules, to complete their degree. They typically study English for three to four sessions per week, each lasting 50-70 minutes. Language pedagogy at the university level has been changing to align with curriculum's goals, the changing purposes of language learning and current language teaching theories (Darasawang, 2007).

In Thailand, there has been a paradigm shift in English language teaching methods. Since the 1930s, the traditional grammar-translation and audio-lingual methods had long been the main methods used to prepare Thais for interacting with foreign traders and studying abroad (Darasawang, 2007; Wongsophon, Hiranburana, and Chinnawongs, 2002). However, the two methods were replaced by Communicative Language Teaching (CLT) and Task-Based Language Teaching (TBLT) in the late 1990s, as the National Scheme of Education shifted its focus, promoting practical communication, lifelong learning, and learner-centred education. These methods were employed to involve students in learning English in a more meaningful and practical way, focusing on communicative competence and autonomous learning rather than just knowledge about the language (Darasawang, 2007; Wongsophon et al., 2002).

In the early 2000s, the Ministry of Education provided a clearer focus for language learning, i.e. to “enable learners to acquire a favourable attitude towards foreign languages, the ability to use foreign languages for communicating in various situations, seeking knowledge, engaging in a livelihood and pursuing further education at higher levels” (p.252). Moreover, the government promoted the incorporation of technology in education (Ministry of ICT, 2009). Most recently, in 2016, the Thai government launched the Thailand 4.0 policies, which emphasises the skills students need for their future jobs and lives in the 21st century, such as reading, writing, critical thinking, communication, information, and media literacy. They highlighted the need to “prepare Thais with skills and competencies corresponding to the realities of the 21st century,” which are highly digital and multimodal (Office of the Education Council, 2017, p. 13).

Consequently, there has been a growing integration of multimedia and technologies into classroom practices. EFL learners in Thailand have become increasingly engaged in activities and tasks that involve various media and enable students to employ and make use of various modes for communication, such as creating presentation slides, designing posters, recording videos, and creating social media posts as part of their language learning experience. These activities allow students to incorporate multiple modes for making meaning and are, thus, considered multimodal composing activities by nature.

Despite the government’s awareness of the changing world and the growing use of technology in language learning classrooms, which enables learners to combine modes more easily, there is a lack of clear emphasis on *multimodal literacy* in language education.

This lack of emphasis persists despite its importance in addressing the evolving communication needs. English curricula remain predominantly focused on language use solely through writing and speech, even when multimodal composing activities are used. At the university level, many language teachers prioritise writing and speech as the learning goal, using multimodal composing activities merely as a means for developing these skills, rather than for enhancing multimodal communication competencies. Some recent examples include the use of digital storytelling to improve English speaking ability (Nampaktai and Suksiripakonchai, 2018), a weblog portfolio to improve English writing skills (Kongsuebchart and Suppasetsee, 2016), and mind mapping to facilitate L2 writing development (Tarin and Yawiloeng, 2022). Moreover, Sakulprasertsri (2020) explored the perceptions of 10 university English teachers from different regions in Thailand towards the integration of multimodality. His study found that most teachers were unfamiliar with the term ‘multimodality’, despite using multiple modes in their teaching. They understood the term differently, perceiving it as referring to teaching methods or materials, which suggests that the concept of ‘multimodality’ is still relatively new to English teachers in Thailand.

1.3 Context of the Study

The study involved first-year students taking a foundation English module at a public university in central Thailand. The university aims to produce graduates who have capabilities and essential skills to meet the demands of the global labour market by providing education and learning that align with rapid changes and new global contexts. The foundation English module was a pass/fail course required for first year students who had an overall IELTS score below 4.5. It aimed to improve their basic communicative skills in English, especially in reading, listening, speaking, and writing. The instruction and learning activities integrated multimedia and technology and were mainly designed based on *active learning approach* (Bonwell and Eison, 1991), fostering students to actively and experientially learn through pair and group work, tasks, discussions, and presentations.

In this module, the students were required to complete one final project in a small group. The project was taken from a task in the Unit 5 of the course book, co-designed by the lecturers, including myself, in 2018 (see Section 3.8). I developed this unit, the task details, and the scoring rubric before beginning my PhD and without prior knowledge of multimodality. Based on a product-based approach (Steele, 2004), the task required the

students to work collaboratively to design a poster promoting their chosen innovative product and deliver an in-class presentation. The aims were to engage students through group work and encourage them to use both the target language structure (comparative and superlative adjectives) and creativity in communication (Section 3.4).

The task offered opportunities for the students to make use of multiple modes for communication, making it inherently a multimodal composing activity. This made it a suitable data source for investigating how the students drew upon their full semiotic repertoire to make meaning and demonstrated their semiotic awareness while completing the task. However, in the main study, the task was slightly adjusted in response to the university's policy due to the Covid-19 pandemic and as a result of the pilot study. Some stages of the task were completed online using Zoom and Google Slides. In addition, the students were asked to write a short summary to help plan their ideas and were provided with a handout collaboratively designed by the lecturer and myself. The handout contained the task details and guidance on completing the task and working remotely in groups (see Sections 3.4.2 and 3.6.2).

The participants were first-year students taking a foundation English module during the first semester of 2020. They were from a class taught by a Thai lecturer, a colleague of mine since 2018, who granted access for data collection (Section 3.8). The students in her class were invited to participate in the study voluntarily. Two groups of students, namely GOT4 and Pungpuriyé, were selected as focal cases for their potential to provide valuable insights into how the students used varying numbers of modes and semiotic resources to complete the same multimodal composing project (Section 3.6.1).

1.4 Rationale of the Study

As meaning is derived from the combination of modes, with each mode contributing partially to the overall meaning as a whole (Kress, 2010), it is no longer possible to understand the overall meaning by interpreting or analysing one mode in isolation (Kress, 2015; Jewitt *et al.*, 2016). Therefore, a persistent focus of language learning on only writing and speech would exclude language learners from meaningful participation in contemporary communication (Gee, 2004; Grapin, 2019; Valdés, 2017). If the goal of language learning classes is to prepare students for contemporary communication in its full form, speech and writing will need to be taught as part of multimodal ensembles (Kress,

2015). This requires language teachers and learners to broaden their perspective and start attending to meaning-making practices with diverse modes of representation. In other words, they need to focus on writing and speech in relation to other modes to reflect the realities of digital communication practices. Language learners then need to understand not only how to convey meaning through written script, but also to be semiotically aware of how different modes can be used and combined to serve various communicative purposes and audiences in real-world contexts in effective ways (Cope and Kalantzis, 2009; Takayoshi and Selfe, 2007).

Furthermore, from my own professional experience as a university lecturer in Thailand, I have found that many language teachers and students, as well as the learning objectives of English language modules, usually regard writing and speech as the most important - sometimes the only - goal of language learning, even in activities that require them to compose multimodal texts. Although in recent years researchers in Thailand have begun exploring multimodality, this area of study is still in its infancy, with only a handful of studies conducted. For example, Sakulprasertsri (2020) investigated university English teachers' teaching practice and their perceptions, along with those of their students, of the integration of multimodality in the language classroom. Phengsuai and Suwanarak (2020) explored students and teachers' perceptions of a multimodal approach to teach English reading skills. Bansong, Poopatwiboon and Sukying (2023) examined primary school learners' attitudes towards multimodal teaching and how it might help improve their English vocabulary knowledge. Yet despite this evidence of growing interest, these studies approached multimodality from a *weak* perspective, considering non-verbal modes merely as tools or stimuli to enhance linguistic proficiency (Grapin, 2019) (Section 2.7.1).

Therefore, to prepare Thai EFL students for full participation in contemporary communication practices, which are increasingly digital and multimodal, it is imperative to focus on their full semiotic repertoire and awareness to help them communicate effectively. Given that, as noted above, writing and speech are no longer the exclusive modes of communication, current Thai EFL pedagogical practices and the focus of language learning, particularly for writing assignments, need to be re-examined. There is a need to understand how students communicate their ideas multimodally and how multimodal composing allows them to use and develop semiotic awareness. Gaining insights into these issues is critical for language teachers to better understand how the students make meaning, what they have learned through the task, and what it means to use multimodal composing

in their teaching. This is essential to ensure that school learning stays relatable and adequately equips students with the skills needed for the evolving demands of the future world.

To date, we know little about EFL students' semiotic choices and multimodal composing practices (e.g. Hafner, 2014; Shin and Cimasko, 2008; Smith, Pacheco and Rossato de Almeida, 2017). Moreover, no prior studies have examined the multimodal composing activities of Thai students, especially from a *strong* multimodal perspective (Grapin, 2019), which regards *all* modes as legitimate semiotic resources and the combination of them as a way to increase potentials to express meanings (see Section 2.7.2). Furthermore, the increasing number of international studies which are adopting a multimodal approach to understanding students' multimodal composing (e.g. Hafner, 2014; Shin, Cimasko and Yi, 2021) underscores the pressing need to explore this area more deeply.

Given this increasing focus, this study addresses a timely and critical issue in language education. It uniquely examines current language learning activities from a strong multimodal lens, a perspective that has not been thoroughly investigated. The study offers novel insights into the complexity of L2 multimodal composing, particularly how Thai EFL students used various modes and semiotic resources, remade signs, and materialised their semiotic awareness. In-depth insights on this issue would expand our understanding of the changing written and spoken communication practices in language learning contexts which can help language teachers to better support the development of students' multimodal literacy and semiotic awareness in varied educational contexts.

In relation to this, in my 2018 summer project, as part of the requirements for my iPhD degree, I conducted a small-scale study to investigate the use of different modes in multimodal texts composed by Thai EFL students, examining how meaning and potentials for learning changed when the meanings made by students in produced posters were rearticulated into oral presentations (see Appendix A for the abstract). The analysis of the students' multimodal texts showed that they used the same modes, but configured them differently, to emphasise specific aspects of their posters/presentations, and this remaking of meanings led to changes in meaning representation and opportunities for learning. This project acted as a pilot and a first step towards a more comprehensive understanding of EFL students' multimodal composing. Based on this project, I determined that future research might focus more on the interplay of the modes and opportunities for semiotic

awareness. Furthermore, as social semiotics has been criticised for placing its analytical focus heavily on artefacts and neglecting the context where the signs are made (Jewitt, Bezemer and O'Halloran, 2016; Prior, 2005), the current study also employs ethnographic tools (Green and Bloom, 1997) to garner a better understanding of students' social context and composing processes (Kress, 2011b). It was deemed that the combination of social semiotic analysis and data from ethnographic tools would generate more nuanced understandings of EFL students' semiotic choices, the reasons underlying their choices, and instances of semiotic awareness.

1.5 Aims of the Study and Research Questions

This qualitative study investigates language learners' multimodal composing activities in a typical Thai EFL classroom that has not yet prioritised the development of multimodal literacy. The emphasis is on students' multimodal production rather than the pedagogical strategies used in the classroom. The activities were slightly adapted according to the university's policy during the COVID-19 pandemic and the pilot study reflections, but this intervention was minimal to preserve the natural occurrence of the data (Section 3.6.2). As such, there are four aims of the study:

1. To explore language learning activities through a distinctive multimodal lens, i.e. a social semiotic and multiliteracies approach.
2. To gain insights into the semiotic choices made by Thai EFL students when composing multimodal texts in a classroom context and the potential factors involved in the design decisions.
3. To understand how a range of available modes shapes students' potentials for representing meanings and how it affects the signs and meanings being remade.
4. To explore instances of semiotic awareness that students demonstrate while completing their multimodal composing tasks.

The study was conducted to address one overarching research question:

How do Thai EFL students use modes and semiotic resources, remake signs, and materialise their semiotic awareness while composing multimodally?

To answer the main research question, three sub-questions have been formulated:

- **RQ1:** How do Thai EFL students use modes and semiotic resources while composing multimodally? This sub-question is further divided into:

- RQ1a) What modes and semiotic resources are used in the students' a) handwritten drafts, b) digital posters, and c) in-class presentations of an innovative product, and how?
- RQ1b) What are the potential reasons underlying the students' semiotic choices?
- **RQ2:** What signs and meanings do Thai EFL students re-make in the different products created during the multimodal composing activity, and how? What gains and losses in meanings are there during this transformation process?
- **RQ3:** What specific instances of semiotic awareness do Thai EFL students display while engaging with their multimodal composing task, and how do these instances manifest?

1.6 Definitions of Terms

This section provides a definition of the key terms and concepts used in this study. Further elaboration can be found in Chapter 2.

Term	Definition
Affordances	“the idea that different modes offer different potentials for making meaning” (Jewitt, Bezemer and O'Halloran, 2016, p. 155).
Gains and losses	the description and analysis of semiotic changes as a result of remaking signs (Kress, 2015).
Interest	“the momentary condensation of all the (relevant) social experiences that have shaped the sign maker’s subjectivity” (Jewitt, Bezemer and O'Halloran, 2016, p. 68).
Language	Language is positioned “on the universe of signs in which it is embedded” (Kramsch, 2000, p. 322). This study considers language to be one of the semiotic systems for meaning-making, which may not necessary the most important.
Learning	the inevitable outcome of any and every transformative engagement with signs. This involves <i>mimesis</i> , <i>transduction</i> , and <i>transformation</i> (Bezemer and Kress, 2016). Transformative engagement is accepted as traces of learning that are appeared appeared over time (i.e. <i>signs of learning</i>).

Meaning	“the result of (semiotic) work, whether as articulation in the outwardly made sign ... or as interpretation in the inwardly made sign” (Kress, 2003, p. 37, italics in original). In this study, the focus of analysis is on the meaning that is instantiated in the signs in the students’ texts as a result of the orchestration of modes and semiotic resources (Jewitt, Bezemer and O’Halloran, 2016). ‘Intended meaning’ refers to the meaning that the maker intended to represent in a sign.
Meaning-making	“to recognise that meaning always involves a social actor. ‘Expressing’ and ‘interpreting’ or ‘understanding’ is an act of making meaning” (Jewitt, Bezemer and O’Halloran, 2016, p. 157).
Mimesis	a creative imitation which leads to a development in one’s practical knowledge (Wulf, 2008)
Mode	“a socially shaped and culturally given semiotic resource for making meaning” (Kress, 2010, p. 79). Examples of common modes include writing, speech, gesture, image, moving image and sound. Writing and speech is a different mode because each has its own sets of semiotic resources.
Multimodal texts	The outcome of semiotic work occurring from the process of design using multiple modes, whether in “two, three, or four dimensions, as when students in a science classroom make a 3D model of a plant cell; or when they perform/enact a play scripted by them” (Kress, 2011a, p. 207).
Remaking signs	The activity of interpreting a sign (Jewitt et al., 2016). When interpreting a sign, the interpreter’s interest shapes their attention and engagement to a particular aspect of the sign; they engage with the sign and inwardly remake meaning for themselves. Then the interpreter materialises their interpreted meaning outwardly as a new sign.
Semiotic awareness	“conscious attention to and understanding (even if partial or intuitive) of the ways individual semiotic modes and modes

	combination may be drawn upon in the designing of meaning” (Nelson, 2008, p. 70)
Semiotic resources	“a community’s means for making meaning. These are both material resources (i.e. modes) and immaterial conceptual resources, which are realised in and through modes” (Jewitt <i>et al.</i> , 2016, p.71).
Sign-maker	refers to both a person who makes a sign and one who interprets it (Kress, 2010).
Sign-making	The process of bringing apt modes and semiotic resources together to represent or re-represent all kinds of phenomena in the social world as signs (Kress in Blommaert <i>et al.</i> , 2019).
Signs	the elements in which a meaning (signified) is combined with an observable form (signifier) (Kress, 2010). Signs are motivated by the sign maker’s interest, the availability of modes, and the aptness of those resources to the meaning they wishes to convey at a specific setting (Jewitt <i>et al.</i> , 2016, p.59). A sign can have more than one potential meanings.
Transduction	“the remaking of meaning involving a move across modes” (Jewitt <i>et al.</i> , 2016, p.72).
Transformation	“remaking of meaning by changes within the same mode” (Jewitt <i>et al.</i> , 2016, p.161).

1.7 Organisation of the Thesis

This thesis is organised into seven chapters. Chapter 1 provides the background and context of the study, establishing its rationale by outlining the research problem and the main purposes for conducting the research, along with the research questions. Chapter 2 presents social semiotics and multiliteracies as the theoretical framework employed in the study. It then reviews the relevant literature on L2 multimodal composing before concluding by identifying the research gaps that this study aims to address. Chapter 3 details the research methodology underpinning the study. It consists of the philosophical stance, research design, reports of a pilot study, participants’ details, data collection methods and tools, and procedures of data analysis. Trustworthiness, ethical considerations, methodological issues and limitations are also explained.

Chapters 4 and 5 offer in-depth analyses of two focal cases, examining the use of modes and semiotic resources in different types of texts produced, the potential factors shaping the semiotic choices, gains and losses in meaning from the process of remaking signs, and instances of semiotic awareness the students demonstrated while engaging with multimodal composing. Chapter 4 focuses on the first case, a group calling itself ‘GOT4’ and which employed the most diverse range of modes and received the highest number of votes for the best poster and presentation from their peers. Chapter 5 explores the second case, ‘Pungpuriyé’, who used and combined the fewest different modes in their multimodal texts despite being encouraged to be creative and utilise multiple modes in their composing.

Chapter 6 summarises the key findings of the study and provides in-depth discussion of three relevant themes before offering a conceptualisation of Thai EFL learners’ multimodal composing. Finally, Chapter 7 concludes the thesis by outlining its contributions to knowledge and implications, highlighting the originality of the study, as well as discussing its limitations and providing suggestions for further studies.

Chapter 2. Literature Review

This study draws on a social semiotic approach to multimodality (Bezemer and Kress, 2016) and multiliteracies (Cope and Kalantzis, 2009) to investigate how EFL students compose multimodally by examining multimodal texts and students' composing processes. This chapter begins with an introduction to social semiotics and multimodality, followed by an explanation of a social semiotic approach to multimodality, the core theory underlying the study. Next, it discusses the concept of multiliteracies and semiotic awareness, presents a comprehensive theoretical framework underlying the study, and introduces writing as multimodal composing. The chapter ends by presenting a review of relevant studies on multimodal composing.

2.1 Semiotics and Language as Social Semiotics

This section begins with an overview of traditional semiotics and language as social semiotics. The term 'social semiotics' was first introduced in the late 1970s by Michael Halliday as a contrast to the traditional approach of Ferdinand de Saussure. Traditional semiotics is the study of signs— the element in which a signifier (a material or physical form that can be perceived) and a signified (the mental concept of the signifier) are related (Saussure, 1983). For Saussure, a signifier refers to a sound-image (Fiske, 1982). He considered language (writing and speech) the most important system of signs which can be studied separately from society. The meaning of linguistic signs lies in their systematic relation to each other, with the signifier-signified relationship being conventional and arbitrary, determined by communal conventional rules (Saussure, 1983). For example, the word referring to a train in English, it is written 'train' and pronounced /treɪn/, while in Thai, it is written 'รถไฟ' and pronounced /rɔt fai/. Both the words 'train' and 'รถไฟ' are signifiers that signify a train. Neither of them provides any visual clues or recognisable information about what the referenced thing looks like or what it is. Each culture has historically developed its own rules to select different graphemes and phonemes for 'train' with no logical or intrinsic relationship to the signifier. Thus, understanding conventions and the structural relationships they build is considered the key to understanding how the arbitrary signs work.

While traditional semiotics considered signs as isolated entities detached from their social contexts, Halliday (1978) argued that the concept of sign must be viewed as a semiotic

system which has been socially shaped. He argued for a change from the study of signs to the study of *sign systems* (Halliday, 1978).

Halliday (1989) saw language as one semiotic system among others that constitute human culture and must be interpreted in a social context. Language is one choice for the exchange of meaning which may be “the most important, most comprehensive, the most all-embracing” (Halliday, 1989, p.4). He developed systemic functional linguistics (SFL) to emphasise language as social semiotics – a semiotic system used and developed to fulfil social functions in particular settings (ibid). Linguistic structures and other units of language have been shaped by three metafunctions evolved to serve in society: ideational (representing aspects of the world), interpersonal (expressing attitudes, feelings and judgments to communicative partners) and textual metafunction (organising resources to construct a coherent meaningful text). Halliday’s work diverts the focus of language from internal structures of isolated sentences to the relationship of language as the whole text and its wider social functions.

The principles of SFL has been influential and has provided the basis for the development of different approaches to studying meaning, such as the systemic functional approach to multimodal discourse analysis (SF-MDA) which focuses on the systematic organisation of semiotic resources to serve specific functions and the meanings that arise from the combination of semiotic choices over space and time (Lim, 2021; O’Halloran, 2008), and *social semiotics* which places emphasis on the agency and power of sign makers (Hodge and Kress, 1998; Kress, 2010; Kress and van Leeuwen, 2001). *Social semiotics* (Bezemer and Kress, 2016) is employed as a theoretical and methodological framework in this study (see Section 2.3).

While both semiotics (Saussure, 1984) and SFL (Halliday, 1989) are concerned with language as the primary object of study, focusing solely on language (comprising of speech and writing) has been challenged by contemporary communication practices, which claims that these two modes may not always be the primary means to represent meaning (Jewitt, 2005; Kress, 2010). The expansion of modes and tools from digital technologies has enhanced meaning-making capacity and led to a multiplicity of text forms that cannot be comprehensively understood by the analysis of writing and speech alone (The New London Group, 1996). As a result, there has been a call for an approach that encompasses a wider

variety of communicative modes and the multimodal nature of communication and texts – this approach is known as *multimodality*.

2.2 Multimodality

Multimodality is an interdisciplinary approach which emphasises that people communicate through multiple modes (Jewitt, Bezemer and O'Halloran, 2016; Kress, 2010). The term 'mode' is variously defined and operationalised across/within disciplines (Jewitt et al., 2016), but it can be understood as “a socially shaped and culturally given semiotic resource for making meaning” (Kress, 2010, p.79) (Section 2.3.1.1).

Multimodality is underpinned by three key theoretical assumptions (Jewitt *et al.*, 2016). Firstly, meaning is made with different modes, each with different socially and culturally shaped potentials and limitations for representing meaning (*affordances*). The distinct affordances are what make each mode appropriate to different kinds of representation (Kress, 2000; Ho, 2024). This does not imply that any mode is inherently superior but rather highlights the use of *multiple* modes, each with their own potential(s), for communication (Jewitt *et al.*, 2016). Thus, speech, writing, image, and gesture have equal status; they have specific affordances for making meaning (Jewitt et al., 2016; Kress, 2010). Secondly, modes almost always appear together as a *multimodal ensemble*, such as writing with image, or speech with hand gestures. This leads to the third assumption: meaning is derived from *the orchestration of modes*. Meaning is an outcome of the complex interplay of all modes as ensembles “which cannot be reduced to, or explained in terms of the mere sum of its separate parts” (Baldry and Thibault, 2006, p.3). Therefore, researchers investigating multimodality attend to the interplay of modes to gain a richer understanding of the meaning as expressed through multimodal signs.

The concept of multimodality has been widely applied in various research approaches, such as SFL (Bateman, 2008; O'Halloran, 2004; O'Halloran, 2008), social semiotics (Kress, 2010; Bezemer and Kress, 2016) and conversation analysis (CA) (Goodwin, 1981; Mondada, 2007). Each approach has different term preferences, empirical focuses, and methodologies. The terms *mode* and *semiotic resources* are used in SFL and social semiotics, but CA scholars commonly use *resource* and rarely use the term *mode* (Jewitt *et al.*, 2016). SFL focuses on studying artefacts through systemic descriptions of metafunctions. Social semioticians initially study artefacts but now also include recorded social interaction through intensive engagement and detailed analysis based on the notion

of motivated signs. CA is different as it studies social interactions through micro-analysis of how actions sequentially unfold and focuses on artefacts only when relevant. Yet, despite the differences, they all commit to the same three key assumptions of multimodality.

The primary aim of this thesis is to explore how EFL students use modes to make signs in multimodal texts, focusing on their agency. Therefore, the specific approach to multimodality employed in this study is *social semiotics* (Bezemer and Kress, 2016). The next section will explain the social semiotic approach to multimodality, set out its core concepts, and describe the analytical focus of the approach.

2.3 A Social Semiotic Approach to Multimodality

Social semiotics is a theory and analytical method that focuses on sign-making and the agency of sign makers (Bezemer and Jewitt, 2009; Kress, 2010). It aims to understand how people make signs and how doing so shapes individuals and societies in different social settings (Jewitt *et al.*, 2016).

Central to social semiotics are the concepts of *motivated signs*, *sign makers*, and *interest*. Social semiotics assumes that every sign is ‘motivated’, newly produced, and always shaped by the environment (Kress, 2010). In signs, meaning (signified) and form (signifier) are brought together in a motivated relation (Kress, 2010). It means that the form is chosen from the availability of modes and semiotic resources at the environment at the moment of making signs based on a sign maker’s ‘interest’ and the aptness of those resources to the meanings they wish to convey (Bezemer and Kress, 2016; Kress, 2010).

In social semiotics, meaning is made and realised through signs. It “is the result of (semiotic) work, whether as articulation in the outwardly made sign ... or as interpretation in the inwardly made sign” (Kress, 2003, p. 37). Meaning is not fixed, but variable and contingent on the social context of its use, history, and culture (Jewitt *et al.*, 2016). When a sign maker attempts to represent their intended meaning as a sign, *the sign can be read or interpreted differently based on the social experiences of the interpreter*. Thus, a sign can have more than one potential meaning. For example, the colour ‘red’ can be a signifier for danger, anger, or love; however, for Thais, it can also signify a particular political group.

A *sign maker* refers to both the person who makes the sign and the person who interprets it (Kress, 2010). Interpreting a sign is seen as *the active processes of remaking a sign*, not passive absorption (Jewitt *et al.*, 2016). The interpreter’s interest shapes their attention and

engagement to a particular aspect of the sign, engage with the sign, and *inwardly* remake meaning for themselves. Then the interpreter can materialise their interpreted meaning *outwardly* as a new sign. *Interest* is a complex concept referring to “the momentary condensation of all the (relevant) social experiences that have shaped the sign maker’s subjectivity” (Jewitt *et al.*, 2016, p.68). It is shaped by the individual’s past experiences and the need to make signs with the awareness of power configurations in an interaction context. Interest is central to the production of meaning as it shapes the sign maker in focusing on specific aspects, and only these chosen aspects are represented in the signs (Hodge and Kress, 1993; Kress, 2010).

Kress’s (2003, 2010) famous example of a car drawn by a three-year-old boy illustrated the concept of *motivated sign* and the *interest* of the sign maker. The boy represents a car by drawing circles and saying, “this is a car”. The boy uses circles because, to him, circles are the most apt signifier to represent wheels on a car. Also, using several circles for wheels implies that the boy is most interested in wheels (from the parts of the car) and considers many wheels as criterial elements of a car (Kress, 2003, 2010). The example shows that the processes of sign making starts with the sign maker’s interest, which determines the significant features of the signified. The sign maker then chooses modes that are available and which, to him, best represent a certain aspect of the signified.

Viewing sign making as motivated allows us to assume that every sign is unique and meaningful and should be investigated thoroughly. Signs can be examined as a trace of semiotic work, which provides a path to garnering insights into the sign makers’ interests and how they select and use varieties of modes to represent their understanding of the world (Bezemer and Jewitt, 2009).

Social semiotics provides a theoretical frame and suite of analytical concepts to investigate meaning and the agency of sign makers while multimodality expands the scope for investigating meaning (Kress and Bezemer, 2015). Therefore, combining them together, multimodal social semiotics can be used to describe and analyse meanings made in all signs and all modes, and to understand the distinctive potentials of different modes, their interrelation to meaning, the agency of the sign makers, and the effects on individuals and societies. Hereafter, ‘multimodal social semiotics’ is referred to as ‘social semiotics’.

Social semiotics was initially used for fine-grained analysis of textual materials and artefacts, such as English textbooks (Bezemer and Kress, 2008) and PowerPoint slides

(Tardy, 2005). Over time, the approach has expanded to explore interactions, such as teacher-student interactions in English classrooms (Kress *et al.*, 2001) and learners' interactions in different contexts, e.g. language learning via videoconferencing (Satar, 2020; Satar *et al.*, 2024) and via collaborative composing of different digital projects (Smith, 2019). The approach is gaining traction in language learning, as evidenced by recent publications like the 2023 special issue 'Semiotics in CALL: Signs, meanings, and multimodality in digital spaces,' in *Language Learning & Technology* and books on multimodality in language learning (e.g. Diamantopoulou and Ørevik, 2022; Lim and Tan-Chia, 2022). The potential for social semiotics to be used to investigate both artefacts and interaction is powerful for gaining a deeper understanding of meaning-making and literacy practices (Jewitt, Bezemer and O'Halloran, 2016; Jewitt and Kress, 2003). In this study, social semiotics is used to investigate both artefacts (i.e. handwritten draft and digital posters) and interaction (in-class presentation).

2.3.1 Core Concepts and the Analytical Focuses of Social Semiotics

Social semiotics attends to three analytical focuses: 1) modes and sign makers, 2) ensembles of modes, and 3) the remaking of signs (Bezemer and Jewitt, 2009), which involve a number of key analytical tools, explained below.

2.3.1.1 Modes and Sign Makers

The first analytical focus is on *modes and sign makers*. What can count as *a mode* is still a subject of debate (Jewitt, 2013). Jewitt, Bezemer and O'Halloran (2016) proposed that a mode must have a set of semiotic resources with principles for organising them which have been used and recognised in a community while Kress (2010) argued that a mode must also fulfill Halliday's (1978) three social metafunctions. Colour, for instance, is considered to be a mode as it can be used to 1) signify general ideas, people, places and things, 2) represent a particular social relation, and 3) create coherence (Kress and Van Leeuwen, 2006). In brief, a mode is generally understood as "a socially organised set of semiotic resources for making meaning" in a community (Jewitt *et al.*, 2016, p.77). Common examples of modes include writing, gesture, image, and speech. Writing and speech are two different modes because they draw on different organised sets of semiotic resources (see below).

Each mode has its own set of semiotic resources and is governed by distinct logics; thus, it has different potentials for representing meanings. *Semiotic resources* refer to material resources (e.g. modes) and non-material, conceptual resources that need to be realised through modes (Bezemer and Kress, 2016; Jewitt *et al.*, 2016). Their meaning potentials are shaped by “their past uses, and a set of affordances based on their possible uses, and these will be actualized in concrete social contexts where their use is subject to some form of semiotic regime” (van Leeuwen, 2005, p. 285); they are the outcomes of meaning-making practices in a community over time. For example, writing and speech share some semiotic resources such as lexical, grammatical and syntactic resources, but writing has indentation, punctuation, and font, while speech has intonation and volume. Both writing and speech are organised and governed by *the logic of time and sequence*, where meaning unfolds over time (Kress, 2013). On the other hand, the mode of image uses depictions and is organised by the logic of space and simultaneity (*ibid.*). Meaning in image is displayed by the position of visual or depicted elements in space as well as by colour, size, line and shape; all are simultaneously present. These differences contribute to varying potentials and limitations of a mode for representing meaning. In other words, each mode has specific *affordances* which are constantly shaped in everyday social lives, making each appropriate to different kinds of representation (Kress, 2000; Kress, 2010).

Social semioticians then ask questions about the use of modes and the sign makers’ agency across contexts. They aim to garner in-depth understandings of what modes and semiotic resources are available, of how sign makers use modes and their affordances to represent meaning, of how meaning-making practices shape the use and affordances of modes, and of what motivates the sign maker to make a particular semiotic choice (Jewitt *et al.*, 2016).

2.3.1.2 *Ensembles of Modes*

The second analytical focus is on *ensembles of modes*. In all communication in the social world, modes almost always appear together as ensembles, for example writing with layout, image with writing, and gesture with speech. As meaning is made in all modes, it is not possible to understand the overall meaning by interpreting or analysing one mode in isolation (Kress, 2015; Jewitt *et al.*, 2016).

Bezemer and Kress (2016) illustrated the importance of recognising the interplay of modes through a teaching episode of a surgeon and medical students. In this brief instance, the surgeon uses an instrument to prod the patient’s liver, saying “That’s the liver”. By focusing

on speech alone, the students need to find out which organ the surgeon is referring to from among the numerous possibilities. By focusing on gesture alone, the students need to establish what the pointed object is by themselves. However, by considering both modes together, the ensemble provides a more precise and complete understanding, i.e. ‘this object being prodded is the liver’. Similarly, in everyday life, when someone says “Hello”, the word’s meaning can be interpreted in many ways depending on accompanying modes like facial expression or gesture as well as cultural contexts. In Thailand, if a person smiles while saying hello, the word can be a friendly greeting. However, if the person smirks, it can signify sarcasm or insincerity.

Clearly, meaning is derived from the complex interrelations and interactions of modes (Baldry and Thibault, 2006; Kress, 2010). The relationship of modes can be *concurrent*, where the meaning in each mode elaborates on the other, or *complementary*, where the meaning in each mode is different but jointly contributes to the overall meaning (Unsworth, 2008). The second analytical aspect, thus, examines the ensembles of modes to understand the overall meaning of signs, how different modes distinctively contribute to meaning, and the inter-semiotic relations of modes.

2.3.1.3 *The Remaking of Signs: Transduction and Transformation*

The final focus is on *the remaking of signs* in the ceaseless processes of sign-making, or *chains of semiosis*. People normally engage with the processes of remaking signs, either across or within modes in their everyday lives; for example, the speech, gesture, and facial expression that a teacher uses while teaching some topics might be remade as writing and drawing in the students’ notes.

Scholars have proposed different terms referring to the processes of remaking signs. For example, *retextualisation* is used to refer to “the process of re-materializing a specific text made earlier ... in the same or a different social site” (Bezemer and Kress, 2017, p. 524). If the process involves a change of social contexts, it is called *recontextualization* (Bernstein, 1996, cited in Bezemer and Kress, 2008). Iedema (2003) proposed the term *resemiotization* to refer to the (re)materialisations “from context to context, from practice to practice, or from one stage of a practice to the next” (p.41), with the emphasis on the historicised and material dimensions of representation. *Remediation* refers to resemiotisation across mediums (Cimasko and Shin, 2017). More specifically, Kress (2010) coined the terms *transduction*, to define the processes whereby signs are remade in

other modes (e.g. from writing to drawing), and *transformation*, to refer to the processes whereby signs are remade within the same mode (e.g. from a report to a written summary). Kress' terms concern both the signs and meanings made in texts and the synaesthetic activity performed by the brain, while the term *transmodal moment* refers to modal shifts of meaning in material form (Newfield, 2009). Despite variation, all these concepts concern the process of remaking signs in chains of semiosis. In this study, the terms *transduction* and *transformation* (Kress, 2010) are used to clearly identify whether the remaking of signs happens *across* or *within* modes.

Transduction and transformation of signs involves the notion of *gains* and *losses*. Given the different affordances of a mode, “there can never be (an assumption of) a perfect translation [of meanings]” (Bezemer and Kress, 2017, p.526). Therefore, when signs are remade, it inevitably brings changes to the meaning being remade (Bezemer and Kress, 2016). These changes allow us to analyse and identify what aspects of meaning are gained and lost from transduction and transformation. For example, when a human heart (a 3D object) is represented as an image, some details, such as actual dimensions, texture, and movement, are not represented; they are lost. On the other hand, this transduction results in a gain in *generality* and *idealisation* (Bezemer and Kress, 2008). Each real human heart is unique; different in dimension, shape, and colour. When it is represented as an image, it becomes an ideal artifact signifying the appearance, shape, and colour of a heart in general.

Gains and losses in meaning is significant and has profound implications “for learning, for knowing and shaping information and knowledge, for attending to and communicating about the world and our place in it” (Kress, 2010, p. 5). From the example above, an image of a heart cannot represent movement or texture in the same way as a real heart. Some specific details are lost in the re-representation. When engaging with the real heart, medical students can touch and feel the texture or witness the flow of blood. However, for the image, the students need to rely on their imagination to picture how soft the heart is or how frequently the blood pumps. Clearly, modes have a profound effect not only on meaning, but also for what is to be learned and how it is learned. Each mode has *epistemological commitment*, which inherently prompts sign makers to engage with and to perceive the world in specific ways (Bezemer and Kress, 2016). Thus, one task for researchers who aim to understand the implications of modal choices on learning is to examine what is preserved, lost, or gained in the chain of semiosis.

This study attends to all three aspects through an in-depth examination of Thai EFL students' multimodal texts. The study aims to generate insights into the multimodal design of the students' texts and their agency, particularly how they use modes and the interrelationship of them. The study also investigates the process of remaking signs to understand how it affects the meaning being remade in language learning contexts. In addition, perceiving learning from a social semiotic perspective, it examines the instances of semiotic awareness EFL students demonstrate during their composing processes (Section 2.4.1). The following section explores learning within a social semiotic framework and discusses its links to language learning.

2.3.2 A Social Semiotic Approach to Learning

This study approaches learning from a social semiotic approach, viewing language learners as multimodal sign makers who can expand their semiotic repertoire from exploring ways of expressing their ideas in multimodal composing.

Learning in social semiotics is connected to semiosis and communication. It is the inevitable outcome of any *transformative engagement* with an aspect of the social world when learners respond to signs and remake them into new signs. As Bezemer and Kress (2016) state:

We use the term transformative engagement in recognition of the fact that sign-makers do not “simply” – so to speak – copy, acquire, somehow straightforwardly internalise or absorb signs made by others. We see environments and instances of learning and teaching as instances of communication ... Learning, we hypothesise, rests on interpretation as the outcome of principled, transformative engagement, no matter by whom or how that engagement has been or is shaped. (p.71)

Learning in this view differs from major learning theories like behaviourism and cognitivism. Behaviourism sees learning as habit formation through simple conditioning in response to specific stimuli, making it fixed, observable, and measurable (Li, 2017). *Cognitivist learning theory* attends to *internal* mental processes, viewing learners as information processors who receive, encode, store, and retrieve information when needed (ibid). Both regard learning as something fixed and transmittable through decoding and encoding. Learners are passive recipients of knowledge who directly absorb, internalise, and acquire knowledge delivered by teachers or others. In this view, learners' achievements

can be assessed by measuring the transmission of knowledge as learning outcomes, and teachers are the ones who have power and authority to guarantee what has been learned.

In contrast, in social semiotics, learning is productive and transformative (Bezemer and Kress, 2016). It is not “a thing to be measured by simple tests, but a specific kind of social practice, including a wider understanding of knowledge and competence as a meaning-making enterprise in a continuously changing society” (Kress *et al.*, 2021, p. xx). This approach aligns broadly with a range of social theories of learning, such as *social constructivism* (Vygotsky, 1978) which regards learning as constructed through social practices with the mediation of socially and culturally shaped psychological tools such as symbols and signs (Lantolf, 2000), and *anthropological notions of learning* (Lave and Wenger, 1991) which underlines the significance of social conditions, power dynamics, and participation in the social world.

Learning in social semiotics involves remaking signs through transduction, transformation (Bezemer and Kress, 2016), and *mimesis* - a creative imitation which leads to a development in one’s practical knowledge (Wulf, 2008). When remaking signs, learners draw on their experiences and engage with different resources based on their interest, *inwardly* remake the meaning for themselves as new ways of conceiving of the world (i.e. their interpretation), and *integrate* the remade meaning into their inner semiotic, conceptual, social resources. Then, they represent those signs *outwardly* as new ones. Their inner set of resources has been transformed and augmented, resulting in changes in their understandings and meaning potentials for future actions; learning has taken place (Bezemer *et al.*, 2012). To illustrate, a model maker transduced images of human organs to a 3D model, requiring him to represent features that were not represented in the images, such as human tissue texture. To compensate this gap, he talked to surgeons for sensory details. The transduction requires him to engage with different modes and sources which provide different possibilities for learning (Bezemer and Kress, 2017).

This perspective puts learners at the centre and suggests that they are active constructors of knowledge who decide which aspects to engage with, to learn from, and to present in their learning experiences. Accordingly, the new signs learners have made can be analysed as *signs of learning* which provide initial insights into the meaning they interpret for themselves, the significant and insignificant features, their semiotic awareness, and their ability to use modes to represent the meaning outwardly in a given place and time.

2.3.2.1 *Social Semiotics and Language Learning*

Viewing language learning from social semiotics shifts the scope of learning in several ways. Firstly, it expands the focus of what is to be learned to include all modes for making meaning. In language learning contexts, writing and speaking have been long perceived as the central means of expressing meanings. However, social semiotics positions language “on the universe of signs in which it is embedded— signs that are partially verbal, and increasingly visual, acoustic, gestural, or electronic” (Kramersch, 2000, p.322), meaning that different modes are recognised as legitimate meaning-making resources with distinct potentials and limitations. Speech, writing, and other modes are comparably important means for expressing meanings. Accordingly, language learning is no longer about acquiring knowledge of how to use speech and writing, but is about expanding the learners’ potential for making meaning with diverse modes within a social context (Kramersch, 2002). This shift in focus aligns with a new approach to literacy which has been increasingly applied in language learning, known as *multiliteracies* (see Section 2.4).

Secondly, this approach encourages language teachers to acknowledge the impact of different modal choices on learning and consider broadening the range of modes in the learning environment. Social semiotics brings modal choices to the fore, emphasising that each mode has different affordances and pathways to learning (Bezemer and Kress, 2016). The distinct affordances of modes set limits on the learner’s agency by shaping what they can and cannot do as well as how they construct knowledge and draws their attention to different aspects of the world (Kress and Bezemer, 2015). Therefore, offering them a wider range of modes expands their opportunities for not only making meaning but also for learning (Bezemer and Kress, 2016).

To illustrate, Canale (2019b) analysed a comic strip of one EFL student. The comic consisted of a sentence - *I go to high school at 7:30 am* - and one cartoon character of a girl with blonde hair who is running while holding her backpack. The sentence represents one of the student’s experiences and suggests some knowledge of grammatical structure (Subject-Verb-Object order) and the tense to talk about daily routines (present simple). However, close examination of both modes, along with the student’s explanation, indicated that the image was used to represent the key concept of *rushing*—something not fully captured by writing alone. This illustrates how combining modes allow her to convey a

more comprehensive meaning than writing alone, pointing to the need to broaden the scope of language learning focus.

Finally, the example highlights the need for teachers to recognise the signs made in all modes to fully capture what their students have learned. Focusing solely on writing and speech may cause teachers to overlook some valuable signs of learning in other modes. In Canale's (2019) example, if the teacher had valued only the writing, she would have perceived the student as a poor communicator incapable of representing specific meanings in writing. This perception is based on a *deficit view of learning*, focusing on what is *not* learned, i.e. problems and what students are unable to do with language (Preece, 2022; Shapiro, 2014). This view ignores the fact that the student was able to draw upon her previous experiences and resources to represent the meaning visually through image, a mode that is widely used and accepted in this genre. Also, her understanding of genre conventions and multimodal communication competence reflected in her visual sign could have been missed (Canale, 2019a).

Social semiotics highlights *what is learned* by studying the signs as signs of learning, regarding all modes as *assets* to enhance learners' opportunities for making meaning and learning. Thus, variations in the use of modes are neither treated as communication incompetency nor a lack of verbal resources (Jewitt, 2008; Kress, 2003); they are evidence of learners' agency and creativity in appraising what the environment offers, drawing upon their entire semiotic repertoire and using modes to express meaning and engage in learning in a particular environment (Bezemer and Kress, 2016).

To conclude, by transforming signs and their materiality, learners also transform and expand their semiotic, conceptual, and cultural resources (Bezemer and Kress, 2016; Kress, 2010). This study views language learning from a social semiotic perspective, as a process of expanding learners' semiotic repertoires as well as awareness through transformative engagement with modes. Language learning, thus, encourages the use of multiple modes to increase language learners' potentials to express meaning and learning. Its focus is on how learners can draw on various modes and semiotic resources available at hand to express and negotiate meaning and their learning outwardly as signs (Kramsch, 2002).

This thesis applies social semiotics to understanding EFL students' multimodal composing as sign-making process, exploring how they use diverse modes to create multimodal texts. Adopting this approach is necessary as it provides tools, analytical concepts, and

perspectives to focus on and acknowledge the representation in all modes in the students' texts, and to examine speech and writing in relation to other co-present modes. This gives rise to new ways of seeing language learning activities in a world full of multimodal texts and communication., and has implications for what should be learned and how to create supportive learning environments that can expand the learners' semiotic repertoires in language learning contexts (Satar *et al.*, 2024).

2.4 Multiliteracies

In addition to social semiotics, this study also drew on multiliteracies to examine Thai EFL students' multimodal composing.

As multimodal communication becomes more of a necessity in contemporary communication, being literate in the modern world requires *multiliteracies*, which expands conventional language-based literacy (The New London Group, 1996). The 'multi-' in multiliteracies refers to two core aspects of the approach: the "enormous and significant differences in contexts and patterns of communication" (Cope and Kalantzis, 2015, p. 3); and the role of multimodality. Multiliteracies stresses the diversity of meaning-making across social and domain-specific contexts, and recognises meaning potentials of all modes, highlighting the need to expand the range of modes "so that it does not unduly privilege alphabetic representations" (ibid, p.3). Thus, Multiliteracies shifts from an exclusive emphasis on learning speech and writing to embracing multimodal meaning-making practices that align with the dynamics of contemporary communication. In addition, it emphasises the importance of developing students' ability to negotiate meanings across different contexts and modes of representation, and advocates for the use of digital technology and multimodal texts to connect classroom learning with today's multimodal communication and textual practices.

In language learning contexts, many education systems began to incorporate multiliteracies as their pedagogical focus. For example, in Singapore, multiliteracies is explicitly stated as one pedagogical focus of the English curriculum, encouraging teachers "to pay increased attention to multiliteracies ... to help students achieve 21st century competencies across all areas of language learning" (Singapore Ministry of Education, 2020, p. 14). Similarly, in Australian and Finland, English language learners are expected to engage, interpret, evaluate, and create multimodal texts (Australian Curriculum, Assessment and Reporting Authority, 2021; Finnish National Board of Education, 2016, as cited in Lim and Tan-Chia,

2022). This trend highlights an increasing recognition of multiliteracies as a fundamental component in preparing language learners to meet the multifaceted communicative demands in the 21st century.

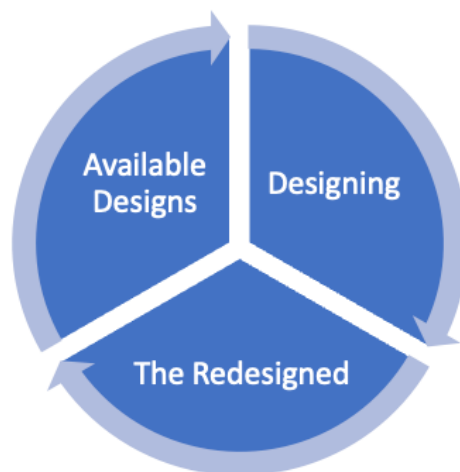


Figure 2.1 Meaning-making as Design

Multiliteracies introduces the notion of *Design* as central to all kinds of meaning-making, either to oneself or to the world. Reading, listening, writing, speaking, and drawing pictures are all instances of design meanings. Likewise, multimodal composing (see Section 2.6) is also a matter of design meaning. *Design* entails three elements: *Available Designs*, *Designing*, and *Redesigned* (Figure 2.1). In composing multimodal texts, an author selects representation forms from *Available Designs* (all discernible resources in a community, including various modes), and then purposively appropriates and transforms them through the act of *Designing* to convey their intended meanings and communicate to others, resulting in the *Redesigned*— a new design that represents an expression of their voice, which also becomes a new available design. Accordingly, multimodal composing is not a simple process of using given modes and resources but is always transformative and dynamic.

Moreover, through *Designing*, authors’ subjective understandings of the world are transformed; they remake themselves and learn (Cope and Kalantzis, 2009; Kress, 2003). This is consistent with social semiotics (Section 2.3.2.1). Both view learners as “fully makers and remakers of signs and transformers of meaning” (Cope and Kalantzis, 2009, p.175). They aim to create an active meaning maker who is open to changes, differences, and innovations, and who can draw on various metalanguages to interpret and make

meanings, rather than teaching static, fixed structures, discourses, or forms of modalities (ibid).

To illustrate, when language learners are asked to write a paragraph describing one dish from their culture and design a poster, they engage with different aspects of the dish and culture through their modal and design choices. To represent the dish being ‘hot and spicy’, they need to think of and evaluate different word choices such as ‘spicy’, ‘zesty’, or ‘peppery’, different images of ‘peppers’, ‘chilies’, or ‘a cartoon with fire from the mouth’. They may also consider cultural differences in the perception of spiciness to communicate effectively with their audience. Each choice signifies different levels and realities of ‘hot and spicy’, involving learners with different aspects of the dish to expand their understanding of the dish. These decisions also draw attention to the differences in the layers and nuances of meanings, or gains and losses (Section 2.3.1.3) from the transformation and transduction. By using a range of modes and resources, learners experience how to represent the different aspects of the dish. They not only expand their semiotic repertoire for meaning-making but also potentially improve their semiotic awareness as they make decisions on appropriate designs, modes, and resources for various socio-cultural contexts.

2.4.1 *Multimodal Literacy and Semiotic Awareness*

Multiliteracies enables us to focus on *multimodal literacy* and *semiotic awareness*, the two elements important for effective multimodal composing. *Multimodal literacy* is concerned with the aspect of multimodal meaning-making in multiliteracies. Nelson (2012) defined multimodal literacy as “the adaptive capacity to recognize, imagine, and effectively exploit the meaning-making potentials of a diverse array of resources in view of one’s own purposes for communication” (p.3). More recently, van Leeuwen (2017) added an emphasis on the contextual aspect and defined it as “the ability to use and combine different modes in a given context, both in the sense of the context-bound rules and conventions that may apply, and in the sense of the unique demands made by each specific situation” (p.5). In short, multimodal literacy refers to the ability to make choices in the representation in contextually appropriate ways.

To be multimodally literate involves a set of knowledge and skills. Van Leeuwen (2017) elaborated how multimodal literacy:

must be based on a knowledge of what can be done with different semiotic modes and how and of the ways in which they can be integrated into multimodal texts; however, it also, and equally importantly, requires an understanding of communicative contexts and an ability to respond creatively to the unique demands of specific situations (p.5).

Therefore, multimodal literacy requires not only textual and contextual knowledge, but also *semiotic awareness*. Towndrow, Nelson and Yusuf (2013) defined semiotic awareness as “critical attention to relational, multimodal aspects of meaning design” (p.328). Nelson (2008) provided a more detailed explanation, defining it as “conscious attention to and understanding (even if partial or intuitive) of the ways individual semiotic modes and modes combination may be drawn upon in the designing of meaning” (p.70). Hence, semiotic awareness is not only about critical attention, but also includes either full or partial understanding of the meaning potential of modes in isolation and in combination afforded to the production of meaning.

Semiotic awareness resonates strongly with multiliteracies and social semiotics. In social semiotics, meaning is derived from the interplay of modes and is socially constructed (Jewitt *et al.*, 2016). Semiotic awareness, thus, is key to recognising what a mode can and cannot do and enhancing understanding of how these modes can be strategically combined to serve communicative purposes. Similarly, semiotic awareness is connected to multiliteracies, which emphasises cultural and linguistic diversity and the ability to create and interpret multimodal texts that integrates diverse modes across cultural boundaries. Multiliteracies, therefore, highlights the critical role of developing learners’ semiotic awareness for effective communication.

As the meaning potentials of modes are shaped by the specific cultural, historical, and social contexts (Jewitt *et al.*, 2016; van Leeuwen, 2005), semiotic awareness is culturally and socially dependent. To make informed decisions about which modes to use requires attention and understanding of how the modes have been and can be used to serve communicative purposes within particular contexts. Without this awareness, there is a risk of the signs being misinterpreted across cultural boundaries. For instance, colours in Thailand can be used to represent days of the week, e.g. yellow for Monday and red for Sunday. If only colours are used to represent the days in a calendar, people from other cultures may misinterpret the meaning. Thus, to enhance the accuracy of communication, it is necessary to be critically aware of the different potential meanings of their modal choices across socio-cultural contexts.

Semiotic awareness is crucial for multimodal composing. Towndrow *et al.* (2013) argued that semiotic awareness is “at the heart of multimodal literacy” (p.347) and insisted that successful multimodal texts involve deliberate efforts by their authors to consistently evaluate the utility and appropriateness of available modes and resources to address communicative, practical, and aesthetic needs. Likewise, Lim and Tan-Chia (2022) highlighted that developing semiotic awareness is part of multimodal literacy learning as it can enhance the sensitivity and capability for making apt choices in the representation, “both in critically assessing its meanings, and producing effective multimodal texts” (p.5). It is, thus, imperative to pay critical attention to semiotic awareness to meet the evolving communication needs effectively.

Semiotic awareness can be taught and constructed. Building on multiliteracies (The New London Group, 1996), several scholars have proposed different pedagogical frameworks to enhance students’ multimodal literacy and semiotic awareness. For instance, Kern (2015) proposed a *relational pedagogy* with a set of heuristic questions to focus on the relationship between formal conventions, individual creativity, mediums, and social and material dimensions involved in the design of meanings to develop semiotic awareness. Similarly, Cope and Kalantzis (2021) introduced a *transpositional grammar* which helps teachers and students understand meanings by recognising patterns of meanings expressed in multiple modes systematically. Lim and Tan-Chia (2022) propose a *model of five stages in multimodal composing* based on design thinking approach: 1) understanding the audience where students reflect on the audiences’ need and interests in relation to the purpose of a multimodal composing task, 2) developing the message based on the interests and needs of the audience, 3) brainstorming possibilities to generate the text design, 4) creating a draft, and 5) receiving feedback from the audience for revising and producing the final product.

Despite their varying designs, these frameworks aim to enhance students’ semiotic awareness either through explicit teaching of metalanguages or inductive learning. By strategically guiding and allowing students to engage with multimodal meaning-making, it provides opportunities for students to enhance their semiotic awareness and develop their multimodal literacy (Cope and Kalantzis, 2021; Lim and Tan-Chia, 2022). The growing number of pedagogical frameworks highlights the importance of developing students’ semiotic awareness and multimodal literacy in language learning and education.

Semiotic awareness can also be materially realised. In a social semiotic view, learning is a transformative process of meaning-making (sections 2.3.2). Students thus actively engage with semiotic awareness as they explore different ways of expressing their ideas in multimodal composing. They evaluate the potential meanings of modes, select apt modes, and combine them to represent their message outwardly as new signs. Through these processes, students transform their knowledge and inner resources, including their semiotic awareness, resulting in changes in their understandings and enhanced meaning-making potentials for future actions (Bezemer *et al.*, 2012). Therefore, the signs they newly created serve as *evidence of learning*, offering initial insights into their understanding, their semiotic awareness, and their ability to employ modes to outwardly represent meaning in a specific context.

2.5 A Comprehensive Theoretical Framework

This study draws upon social semiotics and multiliteracies to explore the multimodal composing activities that a group of Thai undergraduate students engaged in as part of their foundation English module in one EFL classroom. It aims to understand how the students used modes and semiotic resources in their multimodal texts, remade signs across the texts, and materialised their semiotic awareness while composing multimodally. Figure 2.2 illustrates the interconnectedness of social semiotics, multiliteracies, and semiotic awareness employed in this study.

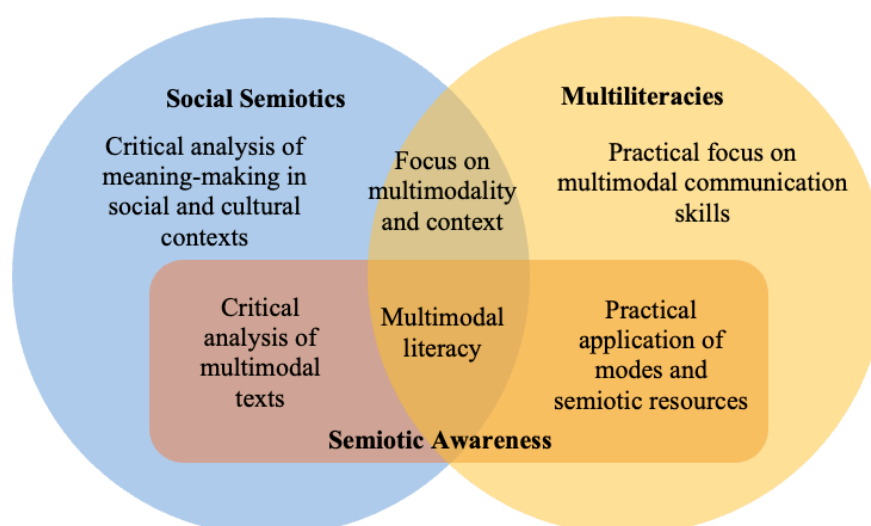


Figure 2.2 The interconnectedness of social semiotics, multiliteracies, and semiotic awareness

Social semiotics is the cornerstone of the study, allowing me to critically examine multimodal composing as a sign-making process. It provides a lens, a set of tools, and analytical concepts to recognise all the modes used in the students' multimodal texts, enabling me to explore how they are used to make meaning and the changes in meaning from transductions and transformations. With this approach, the students are considered sign-makers who expand their semiotic repertoire and can develop their semiotic awareness through transformative engagement with signs. Thus, instances of transduction and transformation can be investigated to understand the students' emerging semiotic awareness as they make design decisions that are socially and culturally appropriate for a specific context. Multiliteracies allow me to broaden the focus of language learning to multimodal meaning-making that aligns with contemporary communication. Importantly, it facilitates an understanding of multimodal composing as an iterative and dynamic, contextually shaped process of designing resources to make meaning, and enables me to focus on multimodal literacy and semiotic awareness, the two important elements for effective multimodal composing.

Both social semiotics and multiliteracies highlight the importance of drawing upon the full semiotic repertoire, and contextually making use of multiple modes for communication. Semiotic awareness is intrinsically connected to both frameworks, serving as a bridge that allows students to critically evaluate and select modes in their multimodal texts for expressing more nuanced layers of meaning. This study perceives learning from a social semiotic approach. Thus, by analysing the multimodal texts the students produced and their composing process, it identifies evidence of emerging semiotic awareness to better understand their literacy practices.

2.6 Writing as Multimodal Composing

As discussed in Section 2.2, the core notion underlying writing as multimodal composing is 'multimodality', which involves using multiple modes and semiotic resources for communication (Kress, 2010; Jewitt, 2013).

Using multiple modes is not something new, but technological advancements have made multimodality increasingly important by expanding the range of modes and ways people communicate. For example, YouTube videos, news websites, and posters are usually composed of various modes such as images, emojis, colour, and gestures, all of which contribute to meanings in these texts. These are *multimodal texts*, a form of text the meaning

of which is conveyed through the combination of multiple modes (Jewitt, 2009, 2013; Kress, 2010). In this study, the term *text* refers to semiotic entities of any kind, whether in two, three, or four dimensions (Kress, 2011a, p. 207). Thus, *multimodal texts* are not limited to books or printed papers, but also include videos and live presentations.

In multimodal texts, the act of ‘writing’ becomes *multimodal composing* – the process of creating multimodal texts by combining multiple semiotic modes such as writing, speech, image, audio, and video to express meanings (Hafner, 2018). In this sense, all modes can be combined to create greater meaning potentials and wider learning opportunities than would be possible with one mode alone (Bezemer and Kress, 2016; Grapin, 2019; Jewitt, 2009). Notably, this view does not devalue the importance of writing. Instead, it positions writing as part of multimodal ensembles, highlighting the complex interplay of writing and other modes that contribute to meanings in multimodal texts (Jewitt, 2009; Shipka, 2005). This perspective aligns with Cope and Kalantzis’ (2009) assertion that “written language is not going away. It is just becoming more closely intertwined with the other modes, and in some respects becoming more like them” (p.182).

Multimodal composing is active, dynamic processes of *Design meanings* that are contextually situated and socio-historically shaped (Cope and Kalantzis, 2009; Kern, 2015; Kress, 2003). Authors draw upon Available Designs, appropriating and transforming them to convey their intended meanings in a multimodal text, resulting in a new meaning and resource in a specific context (The Redesigned) (see Section 2.4). In other words, multimodal composing requires authors to select and transform available modes to form complex signs that best convey their intention and interest to the assumed audience (Kress and Bezemer, 2009). Therefore, multimodal composing always involves transforming social and cultural meaning-making resources. The outcome of multimodal composing is a multimodal text that reflects not only an author’s interest and cultural, social, and discursive values and norms, but also reflects his/her expanded semiotic repertoire and emerging semiotic awareness from their design decisions, including choices of modes and resources that are socially and culturally appropriate for specific contexts.

Apparently, language learners need more than just the mastery of writing and speaking. In multimodal composing, modes are inextricably woven and contribute to meanings (Kress, 2010), requiring the ability to “communicate effectively with multimodal meaning-making resources” in relation to particular needs, purposes, and contexts (Lim and Tan-Chia, 2022,

p.3). Such abilities necessitate an understanding of the modal affordances and their intricate interplay as well as the effects of their absence on the ensemble they create (Hyland, 2009; Jewitt, 2006; Shin, Cimasko and Yi, 2021). This understanding is important for students to compose, evaluate, and make sense of multimodal texts effectively. In light of this, the current literacy curriculum in language learning needs to encompass *multiliteracies* (see Section 2.4) to recognise all forms of representation, including “the openness of meaning systems and the important role of creativity in meaning-making” (Kern, 2015, p.35), and emphasise the development of multimodal literacy and semiotic awareness for students to be “an active designer of meaning” who can negotiate meanings multimodally in a world of change and diversity (Cope and Kalantzis, 2009, p.175).

This thesis examines the multimodal texts that Thai EFL students produce as part of their language learning module, aiming to understand the complexity of L2 multimodal composing practices, particularly how modes are used, and how remaking signs shape the meanings being represented. It also investigates whether composing multimodally with limited guidance involves students with semiotic awareness and in what way(s). The following section reviews the existing research on multimodal composing that has been conducted in L2 learning contexts.

2.7 Previous Research on L2 Multimodal Composing

This section presents relevant literature on L2 multimodal composing that applies a weak (Section 2.7.1) and strong view of multimodality (Section 2.7.2).

Multimodal composing is what L2 students have long been involving through their daily lives and school settings (Li, 2022). In school settings, it is a vital element, especially in L2 writing classrooms, as reliance solely on text-based communication cannot sufficiently support students' writing in their out-of-school contexts (Li and Akoto, 2021). Previous research has explored various forms of L2 multimodal composing such as digital storytelling (Jiang, 2018; Nelson, 2006), video productions (Hafner, 2014; Yeh, 2018), posters (Archer, 2010; Dzekoe, 2017; Shin, Cimasko and Yi, 2020), virtual exchanges (Satar, Hauck and Bilki, 2023), infographics (Pham and Li, 2022), and PowerPoint slides (Tardy, 2005; Zhang and O’Halloran, 2019) to understand different aspects. Clearly, multimodal composing is commonplace as part of L2 classroom activities. Therefore, a thorough and critical examination of multimodal composing and its implications in L2

research and education is essential (Shin, Cimasko and Yi, 2021). Investigating this crucial issue would offer a significant advancement and contribution to the field.

In recent years, there has been a growing interest in L2 multimodal composing. Studies have shown that multimodal composing provides ample opportunities for the learning and development of L2 learners. It can, for example, enhance students' ability to express themselves, represent knowledge, and negotiate identities through a wide range of resources (Belcher, 2017; Palmeri, 2012; Shin and Cimasko, 2008). Moreover, it helps develop multiliteracies and critical thinking skills as students need to strategically choose modes and design how their intended meanings could be best represented with modes available (Shin, Cimasko and Yi, 2020; Takayoshi and Selfe, 2007; Unsworth and Mills, 2020). It also provides chances for peer scaffolding, learning monitoring, and independent learning, either for practicing English or using technological tools to accomplish task goals (Hafner and Miller, 2011). Additionally, multimodal composing promotes creativity and autonomy (Highland and Fedke, 2023) as well as student engagement and motivation as it resembles activities students engage in in their lives outside the classroom (Hafner and Miller, 2011; Jiang and Luk, 2016; Liang and Lim, 2021). It thus relates formal education to out-of-class compositional practices (Hafner, 2015; Ho, 2024; Smith, 2013), which can better prepare students for real-world digital-mediated communication and their future career (Belcher, 2017; Takayoshi and Selfe, 2007).

2.7.1 *Multimodal Composing with a Weak Version of Multimodality*

Despite ample evidence of the potential benefits of multimodal composing, there remain concerns from language learning researchers who approach multimodal composing from a *weak multimodal view* (Grapin, 2019). The *weak version* considers writing and speech as the primary and preferred modes of expression. Other modes are alternative or supplementary forms of expression to reduce the linguistic demands, especially for students who have difficulties using writing or speech to express themselves. They are reinforcing linguistic development and will be removed once the students can use writing or speech to express meaning (ibid). This view differs from the *strong version*, which regards all modes as legitimate and equal semiotic tools (Section 2.7.2).

In this view, researchers are concerned that multimodal composing might become an unhelpful distraction and reduce students' attention to the proper use of language

(Casanave, 2017; Manchón, 2017; Qu, 2017). Manchón (2017), for instance, was concerned that a wider range of resources may reduce students' efforts to practice written and spoken form of language. Even though multimodal writing tasks can be useful for facilitating students' learning in other aspects, "to be valuable for language learning there must be a true demand for [linguistic] formulation" (ibid, p.94). Qu (2017) strongly argued that the task of education is to provide students with the basics of literacy, not dressing them up with skills other than purely linguistic ones. Similarly, Casanave (2017) was worried that the bells and whistles of technology may lead to less attention being paid to improving language proficiency.

These concerns have been addressed by studies investigating multimodal composing in relation to L2 proficiency. For example, Dzekoe (2017) investigated how the transfer among oral, written, and visual modes in multimodal composing activities aided undergraduate ESL students' ability to notice linguistic and rhetorical features in their written essays, and the effects on their writing's quality. Drawing on multiple sources of data, the activities helped students to notice linguistic and rhetorical features that needed revision. Similarly, Vandommele *et al.* (2017) examined the effects of collaborative multimodal composing intervention in and outside the school on the academic writing development of Dutch L2 learners. Students' written texts were assessed and scored before and after the intervention. Using multilevel modelling, the results revealed significant improvement in terms of complexity, text length, and vocabulary use, communicative success, and content. More recently, Kim and Belcher (2020) compared and analysed Korean EFL learners' multimodal texts and their alphabetic essays for complexity and accuracy. Although multimodal composing elicited less syntactic complexity of language output, there was no significant difference in terms of accuracy between the two text types.

While Dzekoe (2017), Vandommele, *et al.* (2017), and Kim and Blecher (2020) primarily focused on the produced texts, Kim and Kang (2020) examined the collaborative multimodal composing process, focusing on students' discussions. Audio recordings of interactions during the planning and composing process were transcribed and coded. The findings showed that the students mostly discussed linguistic-related issues, particularly grammar. These results differed somewhat from most previous studies in the field of SLA which show that students focus more on vocabulary. Additionally, some students revealed that the multimodal composing project helped them to be more confident in using English.

In Thailand, most existing research adopts a weak view focusing mainly on enhancing reading and vocabulary skills. For instance, Yimwilai and Phusri (2018) used multimodal texts to enhance EFL students' reading skills and examined their attitudes. The data from test scores, questionnaire, and interview revealed significantly improved reading ability and highly positive attitudes towards the instruction, highlighting the effectiveness of promoting students' reading skills. Similarly, Phengsuai and Suwanarak (2020) employed a multimodal approach to teach English reading and explored EFL students and teacher's perceptions. Questionnaires and interview data showed positive attitudes towards the approach for increased motivation, attention, and reading comprehension. However, low English proficiency students preferred traditional teaching methods, as teacher guidance reduced their fear of making mistakes. Yawiloeng (2022) also used multimodal texts with scaffolding techniques over seven weeks to develop students' reading comprehension and examined their perceptions. Grounded in scaffolding and multiliteracies, the questionnaire data indicated positive, but varied perceptions towards the instruction and the use of multimodal texts. EFL beginners benefited from peer-supported vocabulary building, elementary learners used the texts to activate prior knowledge of vocabulary, and intermediate students reported increased motivation and vocabulary development. Overall, they felt multimodal texts were useful for enhancing reading comprehension. Apart from reading skills, several studies employed different multimodal composing activities such as a weblog portfolio, mind mapping, and digital storytelling, to enhance writing (e.g. Kongsuebchart and Suppasetsee, 2016; Tarin and Yawiloeng, 2022) and speaking skills (Nampaktai and Sukairipakonchai, 2018).

These studies provide evidence that multimodal composing can improve students' linguistic proficiency while emphasising that language remains the primary focus, even in tasks that promotes the use of multiple modes. Moreover, most existing studies in Thai contexts employed a weak multimodal view. In light of the prevalence of multimodal composing, it is timely to move the focus to the use of multiple modes as essential and strategic for students to engage meaningfully in contemporary communication practices (Bezemer and Kress, 2016; Blecher, 2017; Cope and Mary Kalantzis, 2000; Grapin, 2019; Kress, 2010). This is the premise of *a strong version of multimodality* (Grapin, 2019), which this study employs.

2.7.2 Multimodal Composing with a Strong Version of Multimodality

Researchers with a *strong* multimodal perspective agree with the weak version in that other modes can help people who struggle with writing or speech in expressing their understanding and ideas. However, the former asserts that non-verbal modes are not just “a crutch or temporary scaffold” (Grapin, 2019, p.33), but considers all modes as legitimate semiotic tools with different affordances (Jewitt, 2009; Kress, 2010). For example, when students need to orally describe ‘fishing’, they may also use hand gestures, which helps them to communicate their ideas and represent the concept of fishing more efficiently than would be possible with just one mode.

In L2 learning, the strong view of multimodality is not yet widespread, primarily due to the dominance of alphabetic-based literacy practices (Grapin, 2019; Yi *et al.*, 2021). However, L2 researchers are increasingly focusing on the strong view in multimodal composing practices, emphasising meaning-making practices, multimodal literacy, and semiotic awareness. Prior studies drew on diverse theories (e.g. social semiotics, systemic functional-multimodal discourse analysis, and multiliteracies) to investigate multimodal composing products and/or practices across different contexts (e.g. Cimasko and Shin, 2017; Lim and Tan-Chia, 2022; Nelson, 2008; Shin and Cimasko, 2008). Despite this recent surge, L2 multimodal composing is still an emerging area, and its exploration remains limited (Blecher, 2017; Hafner, 2014; Li and Akoto, 2021; Smith, 2017; Yi *et al.*, 2020). Thus, “a comprehensive investigation of multimodal composing is necessary to expand L2 educators’ understanding of multimodality and to explore continuing questions regarding its role in L2 language learning and development” (Shin *et al.*, 2021, p.197).

The following sections review existing research on multimodal composing in relation to 1) the uses and complex interplays of modes, 2) the remaking of meanings, and 3) semiotic awareness.

2.7.2.1 The Use and Complex Interplays of Modes

In multimodal composing, every modal choice matters as it affects the meaning being represented. Studies have examined how L2 learners synthesise available modes to represent meanings in different types of multimodal texts. For instance, Yang (2012) investigated L2 learners’ digital storytelling products and composing narrations to understand their composing processes. Scaffolded by the instructor, the findings revealed

that the learners configured and combined various modes such as writing, images, background music, and animated texts in their digital story. Similarly, Hafner (2014) compared three EFL students' video documentaries produced as part of their science project. During the project, the students discussed multimodal design of sample videos. The analysis of the digital videos, supported by data from the course blog and interviews, demonstrated the students' ability to creatively draw on a range of modes. For instance, one group used a lab coat, visuals, script, and soundtrack to position themselves as 'expert scientists' while another combined images, text, and soundtracks to evoke genres of television advertisement in their documentary. More recently, Zhang *et al.* (2021) employed an embodied multimodal curriculum and examined how L2 learners used modes in their multimodal texts. Employing SFL and logico-semantic analysis, the data from the produced artefacts, classroom interaction recordings, and reflections revealed that diverse modes enabled learners to express their insights on immigration and globalisation in meaningful and powerful ways.

Moreover, research by both Yang (2012) and Hafner (2014) found that students' sign-making was shaped not only by their intention to represent meanings but also their consideration of the audience. In Yang's study (2012), one student reported choosing to use speech instead of writing because "this is only the way that the audience can feel teachers' feelings and their intonation" (p.231). Likewise, in Hafner's (2014) study, the students' design decision was shaped by their assumptions about the intended audience, desire to attract their attention and create distinctive videos, and the input provided in class. Wang (2022) also examined multilingual English learners' views of multimodal composing after attending a multimodal workshop and found that all participants designed their texts to ensure they were easily comprehensible. These studies point to the audience as one crucial factor that influences students' semiotic choices and text designs.

Some studies have focused on the interrelationship of modes. Shin, Cimasko, and Yi (2020) examined how writing and image were used in two multimodal texts of one focal L2 learner drawing on SF-MDA and sociosemiotic ethnography. The student produced PowerPoint slides and a Glogster-based poster of different topics and was guided through the production. The findings showed that different modes were used to represent the main ideas in each text. In the PowerPoint slides, image was used to represent the main idea, i.e. an image of earth within a greenhouse was used to represent the greenhouse effect. Conversely, the first draft of the poster primarily relied on writing, with images as

illustrations. After feedback, the student used image as the other main mode in the poster. His use of writing and image formed a concurrent and complementary relation. For instance, in his PowerPoint Slides, image explains “the interconnections among the sun, atmosphere, and the earth, whereas the words ... added information about specific gases (e.g. CO₂) filling the atmosphere” (p.9); the two modes were used in concurrence. For a complementary relationship, the student used writing to represent questions and image to provide answers. Likewise, Hafner (2014) found that students combined image and writing complementarily and concurrently. In one student output, the moving image showed one participant throwing a ball towards the camera, reflecting a strong demand to engage the viewer. It was complemented by words, such as ‘imagine’, ‘welcome’, and ‘you’, directly addressing the audience. The combination of them heighten audience engagement. Moreover, a series of scientific drawings were used together with the passive voice and technical terms to portray themselves as ‘expert scientists’. Zhang *et al.*’s (2021) study also revealed how multiple modes were used to deepen meaning-making. For instance, one student represented a sociopolitical problem in Guatemala through drawing and writing. The writing conveyed the general theme, while the drawing further elaborated on details including the nature of the violence, sexuality, and power relations, forming an exemplification relationship.

These studies suggest that students employ and synthesise modes to suit their rhetorical purposes, bearing in mind their intended audience. Furthermore, the combination of modes can introduce a nuanced layer of meanings through different relationships. However, this does not mean that students always successfully combine modes to represent their intended meanings. Nelson (2008), for instance, explored how two EFL learners, who were trained to focus on the multimodal design, composed their digital story. One student expressed difficulty in combining modes to express his intended meaning. One part of his digital story consisted of eight images arranged in sequence - from a traditional Japanese storefront to his liquor collection - to represent the topic of ‘alcohol in his culture’. The student intentionally sequenced the images, with spoken narration, to represent a progressive change from more general signs to more specific signs that finally reveal the topic and his personal life, aiming to stimulate curiosity and engage the audience. However, for the first two images, the student simultaneously said, ‘We people from the Tohoku District often are asked “‘Are you a heavy drinker?’” (p.73). His speech very quickly revealed the topic and nullified the progression effect he attempted to express. He produced well-formed

sentences and carefully chose and arranged the images to suit his rhetorical purpose. Clearly, he did not have any problems with using the mode of speech or image. However, “the deficit was in the quality of relation between these modes” (p.78). When combining the two modes together, it turned out that they were counteracted, muffling his authorial voice by its own forceful clarity.

In a more recent study, (Park, 2021) investigated how 78 L2 students orchestrated modes in multimodal letters to their future selves. The findings showed that speech or writing was used in every video while 80% of the videos incorporated image and 76% employed sound. Park further analysed the interrelationship between language-image, language-sound, and sound-image and found that most students (91%) were able to successfully combine language and image in complementary ways. However, language-sound and sound-image combinations were less effective, with 55% and 51% of 43 videos respectively. The students often chose melodies or lyrics that did not match the context or the meaning conveyed in writing, used inappropriate volume of spoken narration and background music, and selected songs, melodies, or lyrics that lacked alignment with the images. Nelson’s (2008) and Park’s (2021) studies have provided evidence that although the students were given a range of modes for meaning-making, their ability to effectively use and synthesise modes does not automatically come about.

Besides, previous studies on students’ perception of multimodal composing have highlighted its benefits in various aspects, including for meaning-making. Nita and Nugroho (2023) examined L2 students’ views in Indonesia who watched videos on the Black Death and Covid-19 and collaboratively created posters. Questionnaire and interview data revealed positive attitudes, with the students reporting that multimodal composing enhanced innovative meaning-making, content understanding, critical thinking, and creativity. For example, they used visuals and colours to support the content, highlight key points, and attract the audience. However, they faced challenges in selecting modes to advance their thoughts, fearing that inappropriate choices could distort their intended message. Kang and Kim (2023) also explored L2 students’ perceptions, through eight tasks over seven months. The analysis of questionnaires, interviews, scores of the students’ produced texts, and reflections revealed varied perceptions. The positive student found multimodal composing useful for enhancing vocabulary and grammar retention, motivation, and meaningful engagement with modes. The negative student preferred traditional writing as multimodal composing required attention to all modes. Like Nita and

Nugroho (2023), she worried that misusing modes might lead to misinterpretation. The student who shifted perceptions found that using multiple modes helped her convey meaning more effectively from linguistic gaps. The study underscores that these variations may be shaped by various factors, such as digital literacy level, skills in using technological tools, multimodal composing learning experiences, and understanding of multimodality.

Likewise, Kang (2021) explored EFL learners' perceptions in Korea. The students created two narrative and argumentative essays and multimodal videos. Multiple types of data, e.g. the students' products, interviews, and classroom observation, were analysed inductively. The study revealed varied attitudes toward multimodal composing. One student viewed it as unsuitable for academic argumentative writing and believed that argumentation would be better expressed through linguistic modes, aligning with Shin and Cimasko's (2018) study. However, other students reflected positive attitudes. One found non-verbal modes enhanced argumentation and drew audience attention, while another used her own photos instead of random images from the Internet to increase the effectiveness and deepen the connection of the content in her presentation. The study underscores the benefits of multimodal composing for academic learning and the importance of using multiple modes for making meaning effectively.

Moreover, some studies found that students were hesitant to use non-linguistic modes and preferred to use writing and speech as the primary modes. Shin and Cimasko (2008) investigated how different modes were used in a web-based argumentative project of ESL university students drawing on synaesthetic semiosis (Kress, 1998; Kress and Van Leeuwen, 2006). During the project, the students discussed their multimodal design. Their drafts were examined to understand how modes were separately and combinedly used. Additional data sources, e.g. information forms, student websites, feedback and instructor-student email exchanges, were explored to identify possible reasons behind students' composing decisions. It was found that the students prioritised linguistic mode and hesitated to combine non-linguistic modes in their writing. They conformed to traditional academic writing practices which became the criterion for their design decision. This led the students to use images to repeat the meaning expressed in linguistic mode. Non-linguistic modes were also used to represent emotional dimensions and cultural identities that were difficult to express in writing. Hesitance in using non-linguistic modes appeared to be shaped by instructional norms and related practices in the community, as well as the students' perceptions of the value of such modes. Likewise, Hafner (2014) also found that

some groups of students relied too heavily on written narration where visuals would have been a more preferable mode for representation.

Chen (2021) explored EFL students' perceptions of a text-based essay and a multimodal text's production to understand their modal choices and preferences. The students could choose any form of texts, but required to include at least two modes. They also received multimodal instructions and explanations of key terms. Six students made a scrapbook and then videos presenting their scrapbook, one student produced a plaque, and the other one produced a model showing the garden in her house. Drawing on grounded theory (Charmaz, 2006), the analysis of the printed essays, multimodal texts, interview transcripts and questionnaires showed that most students favoured multimodal composing as it helped them to convey their ideas such as sensory information better and more tangibly. Despite the preference, language was "an indispensable mode" (Chen, 2021, p.30) in almost every multimodal text, except the garden model. Those who did not prefer multimodal composing faced challenges in arranging different elements for design, stating that writing ideas down was more straightforward.

In summary, previous studies on L2 multimodal composing have revealed its potential for students to draw upon a wide range of modes and also revealed potential factors shaping students' multimodal designs. These studies illustrate the complex process of multimodal composing, showing combining and using modes effectively allows for greater expressiveness in communication and enables individuals to convey emotions, nuances, and subtleties more effectively. Nevertheless, the ability to use and synthesise modes effectively is not inherent, and more research is needed to focus on the semiotic awareness of students in multimodal composing.

While these studies indicate a growing interest in the use of modes in multimodal composing, most of them focused narrowly on one multimodal product on one topic with a specific multimodal teaching approach. There is a lack of research into how students use modes to compose multiple types of multimodal texts on the same topic. Moreover, scant research has examined how students compose multimodal texts with limited support. To address a call for more research "with differing composers, contexts, genres, and tools" (Smith, 2017, p. 274), this study seeks to examine how EFL students use various modes to compose a hand-written draft, a poster, and an oral presentation on the same topic. Given that multimodal composing in Thailand frequently lacks specific multimodal scaffolding

or instruction, exploring this practice can help teachers better understand how students compose multimodally and be able to employ the activities more effectively.

2.7.2.2 *The Remaking of Signs*

Multimodal composing typically involves transductions and transformations of signs. For instance, when students create a poster to represent their culture, they may select some interesting aspects from social media posts and YouTube videos, and re-represent them in the poster using modes they deem useful. This requires students to engage with rearranging the elements and moving semiotic materials within and across modes.

Existing studies examining instances of remaking meanings have been conducted in everyday contexts, such as YouTube videos (Adami, 2009), advertisements (Culache, 2015), and various educational settings like learning materials in different forms and subjects (Bezemer and Kress, 2008, 2017), media students' filmmaking (Gilje, 2010), students' dry-wipe whiteboard texts (Mavers, 2009), L1 students' poems (Magnusson and Godhe, 2019), and students' texts in response to a science lesson (Jewitt *et al.*, 2001). Yet studies in L2 contexts are limited.

In L2 contexts, previous research has illustrated how students remake meanings within and across modes. For instance, Yang's (2012) study also demonstrated how learners engaged with transduction and transformation to achieve their intended meaning. To represent changes in a character's emotions, for example, one learner used different types of intonation marks to represent such meanings in a script before recording voice narration. These sound elements were transduced from writing to speech, guiding and allowing the learner to represent different sentiments of the character in her voice narration. Likewise, a participant in Nelson's (2008) study illustrated his creativity in re-representing his intended meaning in different modes. In his digital story, the student intentionally used speech and image to represent the difficulties he was facing becoming independent. He googled the term 'mountain' and selected one image depicting two people sitting at the edge of a gaping canyon. The student described his independence through speech, "Now I earn part of my cost of living. I cook and clean my room. It's not enough, *but I think I'm a little bit independent from my family*". The italicised segment was simultaneously used with the presence of the image. When combining two modes together, the student felt that the image did not represent the concept of 'independence', which was clearly expressed in speech. He edited and removed one person from the image, expecting that the solitary figure,

together with speech, could complementarily express the abstract concept of independence. This illustrates “his accomplishment of expressing such a nuanced idea in the richly metaphorical, textually synthetic way” (Nelson, 2008, p.76).

Some studies found that the remaking of signs can contribute to new understandings of a semiotic relationship of modes and evidence a deeper, richer quality of meaning (e.g. Nelson, 2006; Zhang and O’Halloran, 2019). Nelson (2006) drew on synaesthesia, transformation, and transduction to examine authorial intention and voice in the creation of digital stories. By analysing student journals, in-class interaction recordings, interviews, and digital storytelling-related artefacts, he found that transformation helped the students “to recognise or notice a new, more sophisticated form of semiotic relationship” (p.63). For example, a repeated use of certain images with different words resulted in adding an additional meaning to the image. One student used an image of her parents three times: the first two times with the speech ‘parents’, and the last time with writing ‘motivation’. The third use of the image was no longer a representation of her parents, but became a symbolic expression representing her parents as a source of motivation. Moreover, transduction helped the students developed new understandings that ultimately enhanced authorial expression in the L2. One student initially used the word ‘two-faced’ to find images that represented her experience of living in two cultures in her digital story, originally titled ‘I am Americanized, but I am Korean’. However, the collection of images found on Google made her realise that “she does not so much feel ‘divided into two things’ as ‘mixed’” (Nelson, 2006, p.66). She then changed her title, representing herself as “‘Culture Broker,’ one who bridges two cultures and shares equally in both” (ibid, p.66).

Lee, Gloria and and Chin (2021) explored how EFL students used multimodal resources to create a booklet presenting Taiwanese cultures. The analysis of multiple data sources, e.g. booklets and reflections, revealed that the students engaged in recursive reading-writing processes through multimodal resources. They collected numerous materials (e.g. guidebooks, movies, or blogs), took a field trip, and interviewed the locals to enrich the content and design of the booklets. These processes enhanced their understanding of the target audience, cultural elements, and semiotic choices in designing their texts. The study highlights that the intertextuality across modes and resources helped students create authentic, unique multimodal work and develop deeper insights.

Likewise, Zhang and O'Halloran (2019) demonstrated that the remaking of signs across written and multimodal texts can generate a more profound comprehension of written academic texts. They investigated how an L2 adult writer made and remade signs during his traversals between a research article (RA) to PowerPoint slides (PPT). Drawing on academic literacy (Lea, 2008) and transmodal moment (Newfield, 2014), the analysis of the drafts of RA and PPT, along with notes of writer-researcher interactions, interviews, and email exchanges, found that the remaking of signs across the texts helped the writer to achieve greater clarity in his writing and refine the research argument. For instance, using colours in the PPT to represent different chemical elements clarified the relationships among ideas, leading to a more refined argument in the final RA draft. In addition, familiarity with the software design options and the ability to appropriate modes available in the software were crucial for effective PPT composition.

In addition, Cimasko and Shin (2017) explored how the medium and modes affected meaning-making when an ESL freshman remediated an argumentative essay to a digital video. The student's essay, a video, and a script were the primary data, while interview and observation notes were supplementary to gain information about the design process and contextual factors. They found that that most transductions and transformations were shaped by the norms of the software used, emphasising informal interactions. For example, when the essay was transformed to the video script, the language of the script was much more casual, consisting of deictic pronouns, attitudinal lexis, contracted forms and shorter utterances. Moreover, transducing from script to video enabled the student to use gesture and speech to represent direct experiences and attitudes, expressing a more personal position of the characters. These personal feelings were not explicitly represented in the essay; thus, the affective meanings were gained in the video. But there was also a loss in meaning from transduction. Some significant details of the university represented in the essay were removed and reduced to the background image of a university study hall in the video.

In summary, these studies show that transduction and transformation are a natural part of multimodal composing and illustrate how both help learners to achieve their intended expression and generate new learning experiences. However, most of these studies examined one type of multimodal text, i.e. digital storytelling, leaving other different text types relatively unexplored. Moreover, the existing research on transduction and transformation in L2 contexts is notably limited and inconclusive. This gap is crucial as L2

learners increasingly engage with transformation and transduction within and across diverse modes for communication. Further research will contribute valuable insights in L2 education, fostering a more holistic understanding of writing as multimodal composing as well as its values and benefits for students' learning.

2.7.2.3 *Semiotic Awareness*

These days, L2 learners need the ability to “communicate effectively with multimodal meaning-making resources” (Lim and Tan-Chia, 2022, p.3). However, as previous research has shown (e.g. Nelson, 2008; Park, 2021), effective multimodal composing requires more than the ability to use available modes. It crucially requires semiotic awareness, i.e. the critical attention and understanding of modal affordances both in isolation and in combination which contribute to the meaning in a multimodal text (Nelson, 2008; Towndrow *et al.*, 2013). The importance of semiotic awareness is reflected through an increasing number of pedagogical frameworks designed to help students develop their awareness of using and combining modes and semiotic resources (e.g. Cope and Kalantzis, 2021; Kern, 2015; Lim and Tan-Chia, 2022) (Section 2.4.1).

Previous research has examined how multimodal composing enables students to express and develop their semiotic awareness. For instance, Dahlström (2022) examined digital story composing processes of the students, including L2 learners, and investigated resources and skills they used. The students were given lessons on how to use an iPad application and discussed different types of stories and modes used in text design. They created the stories in class, with the teacher's support. Video recordings of designing process were multimodally transcribed, themed using an abductive thematic analysis, and interpreted based on learning as a situated practice (Cope and Kalantzis, 2015; the New London Group, 1996). The findings revealed that the students uniquely designed their stories due to their personal preferences and digital text-making experiences. One student used only writing while other students combined multiple modes. During the designing process, the students used various skills such as writing, reading, film editing, image searching, and digital multimodal composing, which involves semiotic awareness (e.g. what modes to use to achieve their purposes, the interplay of modes, and the structure of texts as a whole). Using multiple modes helped them to express their intended meaning more effectively. Moreover, the study highlights digital text making experiences as a crucial factor for using and choosing modes, and underscores the required knowledge and

skills beyond print-based text making, including semiotic awareness, as essential for contemporary composition.

Lim and Nguyen (2022) explored the use of a Tinkering pedagogical approach to enhance student's ability to make choices and take control to address their goals in multimodal composing. The students were taught to discuss multimodal meaning-making, such as how different camera angles and positions signify different interpersonal meanings. They then created a storyboard for product review videos which were shared for peer feedback before producing the video. The analysis of multiple types of data found that the pedagogic metalanguage offered opportunities for student to choose the modes that suited their preferences and needs. Moreover, the analysis of the storyboards and videos revealed signs of learning for semiotic awareness and creativity, showing that the students were able to make apt semiotic choices to express meanings and unleash their creativity. For instance, one student used a close-up shot with a high angle to represent the best view of how the food looked to the viewer and then shifted to an eye-level medium shot to present how the food tasted, allowing the viewer to observe his actions and reactions when trying the food.

The aforementioned research, like Nelson (2006, 2008), also demonstrated evidence of students' emergent semiotic awareness. For example, the repeated use of parents' image with different words suggested the students' awareness of a "deeper, more complex, more abstract quality of meaning that developed within the image-word sign in a multimedia composition as it progressed" (Nelson, 2006, p. 62). Nelson (2006) emphasised the importance of semiotic awareness as the key to engaging with synaesthesia in its truly creative sense. Likewise, the two students in Nelson (2008) demonstrated their semiotic awareness which indicate understanding (as well as a lack of understanding) of how modes are used in isolation and combination. Nelson (2008) analysed his data based on his taxonomy to identify instances of semiotic awareness. His taxonomy was used to guide the analysis of instances of semiotic awareness in this study (see Section 3.6.5.2).

Besides an analysis of composing products and processes, some studies have explored semiotic awareness by drawing on data of students' and teachers' perceptions. Oskoz and Elola (2016) examined students' perceptions of their L2 multimodal composing. The students composed two argumentative and two expository essays, inserted images, received feedback, and revised the essays before converting them into scripts for their digital story. These scripts were read aloud for peer feedback before creating digital stories and

presenting them in class. During these steps, the students viewed sample digital stories and discussed the integration of modes. The analysis of students' reflections and questionnaire responses demonstrated their development of semiotic awareness. For instance, image, including its tones and colours, and audio modes were used to represent different emotions. Moreover, the students recognised that combining images with sound served their intentions better than replicating the written text. One student reflected that "when the scripts were read without these components, they sounded 'choppy', and where they had 'gaps' in their digital stories, images and music 'filled them in'" (ibid, p.334).

Liang and Lim (2021) investigated both teachers' and students' perceptions of multimodal composing. They employed a self-developed pedagogical framework to help language learners produce digital multimodal texts and extend their learning beyond language skills. During the lessons, the students were introduced to a metalanguage to describe and discuss features of sample videos. The findings from the survey and focus group discussions revealed that most students became aware of the metalanguage and its effects in the videos and could employ appropriate modes and semiotic resource to engage their target viewers. Moreover, the students recognised the importance of expressing ideas through various forms and media, and perceived multimodal composing as a creative way of expression. However, despite being aware of its importance, the teachers and some students felt that this skill would not be helpful for the language-focused national examinations.

Semiotic awareness is not only important for students. Towndrow *et al.* (2013) highlighted the importance of semiotic awareness for teachers through a fine-grained analysis of one student's produced multimodal text. Drawing on social semiotics, the analysis of the digital story showed how modes were combined and used to effectively convey communicative intent, and intricately develop the meanings expressed in a digital story, making the student the 'expert designer' of textual meaning. Moreover, the student demonstrated "the awareness that in selecting from among available resources, what is unseen, or perceived as absent, can be just as critical to conveying a message as what is included and sensible" (Towndrow *et al.*, p.344). The analysis aims to exemplify the elusive yet crucial design dimensions of the student's piece and of multimodal literacies, inspiring language teachers to reconsider the significance of multimodal meaning design in students' work. Achieving this requires a heightened emphasis on semiotic awareness. As Towndrow *et al.* (2013) argued, "teachers cannot be expected to engender or assess these critical new-media literacy capacities if they do not know what they comprise, and how to recognize and interpret their

realizations in instances of practice” (ibid, p.346). Similarly, Satar, Hauck, and Bilki (2023) investigated how trainee teachers made use of various modes to represent themselves in virtual exchange context. Their findings underscored the need to promote critical digital literacy, i.e. an awareness of how meanings are represented for powerful self-representations in EFL teaching and teacher education.

In conclusion, these studies underscore the significance of semiotic awareness in multimodal composing in language education through an analysis of either multimodal products or students’ recollections of their composing experiences (e.g. reflections and focus group discussions). In doing so, they fully recognise multimodal literacy as important and employ a specific pedagogy to enhance multimodal literacy and semiotic awareness. However, not many studies have investigated the students’ actual experiences of multimodal composing, except for Dahlström’s (2022) study, which did not directly observe semiotic awareness. Moreover, most of them focused on one genre, i.e. digital storytelling, aligning with the systematic review of L2 multimodal composing by Li and Akoto (2021).

This study addresses these gaps by collecting various students’ multimodal texts and recordings their composing processes to yield a deeper understanding of how they used modes and demonstrated their semiotic awareness. Moreover, different from previous studies, this study is concerned with scrutinising multimodal composing activities in the Thai EFL context, which have not yet fully embraced the value of developing multimodal literacy, aiming to understand if the students could engage in and express their semiotic awareness during their independent composing process. In Thailand, the use of activities that involve students with various modes is common; however, these activities are integrated into the classroom mainly to enhance linguistic proficiency, motivation, and engagement (Sakulprasertsri, 2020). Thus, multimodal composing is often used without any specific multimodal literacy pedagogy. The findings will be expected to broaden our understanding of multimodal composing beyond mere language (writing and speech) practice activities and of semiotic awareness students involved from a multimodal perspective.

2.8 Multimodal Studies in Thai Context

In Thai contexts, most studies adopt a weak multimodal view focusing on enhancing EFL learners’ linguistic ability (Section 2.7.1). Studies with a strong multimodal view, focusing

on meaning-making, are more common in media studies. In this field, different types of media, such as printed media, videos, and digital media have been examined using various multimodal approaches. However, studies in Thailand employing social semiotics to examine multimodal composing remain limited, especially in the EFL context.

Most studies looking into meaning-making in multimodal texts employed multimodal discourse analysis (MDA) focusing on how modes function together in communication. For instance, Jones (2014) employed MDA and critical semiotic frameworks to examine “Vote No” political campaign posters used in Thailand’s 2011 general elections to understand how animals, colours, writing, and symbols were used to represent political rejectionism and dissonance. Rungruangsuparat (2017) also drew on MDA and Frame analysis to explore websites of Thai universities. The study revealed the shared social practices of the visual and text designs, highlighting how the websites represented not only institutions’ goals, but also local cultural aspects. Jocuns (2020) focused on animated media. He employed MDA to examine two tourism advertising videos to understand how the concept of Thainess was represented and resemiotised. The study showed that the concept was commodified as authenticity for tourists through different modes and semiotic resources such as dress, gaze, and POV. Similarly, de Groot and Jocuns (2022) used multimodal critical discourse analysis to analyse two music videos, one created by Rap Against Dictatorship (RAD) to criticise the ruling Junta and the other created by the Junta as a response. The analysis showed how various modes such as image, music, and gestures were used to realise scalar differences in civic participation.

While MDA has been commonly used, there are a limited number of research that employed social semiotics to study meaning-making practices. For example, Punksirikul (2018) applied systemic functional grammar and social semiotics to Thai language texts, highlighting the importance of cultural specificity due to different Thai-English semiotic principles and meaning potentials in specific contexts (e.g. the use of colours in Thailand). Viroonphan (2018) employed social semiotics to examine street food signs in Yaowarat and Chatuchak, the two popular street food areas in Thailand, and explored the customers’ opinions towards the signs. The analysis showed similarities and differences in the designs, reflecting distinct cultural influences in each area. In terms of digital media, Koowuttayakorn (2018) investigated 90 Instagram photos to explore visual grammar of the activity called “Weekend Hashtag Projects”. Drawing on social semiotics, the analysis revealed six characteristics of the common-used visual designs, underlining the need to

understand these preferred aspects in order to apply such features effectively and become a part of the inner platform's internal community. Kamolmas (2022) explored how Thai teenagers from different social backgrounds negotiated and expressed their gender identities on social media. Using thematic analysis for interviews and focus groups and social semiotics for online ethnography data (e.g. posted pictures and shared content on Facebook, Instagram, and Twitter), the study revealed that teenagers from different social classes have different strategies to express their gender identities. For instance, lower-class teenagers used non-normative practice in subculture online, e.g. creating new hashtags for in-group communication. The study highlights the relationship between culture affiliations and gender identities in social media practices.

While studies investigating meaning-making in multimodal composing in Thailand have been conducted in various settings, only a few studies were conducted in the EFL context and none examined students' produced texts. Vungthong (2018) applied systemic functional grammar and Kress and van Leeuwen's visual grammar to examine how visuals in children's tablet games supported EFL learning. The findings showed that the visual designs were used differently for certain purposes. For instance, conceptual images were used for academic content while narrative images were used for entertainment to stimulate engagement. The study underscores the significance of visuals as meaningful resources, emphasising the need to understand modal affordances in designing effective digital language learning materials. More recently, Wichanee (2024) employed social semiotics to analyse seven Western-published textbooks used by English major students in Thailand to understand how writing, image, and tasks represented learners' cultures. The analysis revealed that a dominant representation of Western cultures and ideologies through writing and images, requiring cultural background knowledge and lived experiences unfamiliar to EFL learners. While exposure to new cultures can broaden students' perspectives, they may lead to surface-level engagement with language, i.e. learning language merely to finish the tasks. The cultural disconnect brought challenges to the students' comprehension and potentially distanced them from their own cultural identities. The study underscores the importance of integrating both local and global cultures in material selection to support meaningful language learning and cultural identities. Krongyut and Srijongjai (2024) did not directly examine meaning-making but focused on students' perceptions of a multimodal approach used in an EFL writing class and its effect on their behavioural engagement. Drawing on questionnaires and students' reflections, the study revealed a positive

perception towards the approach and a significant increase in overall behavioural engagement, with a major increase in interactions with peers and teachers and a smaller increase with the learning content.

In terms of the remaking of signs, several studies have been conducted in the Thai context, though none specifically within EFL settings. Chueasuai (2013) explored changes in meaning in the translation of US and Thai *Cosmopolitan*. Using SFL and social semiotics, he found that the translated titles and images used in Thai *Cosmopolitan* weakened the overall sexual strength represented in the US version. The study underlines the usefulness of integrating tools as a powerful means for analysing both writing and visuals that concurrently used in the texts to examine changes in meaning. Saejang (2023) used Kress and van Leeuwen's framework to examine how feminist discourse was re-represented in the Thai translation of a Chilean feminist protest song through lyrics and choreography. The analysis of the poster, choreography videos, and Twitter conversations revealed both shared critiques of patriarchy. However, in the Thai version, anger was expressed through different semiotic resources, such as colloquial language, pronoun shifts, and explicit references to the monarchy, which challenged Thai seniority cultures and also reflecting gender oppression in Thailand. The study highlights how transformation and transduction through words and dance moves can reshape and amplify meaning across cultural settings.

To summarise, the existing literature in Thailand has commonly investigated meaning-making practices using MDA within media studies. There is limited research adopting social semiotics to explore this topic, particularly in EFL contexts. None of them has examined language learners' produced texts. Likewise, studies on the remaking of signs have been scarce, reflecting a gap in understanding how meaning is shifted across modes. Moreover, while studies exploring multimodal literacy and semiotic awareness have been increasingly conducted in L2 contexts (Section 2.7.2.3), no study, to my knowledge, has directly investigated these topics in Thailand. This absence of research underlines a critical need for studies to capture the complexity of multimodal meaning-making to ensure that EFL education aligns with the evolving communicative demands in of the digital era. This study directly addresses this gap by exploring how Thai EFL students composed multimodally, expanding the understanding of meaning-making, remaking of signs, and semiotic awareness in the field of language education in Thailand.

2.9 Chapter Summary

This literature review chapter has illuminated the pivotal role of multimodal composing and semiotic awareness in language education. However, the field of L2 multimodal composing is still in its infancy (Blecher, 2017; Hafner, 2014; Li and Akoto, 2021; Smith, 2017; Yi *et al.*, 2020). The review underscored the need for further investigation of different types of multimodal texts students produce beyond digital stories. Moreover, most of the studies reviewed here employed a particular teaching approach to facilitate students' multimodal composing and rarely observe students' actual multimodal composing experiences. Furthermore, studies in Thailand approaching multimodal composing from a strong multimodal view remain limited. This study aims to address these gaps, and, through an analysis of multiple data types, contribute to a deeper understanding of how L2 learners compose various types of multimodal texts in a typical EFL classroom in Thailand that has not yet prioritised multimodal literacy.

The next chapter explains the methodology and methods employed in the study to address the research questions and achieve the research objectives.

Chapter 3. Research Methodology

This chapter presents the research design and methodology used in this study, beginning with a restatement of the research focus and the research questions. Subsequently, the research paradigm and research design are discussed. This study adopts a qualitative case study approach (Merriam and Tisdell, 2016) to gain an in-depth understanding of EFL students' multimodal composing. After the research context and the study's participants are described, a detailed account of the pilot study is given. Next, I discuss the data collection methods and tools and present the analytical procedures used to answer each research question. The chapter concludes by discussing aspects of trustworthiness, ethical considerations, and the limitations and methodological issues of the study.

3.1 Focus of the Study and Research Questions

This qualitative case study expands the traditional focus of EFL instruction in Thailand, shifting from a sole emphasis on speech and writing to diverse representational modes and the multimodal design of language learners' produced texts. It investigates the multimodal texts that a group of Thai undergraduate students composed as part of their foundation English module in one EFL classroom, as well as their composing processes. The language learners were considered to be multimodal sign-makers who draw upon their semiotic repertoire to serve their communicative needs.

A multimodal social semiotic and multiliteracies perspective enables the study to focus on three aspects of multimodal composing: 1) the use of modes and semiotic resources across different types of multimodal texts the students produced, 2) the remaking of signs, and 3) the evidence of semiotic awareness demonstrated during the planning and composing processes as well as in the students' produced texts. The multimodal composing project required the students to produce a handwritten draft, design a digital poster, and perform an in-class presentation on the topic of an innovative product without specific training for developing multimodal literacy (Section 3.4). In this study, the term *text* broadly refers to semiotic entities of any kind, whether in “two, three, or four dimensions” (Kress, 2011a, p.207). Thus, the term *multimodal texts* here not only refers to the students' *handwritten drafts* and *posters*, but also includes their *in-class presentations*.

This study was conducted to address one overarching research question:

How do Thai EFL students use modes and semiotic resources, remake signs, and materialise their semiotic awareness while composing multimodally?

To answer the main research question, three sub-questions were formulated:

RQ1: How do Thai EFL students use modes and semiotic resources while composing multimodally?

RQ1a) What modes and semiotic resources are used in the students' a) handwritten drafts, b) digital posters, and c) in-class presentations of an innovative product, and how?

RQ1b) What are the potential reasons underlying the students' semiotic choices?

RQ2: What signs and meanings do Thai EFL students re-make in the different products created during the multimodal composing activity, and how? What are gains and losses in meanings during this transformation process?

RQ3: What specific instances of semiotic awareness do they display while engaging with the multimodal composing task, and how do these instances manifest?

The project was slightly adapted according to the university's policy during the COVID-19 pandemic and the pilot study reflections. However, the intervention was minimal to preserve the natural occurrence of the data in this pedagogical context (Section 3.6.2). The primary data for RQ1 and RQ2 is the multimodal texts the students produced (i.e. their handwritten drafts, posters, and videos of their in-class presentations). These texts were investigated using a social semiotic lens to understand the use of modes and semiotic resources and their contribution to meanings (RQ1), and to examine the remaking of signs and the changes in meanings from such processes (RQ2). I also collected ethnographic data for contextual information to facilitate my interpretation for social semiotic analysis. The data consisted of background information questionnaires, recordings of multimodal planning and composing processes, interviews, and the project-related documents. Moreover, the recordings and the interview data were used to address RQ3 and answer RQ1b, which further corroborate the findings for RQ1.

3.2 Research Paradigm of the Study

A research paradigm is a "basic set of beliefs that guides action" (Guba, 1990, p. 17), which combines three interconnected ideas, values and assumptions of the researcher:

epistemology, ontology, and methodology. Epistemology deals with the issue of what is considered valid knowledge in a discipline and how it can be obtained and interpreted. Ontology concerns the fundamental nature of existence and “raise(s) basic questions about the nature of reality and the nature of the human being in the world” (Denzin and Lincoln, 2018, p. 197). Different epistemological and ontological aspects constitute different views of the world, leading to the selection of the best means to obtain knowledge – i.e. a methodology (ibid).

Positivism and *interpretivism*, two leading overarching research paradigms, lie at opposite ends of a spectrum in their approach to reality. Each one “makes particular demands on the researcher, including the questions that are asked and the interpretations that are brought to them” (Denzin and Lincon, 2018, p.56). *Positivist* researchers believe that there is a single universal reality that exists independently ‘out there’ in the world waiting to be discovered, and any findings discovered can be generalised to other contexts (Crocker, 2009). In this view, reality is objective, unchanging, observable, predictable, and statistically quantifiable. Quantitative research, involving statistical analysis and numerical measurements, are the methods used in this paradigm.

Challenging positivism, *interpretivism* (also known as *social constructivism*; see Creswell and Poth, 2018) assumes that there is no single universal reality but rather multiple *interpretations of reality*, and ‘knowledge’, as such, is about understanding and exploring these interpretations. In this view, reality is socially constructed; each individual creates his or her subjective understandings of the world through historical and cultural norms which shape his or her life and social interactions (Creswell, 2007; Merriam and Tisdell, 2016). Interpretivist researcher commonly seeks to gain in-depth understandings of these multiple ways of looking at the world through a variety of qualitative data collection methods such as interviews, open-ended questionnaires, participant observations, and documents and artefacts analysis.

Having social semiotic theory as a starting point, this study falls under *post-structuralism*. In line with interpretivism, post-structuralism rejects the idea of an objective, single reality that can be discovered through scientific methods. However, post-structuralism goes beyond questioning how individuals construct and negotiate meaning in social contexts; it deconstructs them and critically examines how selves and social relations are constituted through language and other systems of meaning within specific relations of power

(Macdonald *et al.*, 2002). Post-structuralism questions how choices in language work to position individuals in relation to discourse(s), a term used in post-structuralism generally referring to “systems of beliefs and values that produce particular social practices and social relations” (ibid, p. 143), with what effects, as well as how power-knowledge relations shift over time, places, and in varying cultural, political, and social contexts (ibid).

Accordingly, this study perceives the world as open to interpretation and recognises the influence of historical and sociocultural contexts. It specifically focuses on students’ choices in designing meaning and employs a qualitative approach to explore Thai university students’ multimodal composing products and processes in an EFL classroom in Thailand. It is a small-scale study, which is beneficial for detailed attention and fine-grained analysis.

3.3 Research Design

The present study adopts a qualitative case study approach (Merriam and Tisdell, 2016) to build an in-depth understanding of Thai EFL students’ multimodal composing. As the research area, topic, and questions of the study are framed by a social semiotic approach to multimodality, the study is ‘doing multimodality’ rather than selectively adopting some multimodal concepts (Jewitt *et al.*, 2016) (see Section 3.3.2).

3.3.1 Case Study

Case study research seeks to develop an in-depth understanding of a current, real-life case (a bounded system) or multiple cases over time (Creswell and Poth, 2018). It aims to depict ‘what it is like’ to be in a particular situation, to capture details and give a ‘thick description’ of the intricate reality of participants’ lived experiences (Cohen *et al.*, 2018). Therefore, in case study research, situations and contexts must be ‘thickly described’ to enable them “to speak for themselves, rather than to be heavily interpreted, evaluated or judged by the researcher” (ibid, p.377). Case study, then, is descriptive and detailed by nature.

To gain such an in-depth understanding, case study allows researchers collect and utilise “multiple sources of information (e.g. observations, interviews, audio-visual material, and documents and reports), and report a case description and case-based themes” (Creswell and Poth, 2018, p.153). Moreover, it has distinct advantages over other research designs, especially for a study in which 1) ‘how’ or ‘why’ questions are the main research questions,

2) a researcher has little or no control over actual behavioural events, and 3) the focus is on contemporary phenomena (Yin, 2018). Given this, case study research was deemed most suitable for this investigation of ‘how’ Thai EFL university students compose multimodally.

In this study, a case is identified as each group of students who participated in a multimodal composition project as part of a foundation English module in semester 1 of the 2020-2021 academic year. It is a bounded system, delimited by the participants (groups of students) by time (semester 1, 2020, being the period of data collection) and by place (a public university in the central region of Thailand). (A more detailed description of the participants is given in Section 3.7.1.). Multiple sources of data, e.g. the students’ multimodal texts, video/audio recordings of the composing and planning processes, and a semi-structured group interview were collected to achieve the research aims (Section 3.6.3).

Like other research methods, case study has its limitations. It has been criticised for lacking rigour, being time-consuming, and posing a risk of bias (Cohen *et al.*, 2018; Yin, 2018). These issues were considered when designing the study and are delineated in Section 3.7. Another issue that concerns case study research is generalisability (Cohen *et al.*, 2018; Yin, 2018). Different from quantitative researchers seeking to establish statistical generalisations from a sample to a population, case study researchers aim to produce *analytic generalisations* (Yin, 2018), i.e. to expand and generalise theories “which can help researchers to understand other similar cases, phenomena or situations” (Cohen *et al.*, 2018, p.380).

There are different types of case studies, including single, multiple or collective case studies, and intrinsic or instrumental case studies (Creswell, 2007; Stake, 2005). The present study is *an instrumental case study* since the aim of the study is not to learn about all aspects of a case or cases in detail, but to gain insights into multimodal composing practices of the cases.

The selection of cases to study is important. Stake (2005) argued that the opportunity to learn is a crucial criterion for case selection. Case study researchers should select cases that provide the optimum opportunity to learn and “are likely to lead us to understandings, to assertions, perhaps even to modifying of generalisation” (Stake, 1995, p. 4). This can mean

selecting cases that are most accessible or that we can spend more time with (Stake, 2005). In this study, two groups of students were purposively selected for in-depth analysis, namely *GOT4* and *Pungpuriyé*. These cases were chosen based on: 1) the different variety of modes used in their multimodal texts; 2) the result of votes for the perceived best presentation and poster from their peers, and; 3) the availability of complete data sets (see Section 3.6.1).

3.3.2 *Doing a Multimodal Study*

This multimodal study was conducted based on the guidelines proposed by Jewitt *et al.* (2016). The key elements of a multimodal study are presented in Figure 3.1. The first four elements are discussed in this section. The fifth, sixth, and seventh elements are presented in Sections 3.6.3 to 3.6.5, and the ethical dimension will be explained in section 3.9.

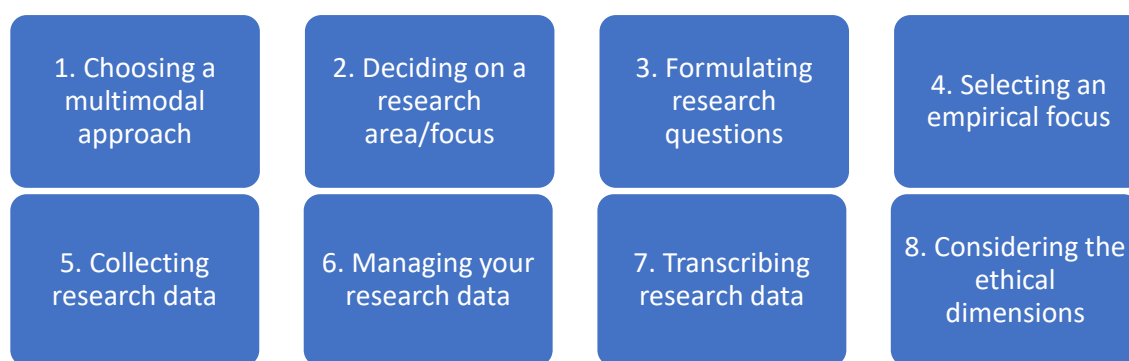


Figure 3.1 Eight important elements when designing a multimodal study

To design a multimodal study, it is crucial to be clear on which multimodal approach is to be used. This study adopts a social semiotic approach to multimodality (Bezemer and Kress, 2016). Social semiotics is not only a theoretical framework, but also guides research questions, aims, methodology and methods; multimodality is central to all aspects of the present study. Therefore, the study is regarded as ‘doing multimodality’ rather than ‘adopting multimodal concepts’ since a research area, topic or questions of the latter are framed by another theoretical context (Jewitt *et al.*, 2016).

The second and third elements concern the identification of a research focus and research questions. The main focus here is the products created from multimodal composing practices of Thai EFL students. The research questions were formulated to gain insights into how the students compose multimodally (see Section 3.1).

Next, types of material/data are determined. While artefacts and interactions are two main types of empirical focus in multimodal research (Jewitt *et al.*, 2016), in practice, many researchers focus on only one type of data. For example, Hafner (2014), Nelson (2006), and Yeh (2018) examined students' produced artefacts while Satar (2020) and Satar *et al.* (2024) focused on language learners' interaction during virtual exchanges. The present study focuses on both, examining handwritten drafts, posters, and in-class presentations. The presentations were video recorded and are considered as both a process and an outcome of multimodal composing (see Section 3.6).

When working with artefacts, we must consider whether contextual information is needed, and this is shaped by the approach and research questions used in the study (Jewitt *et al.*, 2016). Social semiotics has been criticised for placing its analytical focus heavily on artefacts (Prior, 2005; Jewitt *et al.*, 2016). Although the context is crucial because sign making is socially and contextually shaped, the approach itself does not provide holistic insights into the social context (Flewitt, 2011; Kress, 2011b). Insufficient attention to the situated contexts “may risk overlooking more distal layers of influence” on meaning-making (Flewitt, 2011, p.296). One strategy to address the issue is to utilise ethnography which provides opportunities for researchers to become familiarised with the participants' context (Dick *et al.*, 2006; Flewitt, 2011; Kress, 2011b; Canale, 2019): “an ethnographic lens gives multimodal analysis a social map” (Street, Pahl and Rowsell, 2009, p. 197).

In this study, I saw contextual information as necessary for facilitating my interpretation of the participants' sign-making. Although I share a cultural background with the participants as a speaker of Thai as a first language in a university context, there are differences in age and generation that might have influenced my understanding of the participants' meaning-making. Therefore, *ethnographic tools* (Green and Bloom, 1997) were used to gain information about the students' social context (Kress, 2011b) as well as their composing process. This combination of social semiotic analysis and data from ethnographic tools was used to enrich understandings of how Thai EFL students use modes in a specific context and allow deep insights into their semiotic choices, the potential reasons underlying these choices, and the instances of semiotic awareness expressed while engaging with multimodal composing.

3.3.2.1 *Ethnography: Using Ethnographic Tools*

To better understand the contexts and strengthen my interpretation of a social semiotic analysis, this study adopts *ethnographic tools*. Ethnography is a qualitative research approach that studies humans' cultural practices within a community from the insider's point of view—an 'emic perspective' (Hammersley and Atkinson, 2007). However, the use of *ethnographic tools* differs from doing ethnography in its traditional sense. Green and Bloom (1997) introduced three types in educational contexts. First, *doing ethnography* involves a comprehensive, in-depth study of a cultural group through open-ended engagement and long-term cultural immersion as framed within a discipline. Second, *adopting an ethnographic perspective* narrows down the focus and aims "to study particular aspects of everyday life and cultural practices of a social group" (ibid, p.183) using sociological or anthropological theories. Finally, *using ethnographic tools* refers to the use of methods and techniques such as interviews or participant observation. Research using ethnographic tools can be guided by questions about a group's everyday life and cultural theories, but this is not compulsory.

The first two types sketched above involve a commitment to anthropological or sociological theory. As the current study is not guided by the inquiry practices from ethnography (instead drawing on social semiotics), *ethnographic tools* were regarded as the appropriate method to obtain complementary information about the students' social contexts, illuminate their composing process, and reveal the rationale(s) for their semiotic choices. The main ethnographic tools used in this study were observation, questionnaire, and interview (Section 3.6.3).

3.3.2.2 *The Combination of Social Semiotics and Ethnography*

In recent years, the number of studies employing both social semiotics and ethnography has increased (e.g. Canale, 2019a; Dicks, Soyinka and Coffey, 2006; Flewitt, 2011; Hackett, 2015; Kress, 2011b). These studies point to the importance of studying both meanings and social context, and argue that ethnography and a social semiotic approach can be combined into a powerful toolset to generate a better understanding of socially situated meaning-making practices (Dick *et al*, 2006; Flewitt, 2011; Kress, 2015; Jewitt *et al*, 2016).

Ethnography and social semiotics have been combined in various ways. Dicks, Soyinka and Coffey (2006), for example, studied the reproduction of science knowledge in a science discovery centre and interactions of visitors with the exhibits. For them, understanding meanings in any context involves the understanding of how semiotic modes and media work together, and social semiotics was deemed useful for this purpose. Their study emphasised the implications of social semiotics in ethnographic research and underlined the importance and limitations of modes available and meaning transformations when ethnographic data were recorded in different media (e.g. field notes and photographs).

Flewitt (2011) integrated ethnography and social semiotics to study young children's digital literacy, viewing both as essential for understanding complexity of socially situated meaning-making activity. Social semiotics provided a framework to study how modes were used for meaning-making. Ethnographic methods including participant observation, video recordings, field notes, survey and interviews were used to add depth. Flewitt argued that semiotic analysis alone would only provide a *thin* description showing the semiotic choices of the participants and the availability of modes in different media. An ethnographic approach to data collection was deemed necessary as it would provide insights into layers of social complexity and the participants' context, enriching data interpretation.

Kress (2011b) also argued that while social semiotics focuses on an instantiation of sign-making in a social environment, it lacks holistic insights into social context. He illustrated this with a social semiotic analysis of car park signs, showing how different visual elements like thick and thin lines carry different meanings about store's brand and customer expectations. He then questioned "whether our 'readings'/interpretations and judgments could be made more 'secure' by understanding more about the 'customers' and their backgrounds" (Kress, 2011b, p.245). He suggested that the limitation of social semiotics could be overcome by using ethnography to provide crucial information related to social *context*. As Kress (2011b) argued, "it might be wise to use each approach for what each will do best. We could then bring the two kinds of 'finding' together and see what that would show" (p.245). For Kress, bringing ethnography and social semiotics together as a 'partnership' for mutual advantage can facilitate the interpretation of data. This partnership provides complementary data which one perspective cannot adequately explain by itself. In short, fusing the approaches is potentially beneficial for the analysis and is practical as long as the differences in capacities and limitations of each approach are recognised.

In this study, ethnographic tools and social semiotics are thus fused to gain mutual advantage (Kress, 2011b; see also Dick *et al.*, 2011). Social semiotics is the main method while ethnographic tools are complementarily employed to understand the students' sign making in their multimodal composing (i.e. RQ1 and RQ2). Social semiotics is also a theoretical framework that guides the data collection and analysis. It provides tools for understanding the modes employed, the meaning being expressed, and the student's agency. Ethnographic tools are employed to gain data for a better understanding of the context, potential reasons affecting the students' semiotic choices, and instances of semiotic awareness. These ethnographic data facilitate and strengthen my interpretation of a social semiotic analysis of RQ1 and RQ2 and are used to address RQ3, leading to a holistic comprehension of Thai EFL students' multimodal composing.

3.4 Participants and Pedagogical Context

The study was carried out with first year students on a foundation English module at a public university in central Thailand. The main study was conducted over ten weeks during the first semester of the 2020-2021 academic year (August to December 2020) and the pilot was conducted in June 2020, during the summer term of academic year 2019-2020. More details of the participants in the pilot and main study will be provided in Section 3.5.1 and 3.6.1, respectively.

The foundation English module uses a pass/fail grading system to help students develop fundamental reading, listening, speaking, and writing skills in English. First-year students are required to enrol on this module if they have an overall IELTS score lower than 4.5 or a TU-GET score lower than 70 (TU-GET is an English language proficiency test organised by Thammasat University). Compared with the Common European Framework of Reference (CEFR), students enrolled on this foundation English module fall between basic users (A2) and independent users (B1). For this module, the instruction and learning activities were mainly designed based on the lines of an *active learning approach* (Bonwell and Eison, 1991) which encourages students to actively and experientially engage in the learning process through task-based activities, pair and group work, discussions and presentations, while integrating multimedia and technology. Therefore, students generally engage in text production using multiple modes, even if not explicitly labelled as multimodal composing.

Both Thai and English are used in the class and the students are not required to speak English all the time. Often, the students use English only when doing a speaking task or when the teacher asks them to. I observed 15 weekly sessions in total, each lasting three hours. In these classes, the students were required to do a multimodal composing project in a small group as their final project. The project started on week nine and finished on week 15. This project is the primary source of data in this study. The details are explained next.

3.4.1 A Writing Task as a Multimodal Composing Project

As part of the course content, the students are required to complete one final project chosen from the tasks in the course book by the lecturers and module leader. In 2019 and 2020, a writing task from Unit 5 was chosen. The project required the students to work in groups of 4-5 to design an advert on the topic of ‘an innovative product’ and perform an in-class presentation (Figure 3.2).

5.6 Writing: Our product is the best!

Scenario: You are in a marketing team and you are told to prepare an ad for promoting your newest company product in the upcoming World Tech Expo—the world’s leading event which will introduce and explore the latest innovations.



Instructions: In groups, choose a product, perhaps something that you have bought recently or imagine a new one. Brainstorm possible adjectives for promoting your product. Name your product and create an advertisement on the given paper. Then be ready to present to the class and vote for the best ad!



Use comparative and superlative adjectives to compare your product with others and show that your product is better or has improved.

Figure 3.2 The instructions for the final project in the coursebook

The project was designed based on a product-based approach with sample work and the focus of the assessment is on the final product (Steele, 2004), aiming to engage students through group work that allows them to use both the target language structure (comparative and superlative adjectives) and creativity for communication. While the project provided opportunities for the students to make use of multiple modes for communication, it was not specifically designed to improve multimodal literacy. Thus, the instructions and assessment criteria (Appendix G and H) did not place much emphasis on multimodality. It can be seen from the instructions (Figure 3.2) that the project foregrounds writing and speech by asking

the students explicitly to use comparative and superlative adjectives, while the use of other modes (e.g. picture, colour, cartoon and font type) is implicitly shown in the sample poster.

However, from a social semiotic perspective, the project is naturally considered as *a multimodal composing project* since it provides opportunities for students to use and combine different modes to make meanings. This made the project an appropriate data source for exploring the expanded scope of language learning beyond speech and writing, allowing us to understand how the students drew upon their semiotic repertoire to make meanings in their multimodal texts. In the main study, the lecturer adapted the coursebook task slightly to aid the students in planning and outlining their ideas by asking them to write a short summary of their product and provided a handout as a guide according to the university's policy during the pandemic and the reflections of the pilot study (Section 3.6.2).

3.4.2 Changes in the Multimodal Composing Project due to the COVID-19 Pandemic

Normally, class lecturers assign the project in weeks eight or nine. Students work with their peers outside the class and bring their posters for assessment and presentation in week 15. The production of the posters happens outside the classroom because of the product-based approach, time constraints, and lack of access to computers in the classroom. Classroom time in weeks 10-14 is devoted to teaching other units in the course book.

In December 2019, there was an outbreak of a newly discovered coronavirus in Wuhan, China, resulting in a global pandemic of COVID-19 (coronavirus disease 2019). The virus primarily spreads through respiratory droplets and contact. Many countries, including Thailand, imposed country lockdowns and social distancing measures to limit the transmission of the virus. As a result, the teaching and learning of the module and the assignments in 2020 were adjusted. During the pilot study, all teaching and learning was conducted fully remotely on digital platforms. The pilot was thus fully conducted online and the multimodal composing activity was adjusted accordingly. However, the main study was conducted in late 2020, when the pandemic situation had improved, and teaching had become a combination of face-to-face and online learning. Nevertheless, the university still encouraged teachers to reduce any non-essential face-to-face activities and conduct them online instead. Therefore, the multimodal composing project was adjusted accordingly (see Section 3.6.2).

3.5 The Pilot Study

The pilot study was conducted in late June 2020 to refine the ethnographic data collection methods to gain insights into the students' contexts and facilitate my interpretation for social semiotic analysis. This section provides a summary of the pilot study, including information about the participants, the context, and the data collection processes, followed by my reflections on the pilot. Table 3.1 provides a summary of the reflection and the changes in the main study.

3.5.1 Participants and the Multimodal Composing Project

The participants were four university students who had not done the project and were voluntarily to work in group to complete an online multimodal composing activity on the fixed date and time. The activity was similar to the multimodal composing project described in Section 3.5, but it was fully conducted online in one session due to the COVID-19 pandemic. The participants used Awwapp (<https://awwapp.com/>), an online whiteboard platform, for writing down ideas about an innovative product, designed the poster using Google Slides, and then participated in an interview in one 4-hour session via Zoom. All data were collected online. Figure 3.3 shows the students' two multimodal products: 1) the draft, and 2) the poster. They did not give a presentation as the primary goal of the pilot was to test and improve data collection procedures and methods. In the main study, presentations were given offline and recorded using cameras. Collecting presentation data was thus considered unnecessary for the pilot study.

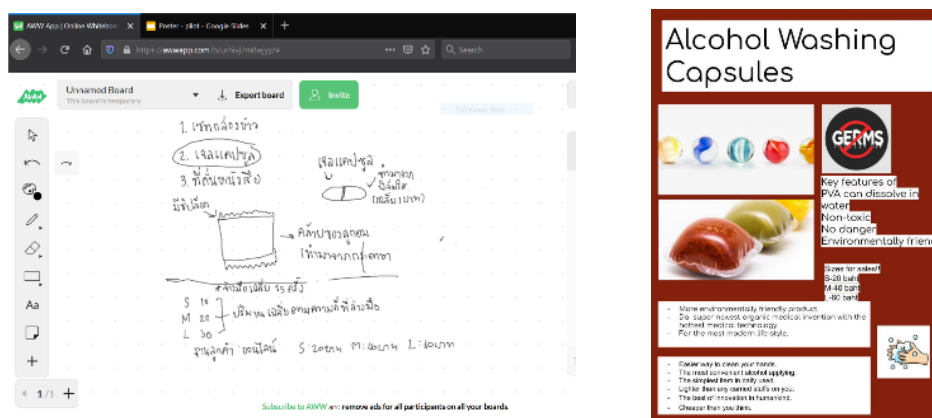


Figure 3.3 The students' multimodal texts

3.5.2 Data Collection and Procedures

The pilot sought to refine the use of the ethnographic tools to gain insights into the students' contexts and strengthen social semiotic analysis. The tools were 1) an online background information questionnaire (Appendix B), 2) a Zoom recording of the composing processes, and 3) a Zoom recording of a group interview (Appendix C). Figure 3.4 gives an overview of the data collection procedures and instruments in the pilot study.

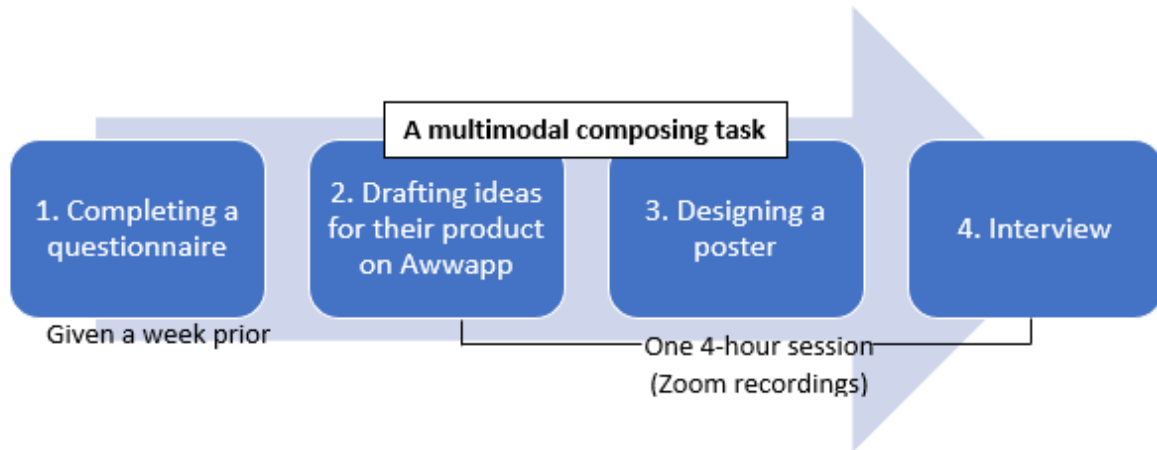


Figure 3.4 Data collection procedures and instruments in the pilot study

The participants signed informed consent (Appendix D) forms and completed the questionnaire online one week before the activity. The questionnaire contained 11 closed and open-ended questions aiming to elicit their background information, English proficiency, experiences with multimodal texts, preferences of text types, experiences with English writing and the use of technologies. I translated the questions into Thai (both Thai and English questions appeared together in the questionnaire).

On the activity day, I briefly explained the purpose of the study, the project, and the two platforms (Google Slides and Awwapp). Then I recorded the meeting using Zoom's local recording function to capture both audio and the activities occurring on the screen. This allowed me to observe the participants' composing activity and their discussion during the composing processes. I specifically focused on their conversations related to the design decisions. I did not monitor the participants while they were composing the multimodal texts since it was less obtrusive (Rutter and Smith, 2005) and similar to learning in real life situations.

The students were interviewed immediately after composing the poster (Figure 3.5). The interview was 25 minutes long and conducted in Thai. Structured group interviews were used to gain an understanding of the participants' experiences from their perspectives and to facilitate my interpretation of their semiotic choices. The questions in the questionnaire and the interviews were selected and devised from Smith's (2013) and Dzekoe's (2013) studies of students' multimodal composing.

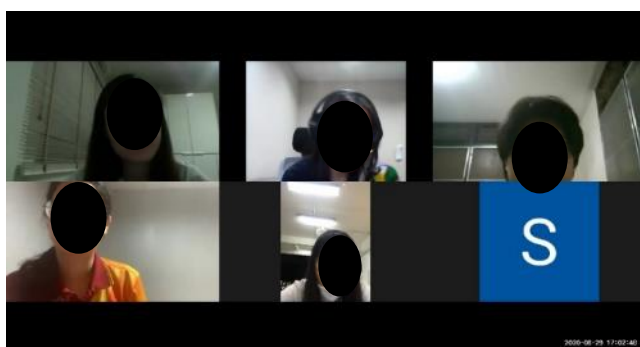


Figure 3.5 Group interview via Zoom

3.5.3 Reflections on the Pilot Study

This section is divided into three subsections: the reflection on the use of background information questionnaire (Section 3.5.3.1), the use of Zoom recordings of the composing process and interviews (Section 3.5.3.2), and reflection on pedagogical issues (Section 3.5.3.3). The following table provides a summary of the reflections and the changes in the main study (Table 3.1).

Table 3.1 A summary of the reflection and the changes in the main study

Pilot study reflections summary	Changes in the main study
1. Background information questionnaire	
<ul style="list-style-type: none"> • Helpful for obtaining participants' background information 	<ul style="list-style-type: none"> • Revised some questions to better serve the purpose. • Added questions about students' technological expertise.
2. Zoom recordings of the composing process and interviews	
<p>Zoom recordings</p> <ul style="list-style-type: none"> • Provided limited insight into the reasons behind semiotic choices. • Revealed frequent long silences due to: 1) lack of group communication, 2) absence of a leader, and 3) uncertainty about what to discuss during the task 	<p>Zoom recordings</p> <ul style="list-style-type: none"> • Used as a main tool to understand participants' semiotic choices • Provided a handout with detailed task instructions and guiding questions to encourage discussion and team collaboration on design decisions.

Table 3.1 (cont.) A summary of the reflection and the changes in the main study

Pilot study reflections summary	Changes in the main study
2. Zoom recordings of the composing process and interviews	
<p>Interviews</p> <p>More useful than Zoom recordings for revealing participants' reasons behind their semiotic choices.</p>	<p>Interviews</p> <ul style="list-style-type: none"> • Used mainly to understand the students' thoughts and experiences <i>after completing the task</i>. • Revised some interview questions for clarity.
3. Pedagogical issues	
<ul style="list-style-type: none"> • Needed more specific and clear task instructions. • Faced technological burden due to unfamiliar tools. 	<ul style="list-style-type: none"> • Provided step-by-step guidance in the students' handout. • Composed drafts in class using pens and papers due to the lifting of pandemic restrictions. • Included useful links on Google Slides and Zoom in the handout. • Introduced the online tools prior for exploration.

3.5.3.1 *Background Information Questionnaire*

Overall, the questionnaire was helpful for gathering participants' background information, but some questions needed to be revised to better serve this purpose. For example, the question "When do you integrate other things with your writing?" aimed to elicit information about 1) occasions that the participants combined different modes with their writing, and 2) the underlying reasons for doing so. In the pilot, only one participant provided a reason for their semiotic choice. Therefore, in the main study, I added a subsequent 'why' question for clarity, asking "Why do you prefer to do so in those contexts?"

Next, the experience of using technologies was important as it affected how the participants made signs. For instance, one student wanted to change the current background but she gave up due to a lack of technological expertise (Excerpt 3.1, Appendix F). Thus, in the main study, I included questions asking for the students' perceived technological expertise for communication and for graphic design to facilitate my social semiotic interpretation of the students' design choices. Moreover, the online tools were introduced with ample time

for the students to explore and become familiar with the tools before they designed their poster.

3.5.3.2 *Zoom Recording of the Composing Process and Interviews*

Both the Zoom recording and interviews were used to explore the reasons underlying the participants' semiotic choices in the pilot study, with the interviews providing more useful data. However, in the main study, I decided to use Zoom recordings for this purpose and the interviews were mainly used to understand the students' thoughts and experiences after completing the project.

In the pilot study, the Zoom recording did not provide much information regarding the reasons behind the participants' semiotic choices. It revealed many long silences from a lack of communication among group members, absence of a leader to monitor progress, and their uncertainty about what to discuss during the task (Excerpt 3.2, Appendix F). This pointed to the need for guidance to support students to work effectively with other group members in an online context, including clear instructions on what to focus on and guided questions to discuss their design choices while composing the multimodal texts.

Therefore, in the main study, I developed a handout in collaboration with the lecturer who had granted me access to collect the data in her class. The handout contained detailed task instructions with suggestions about how to work online in groups more effectively and several questions to guide students' discussion on their design decisions and to facilitate team collaboration during the composing processes (Appendix G). The students were expected to reflect on their thoughts more often to spark group decisions. The performance of students when working in groups can also improve from a more structured working process (van den Haak, De Jong and Schellens, 2003). Moreover, this allowed me to access the data I needed. As the students reflected on their thoughts, I expected audio and screen recordings to yield more useful data regarding potential reasons underlying the students' semiotic choices in the main study.

The interviews were more useful for revealing the participants' reasons for their semiotic choices immediately after completing the task in the pilot. However, in the main study, I decided to use audio and screen (Zoom) recordings instead since the participants composed three multimodal texts at different times, both in class and online. Timing was important because the study aims to understand sign making; signs are made based on the maker's

interest and the aptness of available modes to the meaning he/she wishes to represent *at the moment of sign making* (Bezemer and Jewitt, 2009; Kress, 2010). Using interviews would have required interviewing students three times after each production, which would have been tedious and caused extra workload. On the other hand, conducting interviews after all the texts were produced could have affected the accuracy of information as the students might forget vital information (Ericsson and Simon, 1993). For these reasons, audio and screen recordings were more suitable tools as they provided access to the students' thoughts *at the moment* of composing the texts. Furthermore, the students in the main study were given a list of guided questions to reflect on their thoughts with their group members while composing the texts, and this provided access to the data without burdening the students with extra work. In addition, from the pilot, some interview questions needed to be more specific and carefully explained to narrow down the scope of potential answers. The revised interview questions can be found in Appendix I.

In short, in the main study, audio and screen recordings were used to capture the students' conversations about their semiotic choices while composing multimodal texts. Interviews were still used, but mainly to understand the students' thoughts and experiences *after doing the task*, such as their thoughts about the design of their texts, the multimodal composing project, and difficulties or suggestions they may have had, as well as their ideas about the tools used to complete the project. Some of the interview questions were revised for clarity.

3.5.3.3 Pedagogical Issues

The pilot study revealed some pedagogical issues. Firstly, how the project was explained to the participants was crucial because it affected their design choices. The participants raised questions about the task many times throughout the composing processes, such as "*Do we need to think about cost and profit?*" and "*Can we use another program to design the poster?*". They spent quite some time figuring out what exactly they needed to do. This indicated that the task instruction needed to be more specific and more carefully explained in the main study. Therefore, the task instructions in the students' handout were revised to include the details of how to carry out the task step by step (Appendix G).

Secondly, using numerous technological tools that the participants were not familiar with appeared to put them under technological burden. They encountered difficulties and spent quite some time on exploring affordances of the tools. This pointed to a need for training

on how to use the tools and for reconsidering which tool was helpful in the design process. For the main study, pandemic restrictions had relaxed and the students met in class to compose their draft using pen and paper as usual. This reduced the technological burden on the students. Moreover, some useful links that provided guidance on using Google Slides and Zoom were included in the student handout. The tools were also introduced to the students in class and they were given time to explore them outside the class before designing their poster.

3.6 The Main study

3.6.1 *Participants*

The participants were first year students enrolled in a foundation English module at a public university in central Thailand during the first semester of 2020. Their instructor was Thai and had been teaching English to Thai university students for more than ten years. In our informal talks, the instructor expressed her interest in multimodal composing. She classified herself as a technology beginner who had little experience with Google Slides. I facilitated the introduction of Google Slides and Zoom, the two technology tools the students used in their multimodal composing, and answered questions related to the use of these tools.

The 25 students, aged between 18 and 20, were studying at two different faculties: eight from economics and 17 from engineering. Thirteen were female and 12 were male. All of them spoke Thai as their first language and had a low intermediate level of English. They were invited to voluntarily participate in the study and they signed an informed consent form before the study began (Appendix J). They were also informed that they could withdraw at any time without giving any reason or suffering any negative consequences.

The participants worked in small groups of four to five to complete three multimodal outputs as part of the multimodal composing project. There were six groups in total (GOT4, Gang Carrots, BJMN, Pungpuriyé, BDGN, and TEN). Table 3.2 details the six groups, giving group names, their products, modes used in the texts, and the number of votes from their peers for the group they perceived to have performed best in both poster design and presentation.

Table 3.2 Details of group names, products, modes used in the texts, and number of peer votes for the perceived best group

Group name	Their Product	Modes in their multimodal texts			Peer votes (25)
		Draft	Poster	Presentation	
1. The groups that used more modes and expressed creativity in the presentation					
GOT4 <i>(focal case)</i>	AI contact lenses	Writing	Writing, visuals (image), spatiality	Speech, writing, visuals (image, video), 3D objects (clothes), audio (music), gestures	7
Gang Carrots	Nutritious jelly	Writing	Writing, visuals (image, colour), spatiality	Speech, writing, visuals (image), 3D objects (clothes), audio (music), gestures	6
BJMN	A multi-functional shirt	Writing	Writing, visuals (image), spatiality	Speech, writing, visuals (image, PowerPoint slides), gestures	4
2. The groups that used four modes and relied heavily on speech in the presentation					
Pungpuriyé <i>(focal case)</i>	Multi-functional eyeglasses	Writing	Writing, visuals (drawing), spatiality	Speech, writing, visuals (image), gestures	3
BDGN	Smart headphones	Writing	Writing, visuals (image), spatiality	Speech, writing, visuals (image), gestures	3
TEN	A smartphone	Writing	Writing, visuals (image), spatiality	Speech, writing, visuals (image), gestures	2

To select the focal cases, firstly, I created data logs that consisted of a description of the data and my analytical ideas to obtain an overview of the data and generate criteria for case selection in relation to the study's aims (Section 1.5).

The first criterion was the diversity of modes. I identified the modes used in the students' multimodal texts and found that all groups used similar modes in their drafts and posters. However, they explicitly employed varying numbers of modes for the presentations: GOT4, Gang Carrots, and BJMN combined more diverse modes while Pungpuriyé, BDGN, and TEN relied on fewer modes (see Table 3.2). Moreover, the first three groups expressed their creativity in using modes, such as dressing up to represent specific careers and using music as part of the presentation, while the latter three groups relied mainly on speech as the primary mode of communication. This clearly divided the participants into two

categories: 1) the groups that creatively utilised various modes, and 2) the groups that used a limited number of modes. With the study's aim in mind, I selected one focal case from each category since not all groups creatively employed numerous modes in their multimodal composing. This selection was expected to provide a varied understanding of how the participants composed multimodal texts, encompassing both expansive and more limited numbers of modes.

The second criterion was the number of peer votes for perceived best poster design and presentation. After in-class presentation, the students voted for the texts they found most engaging, effective, or impactful. As the audience determines the success of communication (Kress, 2010), the number of votes can imply different levels of engagement and the effectiveness of the texts in conveying meanings to some degree. The groups with the highest number of votes in each category were selected as examples of outputs positively assessed by the audience. However, data from BDGN and TEN were excluded because participation and data collection were incomplete. In these two groups, only one or two students took part in the poster production and these students did not participate in the interview. The interviews did not yield complete responses. Thus, the data from these two groups were eliminated from the data pool.

The selected groups were GOT4 and Pungpuriyé. GOT4 was selected as the group utilising a wider variety of modes in multimodal composing and because they received the highest number of votes considering both poster design and presentation. The other focal case was Pungpuriyé. Although they received the same number of votes as BDGN, data from the latter was incomplete. Therefore, Pungpuriyé was selected as the group that used the least variety of modes in their multimodal composing.

The data from both cases were considered to have the potential to yield valuable insights into how the students drew upon varying numbers of modes and semiotic resources while completing the same multimodal composing project. A brief description of the two focal cases is presented next. A more complete description of each case can be found at the beginning of chapters four and five.

3.6.1.1 *Focal Case 1: GOT4*

The GOT4 group consisted of four members - Alice, Minny, Emma, and Chloe – who were all female students from the School of Engineering. According to the questionnaire

responses, the students generally engaged in various technology-related activities in their daily life. They reported that they were familiar and confident with using technology for communication, but not for graphic design.

All members demonstrated familiarity with writing either in Thai or English in isolation as a communicative mode in formal situations and combining writing with other modes in informal contexts. However, for English writing in particular, Alice, Minny, and Chloe reported mainly using it within the classroom or when completing assignments. Only Alice and Emma reported using English writing outside of class. Alice mentioned using English when posting captions on Instagram with emoticons to express her feelings more effectively. Emma used English as interjections for expressing powerful meanings and emotions. Moreover, all members expressed a preference for combining writing with other modes when they communicated with others and also showed some awareness of modal affordances.

3.6.1.2 Focal case 2: Pungpuriyé [pʌŋpurije']

The Pungpuriyé group consisted of one female (Ava) and three male students (Niko, Oliver, and Zane). All of them were from the School of Engineering. Similar to the first focal case, the students also took part in many kinds of technology activities in their daily life. All were confident using technology for communication, but only Ava and Oliver felt confident using it for graphic design. The students reported using writing in Thai in isolation and in combinations with other modes in formal situations. For writing in English, similar to the first focal case, they predominantly used it in the classroom context when required by teachers. Only two students reported having experiences writing in English with other modes: Zane used writing in English with other modes when travelling aboard because “it’s necessary” while Niko used them to create funny memes.

However, in contrast to the first case, most of Pungpuriyé’s members preferred to use writing alone for communication because it is easy and provides meanings in a clear and straightforward fashion. Only Zane enjoyed and preferred using multiple modes for communication. The students’ responses suggested a familiarity with and preference for using writing as the main communicative mode in their everyday lives. In addition, there appeared to be limited awareness among them regarding the affordances of other modes, beyond writing, except for Niko, who mentioned using emojis to increase vividness in

written communication. However, Niko maintained that writing served as the tool that provided a clearer meaning than images and emojis. Thus, for Niko, other modes seemed to be perceived as supplementary to writing.

3.6.2 Pedagogical Context: The Multimodal Composing Project in the Main Study

In the main study, the multimodal composing project (Section 3.4.1) was slightly adapted to comply with the university policy during the pandemic and the pilot study reflections. Firstly, the Thai government lifted its COVID-19 restrictions in late 2020, allowing partial in-person teaching with limited in-person activities. To comply with the policy, the lecturer made a few adjustments to the project, dividing it into in-class and online stages: writing a product summary (in-class), designing a poster (online), and delivering a presentation (in-class). As the poster was expected to require a considerable amount of time, the students were encouraged to work online instead of meeting up physically outside class.

Secondly, the original multimodal composing project (Section 3.4.) included two stages: producing a poster and delivering a presentation. However, based on the pilot study, the lecturer and I added the first stage (writing a summary) to the project to primarily help the students outline their ideas. Finally, a student handout (Appendix G) with the project's details and information on research data collection was given to the students. While developing the handout with the lecturer, I shared insights from the pilot study which revealed challenges such as a lack of communication and some uncertainty about what to talk about while doing the task (Section 3.5.3.3). Thus, the lecturer and I added several questions to encourage the students' discussion on design decisions and improve group communication during the composing process. The handout, including the questions, was provided only as a guide for the students, with no requirement to follow or use them. The intervention was minimal to ensure that the data remained naturally occurring in this pedagogical context. Table 3.3 shows a summary of activities in the multimodal composing project.

Table 3.3 A summary of activities in the multimodal composing project in this study

Week	In-class or online	Stage of the project	Project activity
9	In class	Stage one	The lecturer introduced and explained the task.
10	In class		The students brainstormed ideas and wrote a 150-word summary of their product detail on a given handout (30-45 minutes).
11	In class	Stage two	The lecturer introduced stage 2 and the digital platforms used for designing posters (Zoom and Google slides).
12-13	Online		The students collaboratively designed their poster using Zoom and Google Slides.
14	Online	Stage three	The students prepared for the presentation.
15	In class		The students performed an in-class presentation.

In week 9, the lecturer introduced the project and distributed a student handout. In week 10, during the last 45 minutes of class time, the students brainstormed ideas for an innovative product and wrote a short summary. This stage required them to describe the product and its functions. Although the instruction implicitly limited the students to the mode of writing, the lecturer made the task more flexible and expanded their options. She clarified that the task aimed to help them plan their ideas for designing a poster which they could elaborate on later, and allowed them to include optional details, such as target customers or price, draw pictures, or create mind maps to outline the ideas. This stage provided opportunities to pose any questions that the students might have had regarding the whole project.

In stage two, the students had three weeks (weeks 11 to 13) to design and produce a digital poster presenting their product. They were encouraged to be creative and include as many modes as they preferred in the posters. In week 11, the lecturer explained the task's details while I introduced Zoom and Google Slides. Tutorial links for both platforms were provided in the student handout. Each group identified a date and time they would like to work on the poster and received a Zoom link accordingly.

Zoom and Google Slides were chosen for several reasons. Firstly, online platforms provided flexibility in scheduling group work, accommodating each group's preferred date and time. Secondly, the students were already familiar with Zoom from previous learning

experiences. Thirdly, Google Slides was chosen for its collaborative features, enabling synchronously group work. Moreover, the interface and functions resembles Microsoft PowerPoint, a platform familiar to the students. Therefore, they did not need much time to explore the tools. Furthermore, Zoom and Google slides allowed for recording the students' interactions, which enabled the lecturer to track their collaboration and me to observe their discussions about semiotic choices and decisions made during the composing processes. This helped in interpreting their sign-making decisions and understanding their semiotic awareness. The time allocated for poster design was generous (2 weeks), providing time to resolve any internet connection problems or technical issues. Also, the students were encouraged to contact me for assistance with technical or task-related issues.

The final stage of the project happened in weeks 14 and 15. The students planned the content and the style of their 10-minute presentation to be presented in class in week 15. Creativity was encouraged. The students could incorporate role-playing, singing, or short videos into their presentations. Following each presentation, the lecturer provided brief verbal feedback, and the other students voted for best poster design and presentation. The winning group received a small prize from the lecturer in recognition of their outstanding performance.

3.6.3 Data Collection Procedures and Instruments

Social semiotics typically involves in-depth analysis of small sets of texts or artefacts (Jewitt *et al.*, 2016). Yet, it has been criticised for heavily focusing on artefacts while overlooking the context they are created (Prior, 2005; Jewitt *et al.*, 2016). Thus, to understand the complexity of EFL students' multimodal composing in depth, I collected multiple data types over nine weeks (Denzin and Lincoln, 2018). The students' multimodal texts were the primary data used to understand the use of modes. Ethnographic tools were used to understand the social contexts and investigate the composing process. These were recordings of their composing/planning processes, a background information questionnaire, a semi-structured group interview, and teaching-related materials. All the data were imported to, managed, and analysed with MAXQDA 2022. Figure 3.6 gives an overview of the main study's data collection procedures and instruments. The data were collected from weeks 9-17, starting from the week before a multimodal composing project was assigned. The multimodal composing project itself took six weeks to complete (weeks 10-15) and the last two weeks were allocated for conducting the interviews. Standard

procedures of ethical approval and informed consent were obtained before the data collection. The students' names were replaced by pseudonyms throughout the data analysis (Section 3.9).

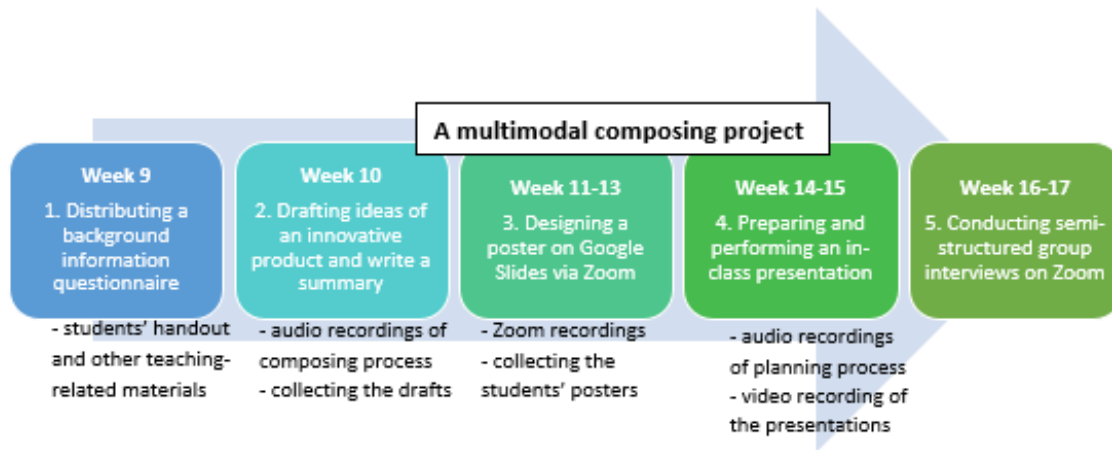


Figure 3.6 Data collection procedures and instruments in the main study

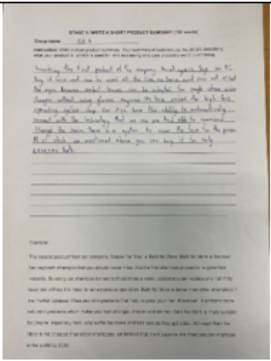


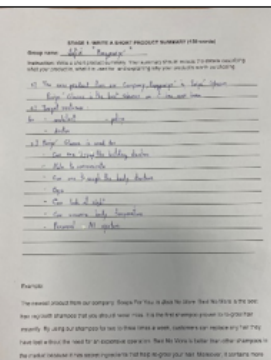


Week 9: Questionnaire and teaching-related materials

Questionnaires are a widely used and helpful instrument for collecting information from respondents (Cohen *et al.*, 2018). A total of 24 from the 25 students completed a questionnaire to give their background information prior to the following session. The questionnaire was designed using Online Surveys software, which is accessible to Newcastle University students conducting research. Using an online questionnaire is beneficial as it offers the flexibility of place and time for the students to complete it at their convenience. The questionnaire contained 13 closed and open-ended questions, aiming to elicit the participants' background information and experiences related to the following themes: language learning background, their perception and previous experience of writing in English and Thai, multimodal texts, and technology use (Appendix L). Both English and Thai-translated questions appeared together in the questionnaire. The results of the questionnaire facilitated the researcher's understanding of the students' background and context, which could influence their choices in making meanings. Additionally, a course syllabus and a student handout explaining the multimodal composing project were also collected as complementary data to understand the context (Appendix G and M).

Weeks 10-15: Multimodal Composing Products

The multimodal texts that each group produced as part of the project were collected. The students' handwritten drafts were taken pictures and collected as digital files at the end of the class. The posters were already in digital format. The students' presentations were recorded with a video recording device which was set up in the centre of the room to effectively capture their interactions while presenting their products. Despite providing a restricted view of the event, video recording was useful as it preserved the fine-grained moments of the students' use of modes during the presentation, allowing for repeated views and exploration with different manipulations (e.g. slow or fast forward) (Jewitt *et al.*, 2016). The recording of each group's presentation lasted from 7.30 to 10 minutes. GOT4 and Pungpuriyé's presentations lasted nine and 10 minutes respectively. Table 3.4 gives an overview of the two focal cases' multimodal texts.

Table 3.4 An overview of GOT4 and Pungpuriyé's multimodal texts

Cases	Handwritten draft	Poster	In-class presentation
<p>Focal Case 1 – GOT4</p> <p>Product name: Eyes on AI</p>			
<p>Focal Case 2 – Pungpuriyé</p> <p>Product name: Puriyé Glasses</p>			

Weeks 10-15: Observation through Recordings of Multimodal Composing and Planning Processes

Observation provides an opportunity to collect first-hand data in real-life social contexts, potentially yielding more valid or authentic data (Cohen *et al.*, 2018). In this study, the students' multimodal composing composing/planning processes were observed and recorded via Zoom, with the aim being to capture the students' discussion and what they did during the composing processes.

In week 10, each group was asked to record their conversations while working on the draft using their mobiles or recording devices. I did not video record the students' composing process in this stage because of a lack of recording resources (i.e. video recording devices). Although audio-recording can preserve conversations while composing a draft, it cannot capture non-verbal behaviours and contexts (Hammersley and Atkinson, 2007); therefore, I, as a non-participant observer (Bryman, 2012), also took fieldnotes while observing how the students worked together on their draft for more contextual information. Each audio recording lasted about 30-60 minutes. The audio recordings of GOT4 and Pungpuriyé's draft composing processes lasted approximately 45 minutes each.

During weeks 11-13, the students met on different dates and at different times to collaboratively design their poster using Zoom and Google Slides. Their conversations and composing processes on Google Slides were screen recorded using Zoom's recording function (Figure 3.7). Each group's recordings lasted 180-270 minutes in total. GOT4 and Pungpuriyé each held two sessions. The first Zoom session of GOT4 lasted two hours and the second lasted 75 minutes. Pungpuriyé spent longer, at 80 minutes for the first Zoom session and three hours for the second one. Although remote working was encouraged due to the COVID-19 policies, Pungpuriyé conducted their second session offline. In total, the Zoom recordings of GOT4's poster composing process lasted approximately three hours 15 minutes while the recordings of Pungpuriyé's lasted about four hours 20 minutes.

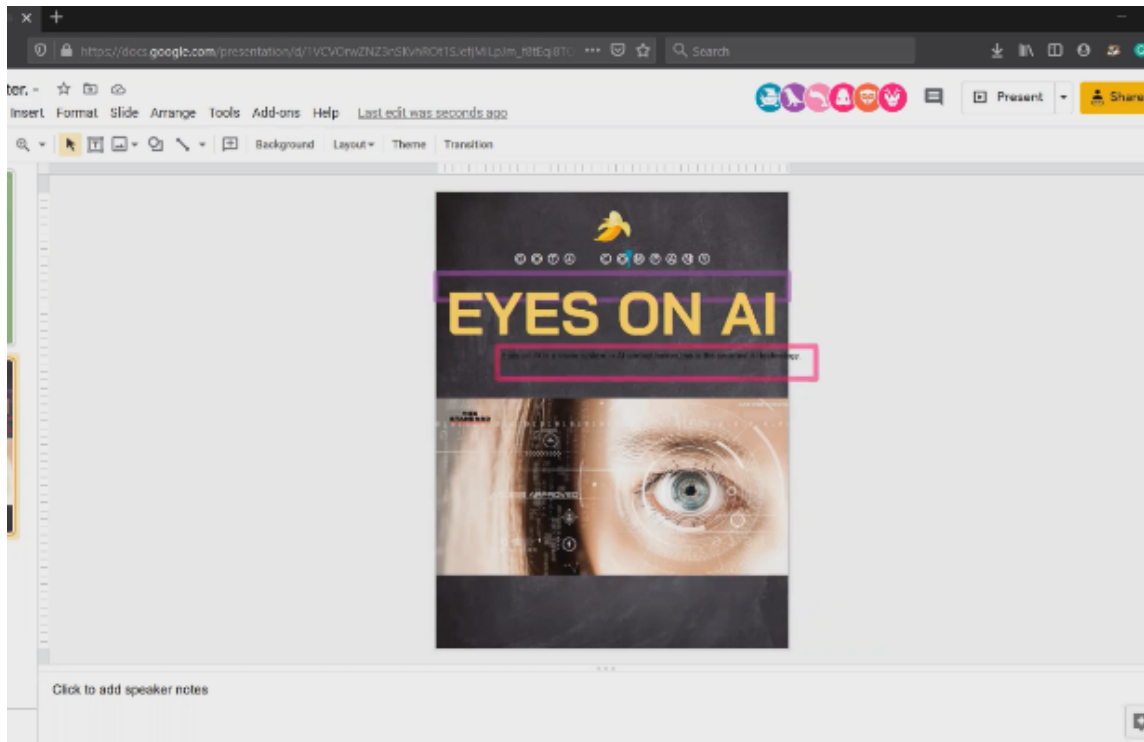


Figure 3.7 Zoom screen recordings of poster composing processes

At the beginning of each session, I joined each group's Zoom meeting to re-explain the task, assist with technical issues, and share a Google Slides screen to record their composing activity. This decision followed pilot study findings, where screen recordings stopped whenever the student, who was recording the screen, ended screen sharing. To ensure continuous recording in the main study, I managed the screen sharing and recorded the session on my end. As recording without my presence would be less obtrusive (Rutter and Smith, 2005), I stopped watching the screen after I started recording the meeting. I returned only when the students contacted me to ask questions or to tell me they had finished their posters.

In week 14, the students planned the content and the structure of their presentation. They were encouraged to work remotely and were asked to audio record their conversations. Some groups decided to plan their presentation on Zoom. Thus, I provided a link for Zoom meeting for them and recorded the meeting. Other groups used other platforms such as Line and sent me their audio recordings. Each recording lasted 20-50 minutes. The audio recordings of GOT4 and Pungpuriyé's presentation planning lasted approximately 57 and 23 minutes respectively.

Week 16-17: Interviews

For Patton (2015), “We interview people to find out from them those things we cannot directly observe” (p.426). In this study, semi-structured group interviews were employed to understand the students’ thoughts regarding their multimodal texts and learning experiences after completing the project. They also revealed potential factors underlying the students’ semiotic choices and provided some evidence for semiotic awareness. The interview data were used to facilitate my interpretation of social semiotic analysis and to address RQ3. Semi-structured interviews are useful because they not only allow researchers to explore specific issues through a list of guided questions, but also offer flexibility to elaborate on opinions and ask further questions if needed (Bryman, 2012). The interview questions were translated and asked in Thai.

In weeks 16 and 17, each group of students attended the interviews online via Zoom at the agreed time. Using online interviews is helpful due to the flexibility of geography, date, and timing and the feasible recording function that the platform offers. The date and time of the interview was selected based on the availability of all parties. The interviews for GOT4 and Pungpuriyé took approximately 40 minutes each. Table 3.5 gives an overview of the data collection of the two focal cases.

Table 3.5 An overview of the data collection of the two focal cases

Data collection	GOT4	Pungpuriyé
1. Background questionnaires	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2. Students’ produced multimodal texts	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3. Audio recordings of draft composing process	45 minutes	45 minutes
4. Zoom recordings of poster composing process	3 hours 15 minutes	4 hours 20 minutes
5. Audio recordings of presentation planning	57 minutes	23 minutes
6. Interviews	40 minutes	40 minutes
7. Teaching-related materials		<input checked="" type="checkbox"/>

3.6.4 *Multimodal Transcription*

Analysis of the video recordings of the presentations was presented using a multimodal transcription. Making a multimodal transcription from video data involves transformation and transduction; therefore, it always entails gains and losses in analytical insights and

certain details of interaction (Bezemer and Mavers, 2011; Flewitt, 2011). It is important to be aware of these gains and losses when designing a multimodal transcription that can answer research questions. Researchers have experimented with different ways of producing multimodal transcripts. For instance, Baldry and Thibault (2006) presented a table with visual frames and meticulous descriptions of different modes in successive columns, Mondada (2018) developed a vertical transcript to describe the precise temporal and sequential details of the ongoing verbal and embodied actions for CA, and Mavers (2009) presented a minimalistic transcription in a table format including illustrations and descriptions of gesture and speech transcribed orthographically. Yet, there are no fully settled multimodal transcription conventions (Jewitt *et al.*, 2016).

In this study, I transcribed the video recordings of the students' presentations verbatim and employed the following symbols (see Table 3.6) in the transcript. I also included screenshots to provide a multimodal account of the data for a clear understanding of how modes and semiotic resources were used in the presentation.

Table 3.6 Transcription symbols

Symbol	Definition and Use
.	Short pause
(0.2)	Length of pause in seconds (in this case, two tenths of a second).
[]	Overlapping talk or action
(())	Analyst comment or descriptions
!	Rise in intonation
CAPITALS	Mark speech that is louder than surrounding speech
?	Questioning intonation
:	Prolonged vowel or consonant

3.6.5 Data Analysis Methods and Procedures

The data collected in this study were: 1) the students' multimodal texts, and 2) that obtained from the ethnographic tools, which included a background information questionnaire, teaching-related material, recordings of the composing/planning processes, and a semi-structured group interview. All the data were electronically imported into MAXQDA 2022,

a qualitative data analysis software that supports a wide range of data types. The software was used to store, categorise and analyse the data.

To restate, this study is informed by social semiotics and multiliteracies to understand different aspects of Thai EFL students' multimodal composing. Social semiotics is the corner stone which allows me to examine the multimodal texts they produced as sign-making process and to recognise all the modes, the meaning derived from the complex interplay of them, the changes in meaning from the process of remaking signs, and the signs remade as instances of emerging semiotic awareness. Multiliteracies shifts the focus of language learning to multimodal meaning-making, allowing me to focus on multimodal literacy and semiotic awareness in multimodal composing. In both frameworks, semiotic awareness is crucial as it enables students to critically assess and choose to express nuanced meaning in their multimodal texts. The interconnectedness of social semiotics, multiliteracies, and semiotic awareness is presented in Figure 2.2 and described in more details in Section 2.5.

Overall, social semiotics (Bezemer and Kress, 2016) was the main analytical method used to analyse the students' multimodal texts to address RQ1 and RQ2. I also drew on the grammar of visual design (Kress and van Leeuwen, 2006) and the notion of concurrence and complementarity in meaning (Daly and Unsworth, 2011) to understand the use and relationships of modes (RQ1). Teaching-related materials and the result of the background questionnaire were described as part of the contextual information (sections 3.4 and 3.6.2) and case description (sections 3.6.1, 4.1 and 5.1) to facilitate my interpretation of social semiotic analysis. Recordings of the composing and planning process and interviews were coded for potential reasons underlying the students' semiotic choices (RQ1b) to support the social semiotic analysis (RQ1 and RQ2). The recordings and interviews were also analysed deductively drawing on the taxonomy of semiotic awareness (Nelson, 2008) as the initial categories and then inductively to explore emerging instances of semiotic awareness during the planning and composing processes (RQ3). Table 3.7 shows an overview of the research questions, the data collection and analytical methods, and the aims of the data collection.

Table 3.7 An overview of research questions, data, and analytical methods

RQ: How do Thai EFL students compose multimodally?	Data sets	Methods of Analysis
RQ1. How do Thai EFL students use modes and semiotic resources while composing multimodally?		
RQ1a) What modes and semiotic resources are used in the students' a) handwritten drafts, b) digital posters, and c) in-class presentations of an innovative product, and how?	1. Students' outputs/texts of the multimodal composing project	Social semiotic analysis The analysis draws on the following analytical tools and concepts: <ul style="list-style-type: none">• Mode, semiotic resource, sign, sign complexes, signifiers, and signified (Bezemer and Kress, 2016)• Grammar of visual design (Kress and van Leeuwen, 2006)• Concurrence and complementarity in meaning (Daly and Unsworth, 2011)
RQ1b) What are the potential reasons underlying the students' semiotic choices?	1. Background questionnaires 2. Teaching-related materials 3. Students' outputs/texts of the multimodal composing project 4. Audio recordings of the draft composing process 5. Zoom recordings of the poster designing process 6. Audio recordings of the presentation planning 7. Interviews	As above - Social semiotic analysis underpinned by ethnographic data Student outputs are analysed together with various sources of data that include information on context, student background, recordings of composing or planning processes and interviews. Quotes and data where students explain their choices are brought in to inform the researcher interpretation and analysis.

Table 3.7 (cont.) An overview of research questions, data, and analytical methods

RQ: How do Thai EFL students compose multimodally?	Data sets	Methods of Analysis
RQ2: What signs and meanings do Thai EFL students re-make in the different products created during the multimodal composing activity, and how? What are gains and losses in meanings during this transformation process?	1. Students' outputs/texts of the multimodal composing project	Social semiotic analysis Mode, semiotic resource, sign, sign complexes, signifiers, signified, transformation, transduction, mimesis, gains and losses in meaning, epistemological commitment (Bezemer and Kress, 2016)
RQ3: What specific instances of semiotic awareness do they display while naturally engaging with the multimodal composing task, and how do these instances manifest?	1. Audio recordings of the draft composing process 2. Zoom recordings of the poster designing process 3. Audio recordings of the presentation planning 4. Interviews	<ul style="list-style-type: none"> • Deductive analysis to identify instances of semiotic awareness following the indicators of semiotic awareness in Nelson (2008) • Inductive analysis to observe any new emerging categories from the data

3.6.5.1 *Social Semiotic Analysis for RQ1 and RQ2*

To understand the use of modes and the meaning potentials of signs (RQ1), as well as the remaking of signs (RQ2), attention was given to both the multimodal designs of the products and the process of designing as sign-making. Thus, social semiotics was employed as the analytical method, as it provides powerful tools for investigating the social dimension of sign making, i.e. how humans make signs with various modes for communication and for learning in different social settings (Bezemer and Kress, 2016).

Social semiotic analytical procedures, focus, and scope vary depending on the objective of the analysis and the texts (Jewitt and Henriksen, 2016). However, the analysis can be

loosely described as a process of describing and examining three-interrelated aspects: 1) modes and sign makers, 2) remaking of signs in chains of semiosis, and 3) multimodal orchestration (Bezemer and Jewitt, 2010). The analysis procedures in this study were adapted from several guidelines of social semiotic analysis (Bezemer and Jewitt, 2010; Bezemer and Kress, 2016; Jewitt *et al.*, 2016; Jewitt and Henrikson, 2016).

Taking a social semiotic perspective, the notion of *signs* is central to the analysis (Bezemer and Kress, 2016). Signs are the elements in which *the signifier* (a material or physical form that can be perceived) and *the signified* (a meaning) are brought together in a *motivated* relation. The students' produced texts (the drafts, posters, and presentations) were viewed as *sign complexes*—“a complex of coherent elements within coherent textual entities” (ibid, p.23)—or *multimodal ensembles* which were created based on their interests and the aptness of available *modes* and *semiotic resources* at the moment of making the signs (Bezemer and Jewitt, 2009; Kress, 2010). Modes are “socially shaped, culturally available material resources” (Bezemer and Kress, 2016, p.7), such as speech, layout, gestures, and 3D objects (see Section 2.3.1). In this study, the main modes that were the focus of analysis consisted of *writing*, *speech*, *visuals* (e.g. images, drawings, videos), *audio* (e.g. music and sound effects), *gestures* as a physical act of signing (e.g. hand and arm movements, gaze, and body movement), *3D objects* (e.g. clothing and artefacts), and *spatiality* (e.g. proximity and layout).

Social semiotic analysis of texts is “based on available information of the context in which they were produced” (Jewitt *et al.*, 2016, p.74). Therefore, the analysis begins with a descriptive account of the contexts and multimodal texts (Bezemer and Jewitt, 2010). I started with a case description to provide an understanding of the participants and the context, drawing on the responses gathered from the background information questionnaire. For a descriptive account of the multimodal texts, data logs can be useful. After collecting the data, I repeatedly viewed the students' multimodal texts to become familiar with them and created data logs for each group of students. The logs consisted of an overview of the data, for example what modes were used in the students' multimodal texts, a summary of what happened in the presentation, and sketches of how the modes were used in each text, as well as notes of my analytical thoughts, questions, and ideas. In addition, to obtain an overview of the students' multimodal texts, I identified topics that were made in the drafts and posters, for example company information, product details,

and marketing phrases, and coded them. For the presentation, I identified different sections of the video and coded for what was going on throughout the presentation, for instance introducing the product, explaining the features, and demonstrating how the product is used.

Thus, the analysis in this study starts from a detailed description of the context, including the case description, overviews of the multimodal texts, tools, and available modes used in composing each text, and the vignette of the in-class presentation. This section is important as it gives readers a thorough understanding of the context in which the signs were made.

RQ1: The Use of Modes and Potential Reasons underlying the Students' Semiotic Choices

The analysis moves to the use of modes and potential reasons (RQ1). RQ1 seeks to understand how Thai EFL students use modes and semiotic resources while composing multimodally, with a specific focus on RQ1a) identifying the modes and semiotic resources employed, and understanding how they are used, and RQ1b) exploring the potential reasons influencing the students' semiotic choices.

To address RQ1a, I first identified signs, sign complexes, and modes in the texts. The analysis involved repeated views of the students' drafts, posters, and video recordings of presentations, coding and, note-taking using MAXQDA 2022. For example, the code "company identity_wr_img" means "company identity" is a sign-complex being made with two modes: writing (wr) and image (img) (Figure 3.8).

Next, I examined the potential meanings of the signs and the modes and semiotic resources used to make the signs to understand how modes and semiotic resources were used. The meanings investigated here refer to the potential meanings that are instantiated in the signs in the students' texts. The focus was on how each mode and the semiotic resources were configured and used to represent meanings as signs.

To achieve this, the drafts, posters, and video recordings of the students' presentations were repeatedly viewed in different ways. Firstly, I focused on one mode at a time and then a combination of modes. For example, the posters were first viewed with a focus on writing while covering image. This helped me to gain understanding from different angles by answering questions such as "What sense can I make of this text if I can't see the images?"

or “What sense can I make of the text if I change its layout?” (Bezemer and Jewitt, 2010, p.186). I then moved to the overall design of the students’ multimodal texts and investigated the relationship between modes drawing on the grammar of visual design (Kress and van Leeuwen, 2006) and concurrence and complementarity in meaning (Daly and Unsworth, 2011).

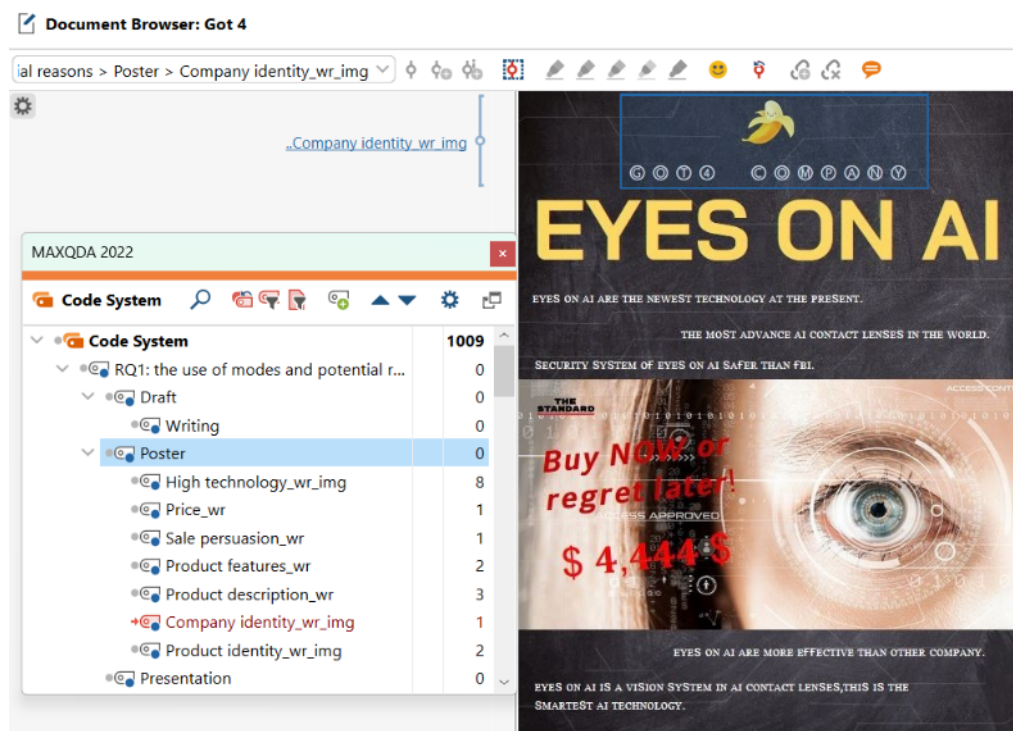


Figure 3.8 Screenshot in MAXQDA when coding signs, signs-complex and modes

Three analytical concepts from the grammar of visual design (Kress and van Leeuwen, 2006) were used in this study. Firstly, *information value* relates to the placement of elements in multimodal texts, which signifies the specific information values, for example left and right, top and bottom, and centre and margin. The elements on the left are Given, signifying something the reader is assumed to already know or be familiar with, while those on the right are New, referring to key information to which the reader must pay special attention. The elements on the top are Ideal– “the idealised or generalised essence of the information” (ibid, p.187)–while those at the bottom are Real, which plays a subservient role by presenting more specific information. The elements placed at the Centre are the nucleus of the information, and those placed at the Margins are subservient. Secondly, *salience* is used to describe elements that are designed to capture the viewer's attention, which is realised through a variety of means such as placement, size, colour, shades, etc.

Lastly, *framing* describes the connection or separation of elements, indicating whether they belong or not in some sense. Framing is realised through *framing devices* such as frame lines, colours, and white space between elements.

In addition, I drew on metalanguages from Daly and Unsworth (2011) to understand the inter-modal relation of modes in multimodal texts. Daly and Unsworth (2011) proposed two primary types of relationships: *Concurrence* refers to a relationship where the meaning in each mode elaborates on the other “by further specifying or describing it while no new element is introduced”, for example the relationship between an image of “a puppy chewing a shoe” and the caption “destructive behaviour of pets” (ibid, p.62). *Complementarity* describes when the meaning in each mode, which may be different, contributes jointly to an overall meaning that is more than the meanings conveyed by the separate modes, for example the relationship between an image that depicts the end result of a process described in a written text.

To strengthen my interpretation of social semiotic analysis, being an ‘insider’ researcher who has a shared culture and language with the students was advantageous. Moreover, I was aware of the criticism of social semiotics for potentially neglecting contextual aspects (Prior, 2005; Jewitt *et al.*, 2016) (Section 3.3.2.2). This is where the data from ethnographic tools played a crucial role. During the social semiotic analysis of the students’ outputs, I drew upon the background questionnaires and teaching-related materials that provided information on the context and student background to facilitate my interpretation. Moreover, I listened to and watched the recordings of the students’ actual multimodal planning and composing processes and the interviews where the participants explained their semiotic choices and design decision processes (RQ1b). Quotes and data where students explain their choices were brought in to support social semiotic analysis and increase the robustness and validity of my social semiotic interpretation. Figure 3.9 is a summary of the analysis procedures for RQ1.

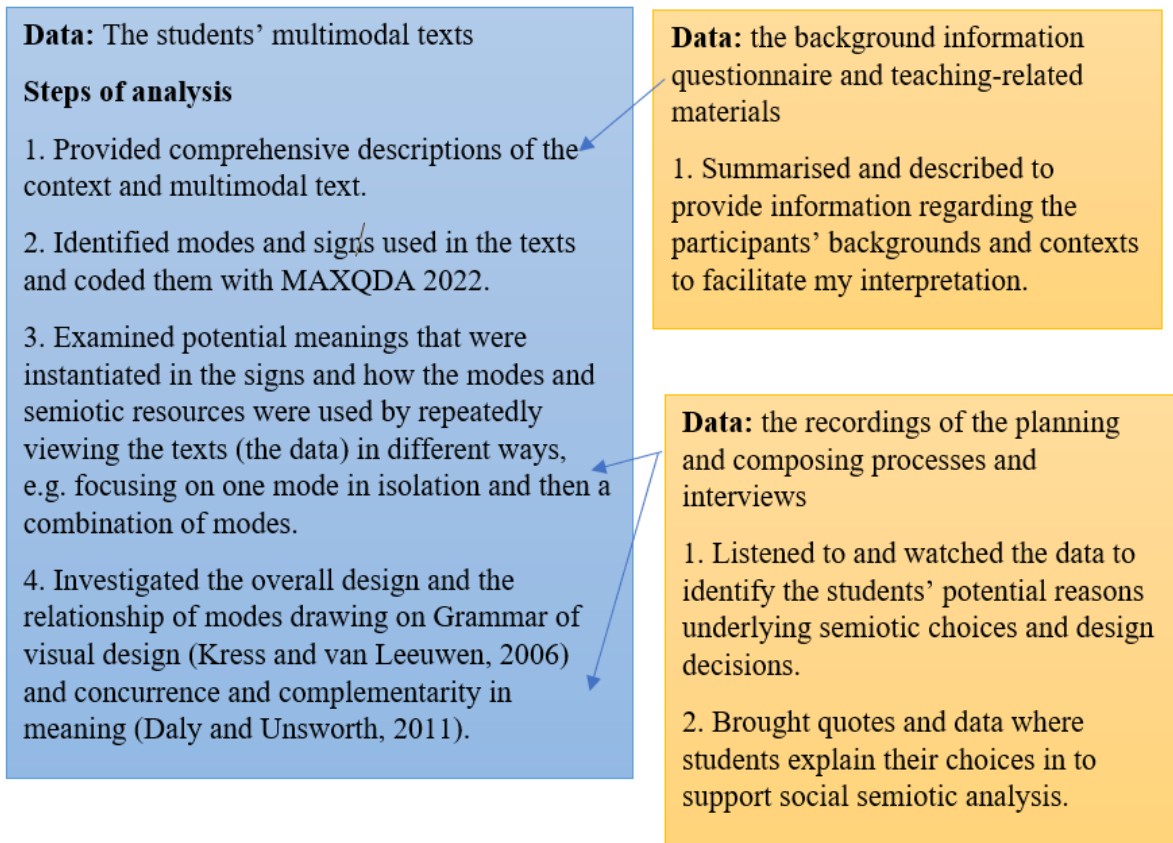


Figure 3.9 A summary of the analysis procedures for RQ1

RQ2: Remaking of Signs in the Different Products

In social semiotics, the act of interpreting signs is seen as *remaking signs* either within the same modes (*transformation*), across modes (*transduction*), or through a creative imitation (*mimesis*) (Bezemer and Kress, 2016) (see Section 2.3.1). Modes have different potentials and limitations for making meanings (*affordances*), which enforces sign makers to engage with and see the world in certain ways (*epistemological commitment*) (ibid). For instance, a drawing of a heart cannot represent movement or texture in the same way as the real heart, and it requires imagination to picture how soft the heart is or how frequently the blood pumps. Given the different affordances of modes, students need to shape and reformulate meaning when remaking signs (Jewitt, 2008). This engages students in thinking and learning in different ways and inevitably brings changes to the meaning being remade (Kress *et al.*, 2001).

RQ2 seeks to examine how the signs and meanings were remade in the different products created during the multimodal composing activity and explore *gains and losses in meanings*. The multimodal composing project required the students to produce a draft, design a poster, and deliver an in-class presentation on the topic of an innovative product. This allowed me to investigate how the students transformed the signs and meanings initially made in their draft with limited available modes into the other two multimodal texts, which offered them a wider range of modes for making signs. The exploration contributes valuable insights into the students' transformative engagement processes and their agentic actions in multimodal composing. Also, it helps us develop a deeper understanding of which signs the students considered crucial and how these signs were subsequently refined through transduction, transformation, and mimesis and then represented in their final presentations.

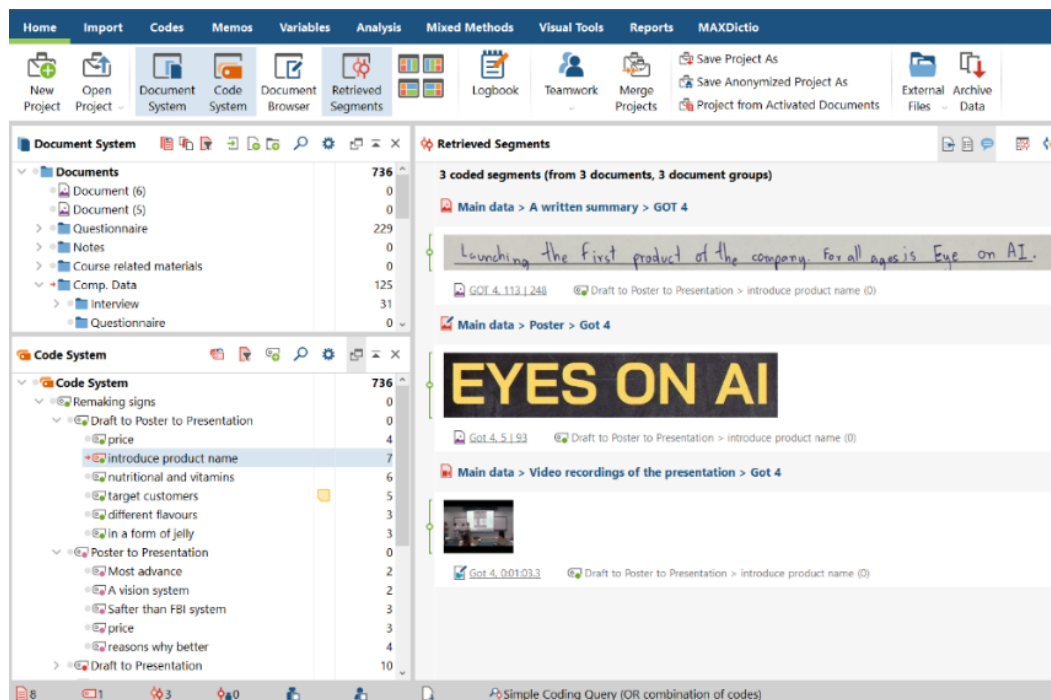


Figure 3.10 Sample screenshot of codes in MAXDQA for the remaking of signs across the GOT4's texts

The first step addressing RQ2 was to identify signs that were remade across the texts. This was done to identify and distinguish between the signs that the students perceived as criterial and those they did not. The analysis of RQ1 already revealed the signs and modes made in each multimodal text. Therefore, they were compared to examine which signs were remade across the texts. I created four codes to obtain an overview of the remade signs and

coded the data accordingly: 1) remaking signs from draft to poster, 2) from draft to presentation, 3) from poster to presentation, and 4) across the three texts (Figure 3.10).

Next, I selected two signs that were remade through the most varied modes across the three texts from each focal case to understand how the signs and meanings were shaped and refined across the texts that provided an increasing range of available modes (Table 3.8). The selected signs were examined in detail to investigate *gains and losses* in meaning by comparing the potential meaning of the selected signs, beginning with those made in the draft and the poster and subsequently those made in the poster and the presentation. Then I identified the changes in meaning, i.e. the meanings that were gained and lost. For example, GOT4 represented the type of product using the phrase ‘contact lenses’ in the draft and the product image in the poster (Figure 3.11). The written phrase ‘contact lenses’ indicated that the product was contact lenses without further specific details. The transduction to image brought about *gains in specificity and depiction* for the shape, size and colour of the product as they were clearly visualised in the image; readers who see the image do not have to rely on their own interpretation as much as those who read the written text (see Section 4.6.1). Figure 3.12 shows a summary of the analysis procedures for RQ2.

Table 3.8 The selected signs/sign complexes that were remade across the three texts

Case	Signs/sign-complex	Mode in the draft	Modes in the poster	Modes in the presentation
GOT4	1. Basic information of product (product name and type)	Writing	Writing and visuals (image)	Writing and visuals (image)
	2. High technology feature of the product	Writing	Speech and visuals (image)	Speech and visuals (video)
Pungpuriyé	1. Basic information of product (product name and type)	Writing	Writing and visuals (drawing)	Speech, writing, and visuals (drawing)
	2. Multifunctionality of the product	Writing	Writing and visuals (drawing)	Speech and visuals (drawing)

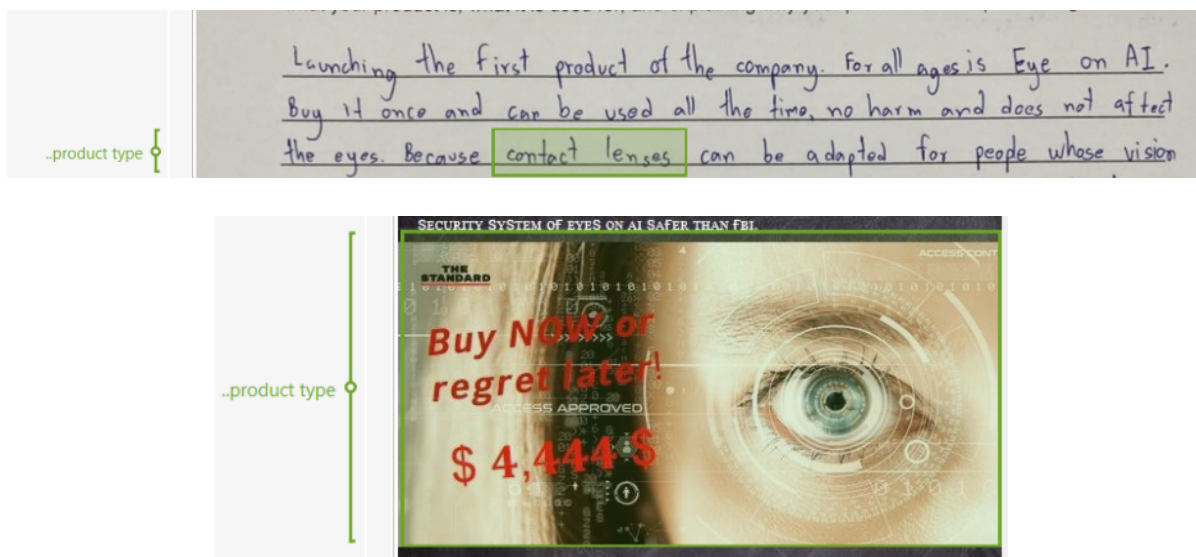


Figure 3.11 The transduction of a product type from writing in the draft to image in the poster in GOT4's texts

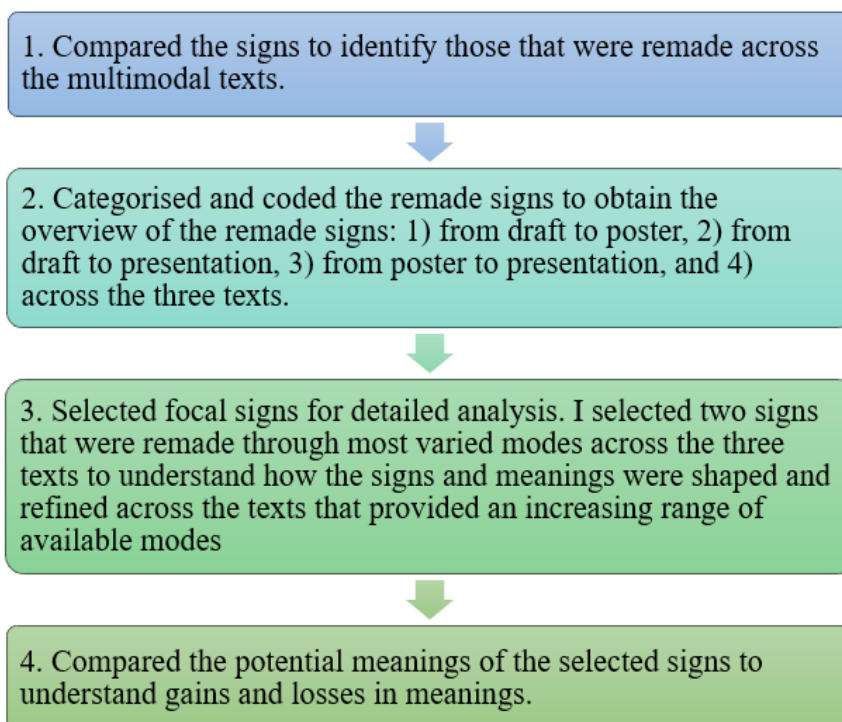


Figure 3.12 A summary of the analysis procedures for RQ2

3.6.5.2 *Deductive and Inductive Analysis for RQ3*

While social semiotics was the analytical method to examine the students' design choices and the remaking of signs in their multimodal product, RQ3 seeks to understand the students' emerging semiotic awareness. Addressing RQ3 requires attention to the students' own explanations. Therefore, deductive and inductive analysis were employed to explore instances of semiotic awareness the students demonstrated from engaging with the planning and composing process.

Deductive and inductive analysis can be combined to first examine the data based on existing theories or frameworks (top-down) and then to identify emerging patterns and understandings from the data (bottom-up) (Patton, 2015). Deductive analysis involves creating codes prior to data analysis (Bingham and Witkowsky, 2022). The codes can be derived from existing theories and frameworks or be formulated according to the research focus (Cohen *et al.*, 2018), and these predetermined codes are subsequently applied to the data. Inductive analysis involves generating insights, patterns, categories, themes, or theories from the data itself (Patton, 2015). It provides greater flexibility in the analysis process, allowing researchers to discover patterns, categories, or themes that may not have been initially considered.

While deductive analysis provides a structured and systematic approach to data analysis, its focus on predetermined codes or categories may lead to the risk of overlooking important content that does not align with the pre-established codes or categories. Thus, combining the rigour of deductive analysis with the flexibility of inductive analysis can lead to a more comprehensive understanding of the students' semiotic awareness during their multimodal composing. The following section presents the data analysis procedure to address RQ3.

RQ3: Existing and Developing Semiotic Awareness in Multimodal Composing

While the students' multimodal texts were the primary data for RQ1 and RQ2, for RQ3 the core data were the recordings of their multimodal composing and planning processes and the post-task interviews. To identify instances of semiotic awareness, I started by transcribing the recordings of the students' multimodal composing and planning processes and the interviews verbatim. I then separately examined 1) the recordings of composing and planning processes together with their transcript, and 2) the interview transcripts. They

were coded first deductively and then inductively for instances of semiotic awareness using MAXQDA 2022.

I generated initial codes based on Nelson's (2008) taxonomy of semiotic awareness as codes that were predetermined in advance (Cohen *et al.*, 2018). Nelson's taxonomy, loosely based on the notion of 'meta-representational competence' (diSessa and Cobb, 2004), is useful for identifying initial themes of semiotic awareness *deductively*. This contrasts to most researchers, who tend to identify instances of semiotic awareness *inductively* (Liang and Lim, 2021; Lim and Nguyen, 2022; Oskoz and Elola, 2016). His taxonomy can be used to identify instances of semiotic awareness not only from oral and written comments, but also in students' artefacts. Nelson's taxonomy includes five criteria:

- (1) The recognition of a semiotic problem, e.g. an image-language pairing or semiotic choice that doesn't seem to be 'working';
- (2) semiotic knowledge brought to bear in order to solve a problem;
- (3) a design decision 'borrowed' from another participant for an aesthetic or functional purpose;
- (4) the discovery of new semiotic knowledge, and;
- (5) the application of knowledge or principles discussed in class within a personal, novel context (Nelson, 2008, p.70).

However, in this study, the students did not receive training nor were they taught metalanguage for multimodal composing. Therefore, *only the first four criteria* were used as initial codes to analyse the data. Next, I inductively analysed the data to identify further instances of semiotic awareness and created emerging codes. In terms of the codes, I used descriptive coding, which "summarises in a word or short phrase – most often as a noun – the basic topic of a passage of qualitative data" (Saldaña, 2013, p. 88).

Then, the instances of semiotic awareness from the analysis were refined and categorised into 1) existing semiotic awareness, and 2) developing semiotic awareness.

- *Existing semiotic awareness* included the first three instances from Nelson's (2008) taxonomy: 1) recognitions of semiotic problems and 2) solutions to the problems as one category, and 3) design decisions borrowed from other resources. I additionally created a new category, i.e. recognitions of how modes and semiotic resources can be used to make signs (e.g. GOT4 recognised white lines as a signifier of the

concept of advanced technology in Section 4.4.2.1 and Niko’s suggestion to draw different planets to represent the concept of universality in Section 5.4.2). These three main instances consist of sub-categories emerging from the inductive analysis (see Table 3.9).

- *Developing semiotic awareness* refers to instances where the students demonstrated their enlightenment on an issue related to signs and sign-making, implying progress towards greater semiotic awareness, e.g. GOT4’s discussion about a form of the sign that is used to represent dollars which led to one student being certain that it was \$. Developing semiotic awareness consisted of the Nelson’s fourth (2008) criteria, i.e. the discovery of new semiotic knowledge. I revised the name and created new categories based on the inductive analysis (Table 3.9).

Table 3.9 Categories of instances of semiotic awareness from the analysis

Existing semiotic awareness	Developing semiotic awareness
<p>1) Recognitions of a semiotic problem and solutions</p> <ul style="list-style-type: none"> - Representational needs - Aesthetic needs - Solutions drawing on their existing knowledge - Solutions drawing on external resources <p>2) Design decisions borrowed from other resources</p> <ul style="list-style-type: none"> - Taken as is - Taken with modifications - Taken as symbols <p>3) Recognitions of how modes and semiotic resources can be used to make signs</p> <ul style="list-style-type: none"> - Writing - Visuals 	<p>1) Gaining of new semiotic knowledge from other participants</p> <p>2) Perceived developing semiotic awareness</p>

It is important to note that the students spoke mainly in Thai. Therefore, the verbatim transcripts of the composing/planning recordings and interviews that I analysed were mostly in Thai. Working with data in the original language is beneficial to ensure more accuracy when identifying the participants' meanings (Suh, Kagan and Strumpf, 2009). As the translation of data from one language into another could inevitably bring about losses in meaning (Bryman, 2012), after analysing the data, I translated only the quotes cited in this thesis, and, moreover, to assure translation quality, I employed back translation (Paltridge and Phakiti, 2015), whereby a bilingual expert translated the English translation into Thai without accessing the original data to avoid bias. Then the two versions were compared to verify the accuracy of the translation. Any differences were discussed and revised based on mutual agreement. Figure 3.13 is a summary of the analysis procedures for RQ3.

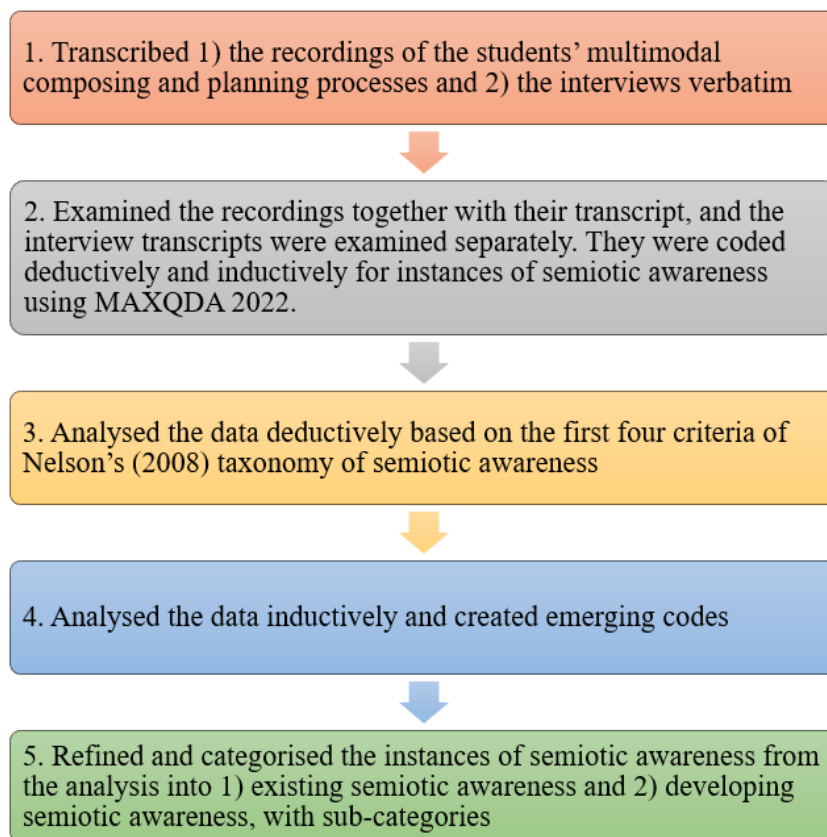


Figure 3.13 A summary of the analysis procedures for RQ3

3.7 Trustworthiness

To ensure the rigour and overall quality of the research design and findings, I employed four criteria to assess its trustworthiness: credibility, dependability, transferability, and

confirmability (Bryman, 2012; Lincoln and Guba, 1985). These criteria serve as substitutes for internal validity, external validity, reliability, and objectivity in quantitative research. This section presents how the study aligns with each trustworthiness criterion.

3.7.1 *Credibility and Dependability*

Credibility deals with the question, “How congruent are the findings with reality?” (Merriam and Tisdell, 2016, p.242), focusing on whether researchers have accurately represented the participants’ thoughts, feelings, and actions. To ensure credibility, I employed triangulation by collecting multiple data types using multiple methods. Triangulation is a powerful strategy to increase the credibility or internal validity of a study (Merriam and Tisdell, 2016). I collected not only the students’ multimodal products, but also the data of their multimodal composing and planning processes, questionnaire, and interviews. As mentioned before, social semiotic analysis has been criticised for paying insufficient attention to the context where signs and meanings are made. In this study, data from the background information questionnaire, the students’ actual multimodal composing/planning processes, and interviews provided insights into the contexts and potential reasons behind the students’ semiotic choices. This helped me to gain a better understanding of the students’ multimodal composing, their interests, and their semiotic choices.

Prolonged engagement with the participants and the field of study also contributes to the credibility of a study (Riazi, 2016). The study design was appropriated through a pilot phase which was conducted approximately four months prior to the main data collection. This allowed for early engagement in the field of study and served to validate the chosen research approach. In addition, over a 10-week period before the main study’s data collection phase, I occasionally facilitated the lecturer in her teaching to establish trust and build rapport with the participants. This included facilitating group activities, answering students’ language questions, and occasionally engaging in informal conversations to share experiences and common interests. I considered this crucial for the participants to gain trust and belief in the research, fostering their involvement and authentic responses.

The next strategy was to clarify up front potential biases related to the study through reflexivity for the reader to better comprehend “how a particular researcher’s values and expectations influenced the conduct and conclusions of the study” (Maxwell, 2012, p. 124)

(Section 3.8). Additionally, I employed a “peer debriefing” strategy, which involves a qualified peer researcher to review and assess qualitative research (Janesick, 2003). I shared and discussed the methodological approach, analytical procedures, codes, and findings with my supervisors, progression panel members, peers, and colleagues. Their feedback proved valuable support in refining my work and strengthening my arguments.

Finally, the credibility of the study was achieved through the use of MAXQDA 2022 for data analysis. This software helped me rigorously and iteratively organise, code, and categorise the data. This enhanced my understanding of the data, allowing for the proper identification of signs, modes, and meaning in the students' multimodal texts as well as of potential reasons underlying the students' semiotic choices and instances of semiotic awareness from the recordings of their composing/planning processes and interviews.

Dependability is concerned with whether the results are *consistent* with the data collected (Merriam and Tisdell, 2016). Lincoln and Guba (1985) stress the close relationship between credibility and dependability, arguing that a demonstration of the former ensures the latter. Strategies to ensure consistency and dependability include triangulation, peer debriefing, and researchers' reflexivity (Merriam and Tisdell, 2016), all of which were employed and explained. Additionally, dependability also entails the detailed description and careful documentation of the research process (Bryman, 2012). In this study, I kept a detailed record of all phases of the research process, including the students' multimodal texts, their composing/planning recordings, the questionnaire results, and the interview recordings and transcript, in addition to my research journal.

3.7.2 *Transferability and Confirmability*

The findings of qualitative research are specific to a small number of participants in a particular social context. Transferability refers to the extent to which the findings of qualitative research can be applied to other contexts (Merriam and Tisdell, 2016). It is judged by readers of the study based on the evidence provided in the study. To enhance transferability, qualitative researchers are encouraged to provide sufficient ‘thick description’ of the context, participants, and the research design (Bryman, 2012). This detailed description allows for a comprehensive understanding of the study and its context, enabling readers to draw comparisons with similar phenomena in their own situations. In this study, I provided a detailed description of the participants and context and included the

results of the background information questionnaire for a more comprehensive picture of the context. In addition, the data collection methods were explained in detail and the findings were corroborated with quotes from the students' interviews and their composing/planning processes and relevant screenshots. This allows readers to discern similarities between the study setting and their contexts and assess the potential transferability of the findings.

Confirmability is related to the objectivity of the conduct of research and ensuring that the findings are derived from the data, rather than the researchers' subjective preferences and biases (Bryman, 2012). This can be achieved by triangulation and reflexivity, which explicitly reveal the researcher's standpoint to enhance transparency (Riazi, 2016). (For an explanation of triangulation, see Section 3.7.1). In short, I drew on multiple sources of data, especially the students' products and the data from their composing/planning processes, to illustrate and provide nuanced understandings of how the participants composed multimodally. In terms of reflexivity, I had no prior relationship with the participants and I was not involved in grading their multimodal products. This deliberate distance aimed to mitigate inherent power differences, preventing situations where students might feel hesitant to answer specific questions (Ferguson, Yonge and Myrick, 2004). Moreover, being a stranger with no future contact may have induced the participants to be more open to sharing personal information during the interviews (Braun and Clarke, 2006). The researcher's role and reflexivity are discussed next.

3.8 Reflexivity and the Role of the Researcher

Qualitative research seeks to "make sense of (or interpret) the meanings others have about the world" (Creswell and Creswell, 2018, p. 46). It is interpretative research and the researcher's background and his or her personal, cultural, and historical experiences may potentially shape interpretations of the data. With these concerns in mind, I explicitly and reflexively identified any personal background, biases, and past experiences that may have shaped my interpretations during the study.

Firstly, as a lecturer at the university in question, I have taught a foundation English module to first-year students and I also co-designed the coursebook with other lecturers. A multimodal composing project of Unit 5 in the coursebook was the primary source of data in this study (see Section 3.4.). I designed Unit 5, the project details, and the scoring rubric

in 2018 before starting my PhD. At that time, I did not have knowledge of multimodality, but intended to engage students through group work that allowed them to use both the target language structure and creativity for communication through multiple types of activities. For this reason, the project's instructions and rubric (Appendix G and H) did not place emphasis on multimodality although it provided opportunities for students to use multiple modes for communication. As I learned more about multimodality, I was encouraged to conduct a study on this subject with the aim to prepare students for contemporary communication. Moreover, I had noticed that many English lecturers usually focus solely on improving students' linguistic proficiency even in activities that allow students to use multiple modes for communication. Changes in communication practices inspired me to expand my view beyond the teaching of spoken and written form of language to include multiliteracies focusing on students' semiotic repertoire in EFL contexts.

Secondly, regarding the participants, I had no prior relationship with them. They were from a class taught by a Thai lecturer whom I became acquainted with when she became my colleague in 2018. I occasionally talked with her about my PhD project and I learned that she was interested in multimodal composing; she was curious to know if it could help students develop or practice other skills in addition to linguistic proficiency. When I discovered that she was teaching a foundation English module in semester 1 of 2020, I approached her and gained access to collect the data. The students in her class were then invited to participate in the study voluntarily.

Thirdly, during this study, I took a role of non-participant observer (Bryman, 2012). The primary role of the researcher is information gatherer without actively participating in the group's core activities. However, researchers can still participate peripherally in the group's activities. Besides developing the student handouts with the lecturer, my role in the class during the multimodal composing activities was that of an observer to capture the natural behaviour of students through recordings and taking notes of their multimodal composing processes.

Finally, sharing a common background with the participants as a Thai in a university context, I considered myself an 'insider'. This is crucial in social semiotics since signs and meanings are socially and contextually made. Therefore, sharing the same sociocultural background with the participants provided an advantage and strengthened my social semiotic analysis.

3.9 Ethical Considerations

When conducting research involving human participants, ethical considerations are paramount. Researchers bear the responsibility to conform to codes of ethics throughout the process of collecting and analysing data from human participants. This involves recognising and respecting participants' rights while also considering the potential effects of the research on the participants, other colleagues, and the community at large (Bryman, 2012; Riazi, 2016). Before initiating the study, ethical approvals for the pilot and the main study were granted by the University Ethics Committee on 18 June 2020 and 14th October 2020 respectively. Throughout the study, I adhered to Newcastle University's ethical regulations (2018) and BERA Ethical Guidelines for Educational Research (2018).

At the beginning of the study (week nine), an informed consent form and the participant information sheet with my and my supervisor's contact details were distributed to the participants (Appendix J and K). The consent form explicitly stated that the confidentiality of the participants would be maintained, ensuring anonymity throughout the study. To aid their decision making, I explained the objectives and nature of the study and their role in the research, which included completing an online background information questionnaire, being observed, having their multimodal composing/planning processes audio and screen recorded, and being interviewed. The participants were also informed that their participation was voluntary. They had the right to withdraw at any time and there would be no negative consequences on their marks or grades in class afterwards. The participants were asked to sign the consent form and return the form in the subsequent week. Before the interview, I explained the aims and asked for their permission to be audio recorded one more time. They were ensured that their identities would be protected in all the recordings and transcripts with pseudonyms.

To ensure the confidentiality and anonymity of the participants, they were assigned pseudonyms. All data were encrypted and stored securely on a password-protected folder in my personal computer, to which only I had/have access. The participants were assured that their data would be handled with complete confidentiality. If published, the data would be anonymised; thus, it would not be identifiable as belonging to them. At the end of their participation, all participants were thanked and given opportunities to address any issues or concerns by reaching out to me via my email or contact number.

3.10 Methodological Issues and Limitations of the Study

Similar to any research undertaking, this study is not without its limitations and constraints arising from various factors. Firstly, the study was conducted with a limited number of participants in a single context. This limits the generalisation of the findings. However, the aim of qualitative research is not to generalise findings but to gain an in-depth, intricate, and detailed understanding of participants' experiences, perceptions, and behaviour (Cohen *et al.*, 2018). My aim was to understand how Thai EFL university students composed multimodally, how they made and remade signs across different types of multimodal texts, and what instances of semiotic awareness they displayed while engaging with the tasks. As Creswell (2014) argues, the hallmark of good qualitative research lies in its emphasis on particularity rather than generalisability. Nevertheless, there is potential for the transferability of findings to other contexts, as discussed in Section 3.8.

While social semiotics was employed as the analytical method because of its efficacy in uncovering signs made in all modes and understanding the meaning being made in a specific context, it has limitations. The primary limitation of social semiotics is in its insufficient attention to the context where the signs are made (Prior, 2005; Jewitt *et al.*, 2016). However, this can be strengthened by combining social semiotics with other social theories and/or methods (Jewitt and Henriksen, 2016). Therefore, I integrated multiliteracies to view multimodal composing as literacy practices and employed ethnographic tools to gather data for a more comprehensive understanding of the situated context. Data from the recordings of the students' composing/planning processes and the interviews were combined to enhance the robustness of my social semiotic analysis. Another issue is that social semiotics tends to centre on the analysis of small data sets (Jewitt *et al.*, 2016), potentially posing challenges for generalisation. Nevertheless, as stated, making generalisations was not the focus of the study.

There are also some limitations in terms of the data collection instruments used. While the students were audio and screen recorded during their multimodal composing/planning processes, there were instances where the sound quality was not optimal. Additionally, during the screen and audio recording of the poster composing process, the screen displayed a Google Slide page. This brought the focus to the students' activities on Google Slides, but resulted in the exclusion of certain activities, such as searching for images or drawing pictures on their personal devices, from the recorded data. Moreover, it was found that the

students also communicated with their group members using the Line app, for sharing English sentences, links, and images for the poster production. These were not shared with the researcher. Since the multimodal composing project was conducted towards the end of the module, most of the students had deleted their chat history by the time I requested their Line history.

The final challenge in conducting this study relates to practical considerations. This includes the imperative to adhere to my scholarship regulations, associated time constraints, and a demanding travel schedule, especially during COVID-19. In a more conducive research environment, there could have been opportunities for collecting additional data and allocating more time to the detailed processes of analysis and presentation.

3.11 Chapter Summary

This chapter began by revisiting the study's focus and restating the research questions. It then explained the ontological and epistemological stances, followed by the research design. The qualitative case study was carried out with 25 EFL university students over 10 weeks, aiming to scrutinise multimodal composing activities in one common EFL classroom. The chapter presented an overview and reflections on the pilot study. It then detailed the collection of multiple data sources and explicated the methods for data collection and analysis. The discussion extended to discuss the measures taken to ensure the study's trustworthiness. Ethical considerations were then addressed before the chapter concluded with the study's limitations and methodological issues.

Chapter 4. GOT4 Group

4.1 Introduction

To understand how Thai EFL students compose multimodally, the data were collected from a group of first-year university students in Thailand. The students worked in groups to draft an outline for an innovative product, design a poster, and present it in the class. This chapter reports on the multimodal composing of the first case, 'GOT4'. This group used and combined the most diverse modes and received the highest number of votes for the best poster and presentation from their peers.

The chapter starts with a case description, followed by three analysis sections. Sections 4.2 to 4.4 identify what modes the students chose and how they were used in each text (RQ1). Social semiotic analysis in these sections is strengthened with potential reasons behind the students' semiotic choices emerging from ethnographic data. Section 4.6 focuses on the remaking of signs across the three texts (RQ2), presenting an in-depth analysis of the two selected focal signs to examine gains and losses in meanings. Section 4.7 demonstrates multiple instances of semiotic awareness displayed by the students while completing the multimodal composing project.

The analysis of this chapter led to the following findings:

- 1) Speech and writing were the two main modes used to represent product details in the multimodal texts. When multiple modes were combined, it was found to provide more particular and specific details of the product, express additional meanings, and narrow down the scope of possible meanings of signs. Their semiotic choices were shaped by social, contextual, and material factors.
- 2) Remaking signs, especially transductions, was found to affect the meaning being re-represented as the students' compositions shifted from draft to poster to presentation. It also allowed the students to reconsider which aspects of meaning were key to be retained. Remaking signs with different modes and semiotic resources resulted in a choice of signs that can express meanings more clearly and accurately.

- 3) Throughout the completion of the multimodal composing project, there was evidence of students' existing semiotic awareness, especially in relation to the use of borrowed designs from external sources for their sign-making.

4.2 Description of the Focal Case 1 – Eyes on AI

This section provides a context of the first focal case. The first case, group GOT4, designed high-technology multifunctional contact lenses called 'Eyes on AI'. The four group members were female first-year students from the School of Engineering: Alice, Minny, Emma, and Chloe (Figure 4.1).

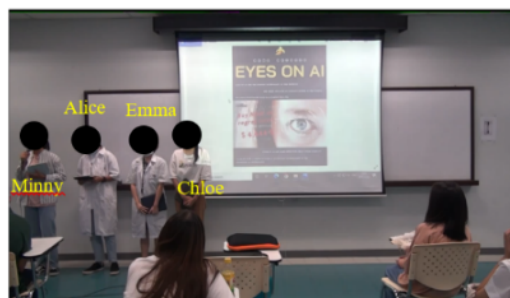


Figure 4.1 GOT4 group members and their pseudonyms (image taken from presentation)

To complete the multimodal composing project, the students met in person and online. They talked to each other and discussed the work primarily in Thai during an in-class session to compose their handwritten draft, and in online meetings to design the poster and plan the presentation. The products of the project, i.e. their handwritten draft, poster, and presentation, were in English.

To understand the participants' background and existing skills levels, the responses from the background information questionnaire were described. The students reported that they usually participated in multiple technology-related activities in their general life, such as using social media, studying online, and watching video clips. They expressed familiarity with using technology for communication but not for graphic design (Table 4.1).

Table 4.1 The students' perceived ability to use technology for communication and graphic design

Pseudonyms	Using technology for communication	Using technology for graphic design
Chloe (F)	capable of teaching others	confident on her own
Alice (F)	capable of teaching others	beginner and needs support
Emma (F)	confident on her own	beginner and needs support
Mিনny (F)	confident on her own	not very comfortable using technology for graphic design

In terms of modes, they preferred to use writing, either in Thai or English, with other modes when communicating with others in their everyday lives. In terms of the reasons for their preference for combining modes (questionnaire items 2.1 and 10.1), Alice and Emma stated that writing alone made it impossible for them to express emotions as accurately as they wished. Minny and Chloe also said it was easier to express the overall meanings and their intention when using writing and other modes *together*. Their answers suggested that the students were aware of the limitations of writing for meaning-making to some degree and also reflected some understanding of the affordances of other modes.

The members had experience of using writing alone and in combination with other modes in different situations (questionnaire items 2-4 and 9-10). They use Thai in formal situations, such as texting someone older or senior relatives and writing a report or homework assignment, while they often combine Thai with other modes in informal situations, such as when they communicate with classmates and peers. However, they write in English in the classroom or when completing assignments, which requires them to use writing either in isolation or combination with other modes. In the interviews, Alice and Emma also mentioned writing in English in social media or when Thai equivalents were insufficient:

'I used English when I posted captions on Instagram, especially with emoticons to express my feelings better'. (Alice)

'Some loanwords are difficult to explain in Thai and it is easier to use English'.
(Emma)

Emma also reported using English interjections, for example, ‘oh no’, ‘wow’, and ‘oops’, to express powerful meanings and feelings.

In short, the students in this group appeared to be familiar with the use of writing either in Thai or English on its own in formal situations and the combination of modes in informal ones. They preferred using modes in combination. In addition, Alice and Emma had experiences using writing in English with other modes and expressed some semiotic awareness of modal affordances, i.e. using emoticons and interjections to express powerful feelings.

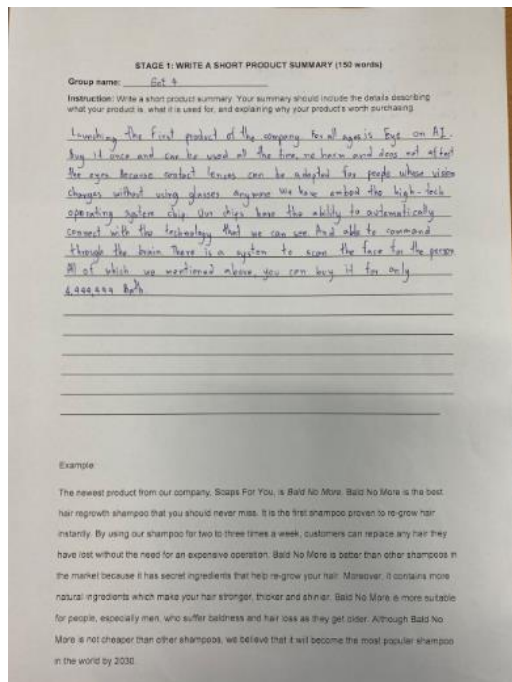
The following sections will illustrate how the students used modes and semiotic resources to construct signs in their multimodal texts, as well as the potential reasons behind their semiotic choices. Section 4.3 will focus on the handwritten draft, specifically the mode of writing and resources that facilitated students’ sign-making (i.e. translation software, L1 transfer, and teacher provided resources). Section 4.4 will focus on the poster, examining the modes of writing, image, and layout. This section will highlight the product name as the most salient sign, the use of font, space, and colour as framing devices, how the product photo and the company logo was designed, and the ways in which layout made certain signs more salient. Section 4.5 will turn to the presentation which provided the discourse structure, followed by the employment of the modes of music, gesture, image and writing during the opening sequence and the modes of speech, clothing and gestures to introduce characters.

4.3 The Use of Modes in the Handwritten Draft

This section provides an overview of the first stage of the multimodal composing task, the mode used in the draft, and potential factors that shapes the students’ modal choices.

The first text that the students produced as part of the multimodal composing project was a draft product description, composed non-digitally in class with pen and paper. The students received a handout with task instructions, space to write on, and a sample product description. Pen and paper allow access to the modes of writing, drawing, and layout for sign-making. The draft stage aimed to help the students gather their ideas about the product and it was not assessed; thus, the students’ creativity was not restricted by the assessment. They were encouraged to write and/or draw pictures on paper to represent their product

details; however, all the groups chose writing as the mode to represent their product details in the drafts (Figure 4.2).



Group name: Got 4

Instruction: Write a short product summary. Your summary should include the details describing what your product is, what it is used for, and explaining why your product is worth purchasing.

Launching the first product of the company. For all ages is Eye on AI. Buy it once and can be used all the time, no harm and does not affect the eyes. Because contact lenses can be adapted for people whose vision changes without using glasses anymore. We have embedded the high-tech operating system chip. Our chips have the ability to automatically connect with the technology that we can see. And able to command through the brain. There is a system to scan the face for the person. All of which we mentioned above, you can buy it for only 4,444,444 Bath. [sic]

Figure 4.2 GOT4's handwritten draft and the transcript

The students' decision to use only writing seemed to be influenced by several factors. The first one was the design and layout of the handout. As Figure 4.2 shows, the handout was structured into two main parts. The upper part was designed for the students to write their product description, consisting of the written instructions and horizontal lines that signify available space for writing. These lines not only suggest where the students could write but also frame how the writing should be arranged and read, i.e. from left to right and from top to bottom. Secondly, the instruction of the task, "Write a short product summary", can also influence the students' modal choice. The word "write" typically suggests presenting information through the mode of writing. Additionally, the example provided in the lower part of the handout consists of multiple sentences forming a single paragraph, using only writing to represent product details. Together, the instruction and both parts of the handout appear to shape and suggest how the draft should be done while also restricting the choices of modes and the arrangement. Furthermore, considering the students' previous experiences with English writing activities in Thailand (questionnaire item 11), most activities require them to rely heavily on writing solely. Therefore, the students' previous experiences, together with the design of the handout, the instruction, and the example

provided, appeared to be potential factors that shaped their modal choice when composing the draft.

4.3.1 Writing: Main Functional Load, Grammatical Correctness, and Language Use

In the draft, writing carried the main *functional load* (Kress, 2010). That is, the writing was foregrounded and played a crucial role in representing the significant or substantial meanings in the text. In this case, the students used writing to represent all the product details.

Writing consists of semiotic resources such as lexis, grammar, syntax, punctuation, indentation, and graphic resources, including colour, bolding, size, space, and font. GOT4's draft comprised words, phrases, and sentences organised through grammar, syntax, and punctuation. The draft consisted of seven sentences and phrases that described the topics required by the instruction: what the product is, why it is worth purchasing, and what it can do, as well as additional details (i.e. price and target customers) (see Figure 4.3). Most of the sentences were incomplete and ungrammatical. Some were phrases, some lacked subjects, and some were dependent clauses.

In social semiotics, the incorrect use of grammar does not always mean there is a failure to communicate. For example, in Figure 4.3 the writing in the first line, "Launching the first product of the company. For all age is Eye on AI.", is ungrammatical, but the students still successfully introduce the product, signifying the meaning that 'Eye on AI' is the first product the company has launched for all age groups. The following sentence, "Buy it once and can be used all the time, no harm and does not affect the eyes." is the same. Although it is a run-on sentence with missing subject and a coordinating conjunction, the arrangement of the words conforms to conventional rules of English grammar, making it possible to understand the meaning being made. Placing a transitive verb before a noun ("buy it" and "affect the eyes") suggests that the following noun is an object of the verb. The order of "can be used" is passive voice, in which the subject receives the action. The use of negative words 'no' in "no harm" and 'not' in "does not affect the eyes" signify negation.

STAGE 1: WRITE A SHORT PRODUCT SUMMARY (150 words)

Group name: Got 4

Instruction: Write a short product summary. Your summary should include the details describing what your product is, what it is used for, and explaining why your product's worth purchasing.

..What the product is
..target customers

..invalidating side-effects
..marketing phrase

..invalidating side-effects
..Why it is worth purchasing
..benefits
..benefits

..What it can do

..Additional details
..price

Launching the first product of the company for all ages is Eye on AI. Buy it once and can be used all the time, no harm and does not affect the eyes. Because contact lenses can be adapted for people whose vision changes without using glasses anymore. We have embed the high-tech operating system chip. Our chips have the ability to automatically connect with the technology that we can see. And able to command through the brain. There is a system to scan the face for the person. All of which we mentioned above, you can buy it for only 4,999,999 Bath.

..What the product is
..target customers

..invalidating side-effects
..marketing phrase

..invalidating side-effects
..Why it is worth purchasing
..benefits
..benefits

..What it can do

..Additional details
..price

Figure 4.3 Topics represented in the draft and the larger version of the topics. Screenshot from MAXQDA2022

One potential reason underlying how writing is used here is that, to the students, the accuracy of written language might not have been as important as the expression of ideas. From the audio recording of their composing process, the students rarely discussed how to represent their ideas in English or questioning the accuracy of their writing. They spent most of the time brainstorming, exploring ideas, and deciding what their product should be (around 30 minutes). They spent less time (about 15 minutes) discussing the benefits and features of the chosen product and writing the product description in English. The amount of time and the topics of the conversations imply that the students focused more on the expression of ideas.

This was further evidenced in the interviews, when the students reported that they composed the draft to gather some rough ideas about the product (Alice and Emma, interview). They saw the draft as a guideline which could be changed later. It was perceived as a place for materialising ideas through writing, and that was why they did not focus much on the accuracy of their writing. Their decisions and attitude toward the task were likely influenced by the teacher's explanation, which framed it as a space for creatively brainstorming product ideas.

'The first work is like a rough guide. We talked about the ideas and briefly wrote them down. However, we started to take it seriously about what should be stated in the poster. It is like ... Eh... is this idea good enough or not? Or is it better to change?' (Alice, interview, December 1, 2020)

'We want to write it as a guide. To see what our product is like. We didn't focus on grammar or anything compulsory [comparative structures] for the poster.' (Emma, interview, December 1, 2020)

In addition, the recording showed that the students relied on two main sources when making signs in writing in English: 1) a translation tool and 2) teacher provided resources. This issue is explored next.

4.3.2 Resources Shaping and Facilitating the Students' Sign-making

Translation software and L1 transfer

To represent what the students wanted to say in Thai (their L1) with writing in English (Excerpt 4.1), the audio recording of the students' composing process and the interviews

revealed that they made use of a translation website (<https://แปลไทยเป็นอังกฤษ.com/index.php>) as the primary tool.

Excerpt 4.1. Students discuss using a translation website (18:28-18:35)

- 01 **Chloe:** เริ่มเขียนภาษาอังกฤษกันเลยไหม
Should we start writing in English?
- 02 **Minny:** เอาสิ เขียนยังไงดี ใครมี Google translate บ้าง
Yes. How should we write? Who has the Google Translate app?
- 03 **Alice:** มี
I have it.
- 04 **Emma:** มี
I have it.
- 05 **Minny:** ดีเลย เปิดๆ เน็ตเค้าแย่มาก
That's good. Open it. My internet connection is really bad.

The use of translation software and the students' first language appeared to shape how the signs were made in the draft. To use the translation website, the students must first type words or sentences in Thai. The modes of writing in Thai and English have similar semiotic resources (e.g. words, clauses, sentences, organised through grammar and syntax), yet they have different script systems and specific forms of resources which influence the meaning being translated. For instance, Thai is generally a head initial language, as is English (Jenks, 2006). The similar subject-verb-object word order of Thai and English may help the students to receive a more accurate translated English sentence from the software. Nevertheless, in Thai, the subject and object pronoun can be frequently omitted in a sentence if it is clear from the context (Jenks, 2006; Thep-Ackrapong, 2005). Also, common Thai discourse of advertisements usually omits the subject and uses phrases instead of complete sentences (Figure 4.4). The students' familiarity with the omission of the subjects and pronouns in Thai might have shaped how they used the translation software. This means if they typed their ideas in Thai without a subject, the English translations would also be without a subject.

This influence of L1 on the translated output is evident in the recording of the students' composing process. Excerpt 4.2 shows the instances when Emma described the product features and Chloe repeated the sentences with a pause between each word, implying that Chloe was typing each word into the translation software. In lines 01 and 02, the subject and pronouns are omitted while the subject is also omitted in lines 03 and 04. Compared to the students' sentence in the second line in the draft, "Buy it once and can be used all the

time, no harm and does not affect the eyes”, there is a subject omission relatively similar to the students’ discussion in Excerpt 4.2.

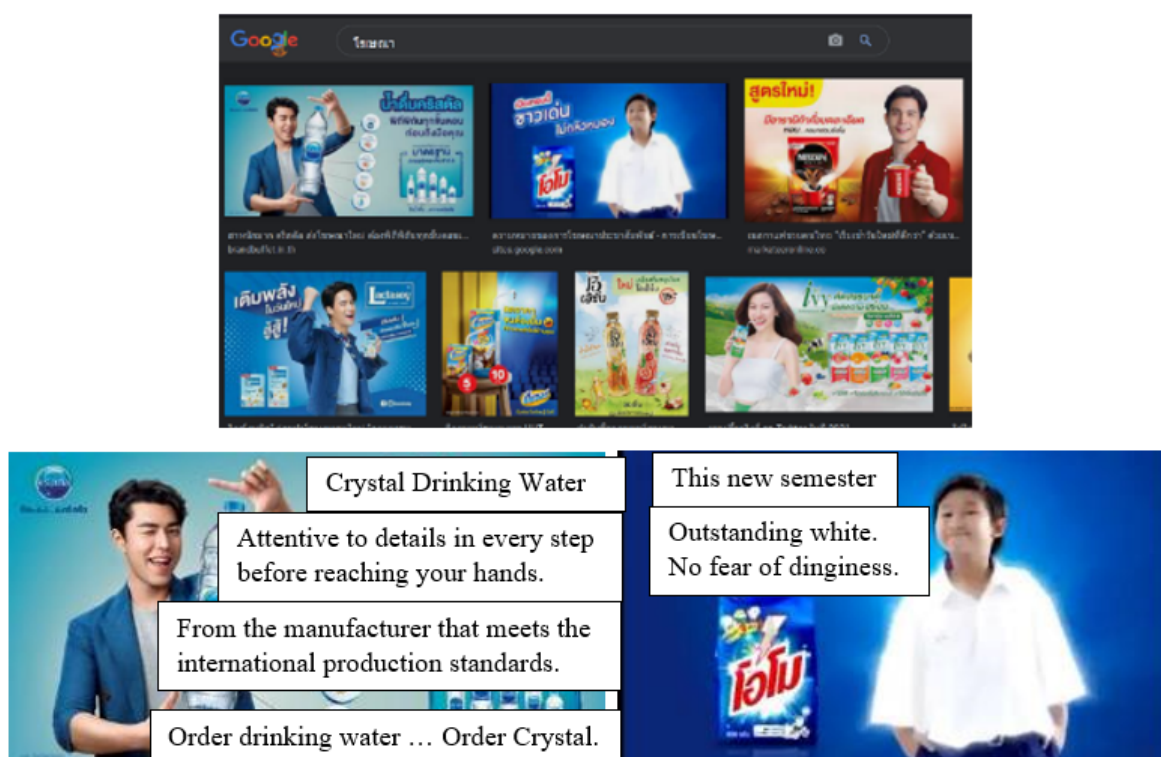


Figure 4.4 The search for “โฆษณา” or “advertisement” on Google.com and the translated version (Google, 2022)

Excerpt 4.2. The students repeat sentences, seemingly to type them into the translation software (22:10-22:30)

- 01 **Emma:** ซื้อครั้งเดียวสามารถใช้ได้กับค่าสายตาตลอดชีวิต ถ้ามีไม่ทำพังอะนะ
Buy ((the product)) once. ((it)) can be used with any eyesight throughout ((one's)) life's time, if you don't ruin it.
- 02 **Chloe:** ซื้อครั้งเดียวใช้ได้ตลอดชีวิต
Buy. Once. Can be used. Throughout. Life's time.
 (24:45-24:55)
- 03 **Emma:** แล้วก็ไม่ส่งผลกระทบต่อดวงตา
And ((the product)) does not affect the eyes.
- 04 **Chloe:** ไม่ส่งผลกระทบต่อดวงตา
Does not affect the eyes.

Although the omission of subject and pronoun in L1 did not drastically alter the meaning of the translation in Excerpt 4.3, Excerpt 4.3 and Figure 4.5 illustrate how the translation tool did affect the signs and meaning being made. In Excerpt 4.3, the students discuss

several English word choices for “เพื่อทุกเพศทุกวัย”, which is literally translated as “for all genders and all ages” in English. Alice mentions the term “for people” and Minny suggests “for everyone” (lines 01 and 02). Alice agrees with Minny and says the term “for everyone” is fine (line 05). However, in line 06, Alice and Emma simultaneously say, “for all ages”. “For all ages” is an English phrase obtained from the translation website for “เพื่อทุกเพศทุกวัย” (Figure 4.5). Eventually, the students go with the phrase “for all ages” from the translation website. The phrase “for all ages” from the translation tool does not represent the same meaning as “เพื่อทุกเพศทุกวัย”. The target customers’ age concept remains in “for all ages”, but the meaning of “for all genders” is no longer expressed. Clearly, the translation tool facilitated the students in producing written signs in English, but altered the meaning they intended to represent in the original Thai phrase; in short, the concept of gender was lost.

Excerpt 4.3. The students discuss word choices (35:45-36:45)

- 01 **Alice:** แล้วก็นอกว่า “เพื่อทุกเพศทุกวัย” (0.1) for people
Then we say [the product is] “เพื่อทุกเพศทุกวัย” (0.1) for people
- 02 **Minny:** Everyone (0.1) for everyone
- 03 **Emma:** เพื่อทุกเพศทุกวัย เขียนไปก่อนแล้วกัน มันค่อยแก้ไขได้
“เพื่อทุกเพศทุกวัย” Just write it first. We can edit it later.
- 04 **Minny:** เพื่อทุกเพศทุกวัยแล้ว
“เพื่อทุกเพศทุกวัย”, then.
- 05 **Alice:** เพื่อ เพื่อ everyone ก็ได้เนอะจริงๆ for everyone (0.3)
for for everyone is actually okay. For everyone (0.3)
- 06 **Alice and Emma:** Ah. for all ages.

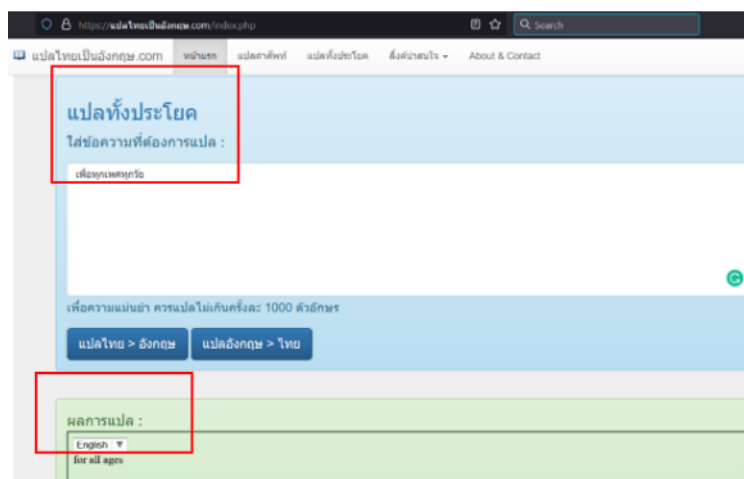


Figure 4.5 The literal translation of the phrase “เพื่อทุกเพศทุกวัย” or “for all genders and all ages” into English using the translation website

Teacher-provided resources

It was found that the students also made use of other available resources, i.e. the example provided in the handout. Figure 4.6 compares between the students' introductory sentence and the example provided in the handout.

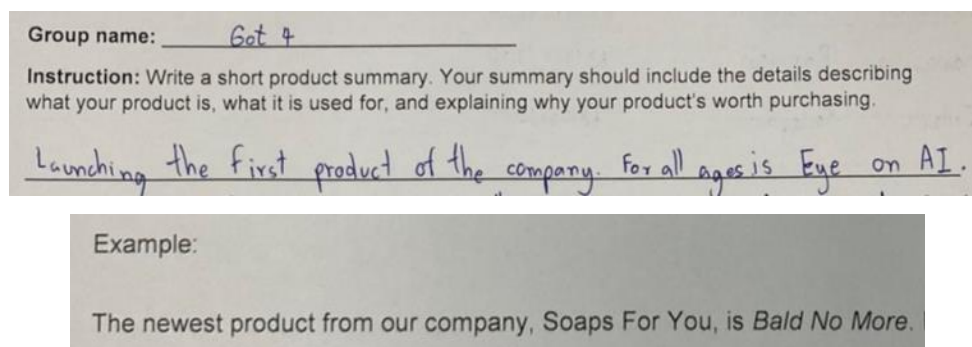


Figure 4.6 Product introduction in the draft and example

Comparing the two introductory sentences, there are similarities and differences, suggesting that the students used the sentence structure in the example as the resource for making signs that represent their intended meanings in the draft. The first line in the students' draft and in the example are used for the same purpose, i.e. to introduce the company's product and announce the product name. Moreover, both sentences in the example - "The newest product from our company, Soaps for You, is Bald No More.", and the students' sentence, "Launching the first product of the company. For all age is Eye on AI." - start with a noun phrase, followed by a verb and product name at the end. Excerpt 4.4 shows the students' discussion on the organisation of the example and reveals their intention to copy the sentence and edit it by omitting/changing some details to represent their intended meaning. This process is transformation (Bezemer and Kress, 2016), or remaking signs within the same mode. In this case, the students have remade the introductory sentence in the example and changed some words (from "the newest product" to "Launching the first product"), cut the name of the company, added a phrase ("for all age"), and ended with the product name as in the example. They have configured the semiotic resources of writing to fit their intended meanings.

Excerpt 4.4. The students discuss the example provided in the handout (16:08-16:30)

- 01 **Emma:** ถ้าเราลอกตรงนี้ ตรงนี้ก็จะเป็น company our company แบบชื่อบริษัทหรือ แล้วก็เขียนชื่อบริษัทใหม่
If we copy it ((the example's introduction)), this is going to be a company, our company? Like the company name? Should we write our company name?
- 02 **Chloe:** ไม่ต้องหรือก มันเป็น company อะ มัน是公司
We don't have to. It's "company". It's a company.
- 03 **Emma:** อ้อ ไม่ต้องเขียนอะไรใหม่ งั้นก็ลอกประโยคนั้นไปก่อนก็ได้มั้ง
Um. So, we don't write it? Then, we just copy that sentence first.
- 04 **Minny:** New product of our company ((seems like she's reading the sentence out loud))
- 05 **Alice:** product เราชื่ออะไร
What's our product name?
- 05 **Emma:** ยังนึกไม่ออก เว้นไว้ก่อน
We can't think of it yet. Just leave ((that part)) for now.

To summarise, Section 4.2 demonstrates that GOT4 used writing as the main mode to represent the product details in the draft. It was found that the students made use of in-class resources (i.e. the example provided in the handout) and out-of-class resources (the translation website) to facilitate their sign-making process. The written signs they made were likely to be influenced by their L1 and the translation software. Although their writing was not grammatically correct, the word arrangement conformed to conventional English grammar rules (e.g. word order and a transitive verb with an object). In addition, the aim of their composing appeared to be the reason behind their heavy reliance on the translation website and their infrequent questioning of translation quality.

4.4 The Use of Modes in the Poster

This section overviews the poster task, factors influencing students' modal choices, and the modes used, before detailing how the modes were used. The poster task required the students to work online with Zoom and use Google Slides to design a poster presenting their product. The students designed on a blank slide; therefore, the design was not restricted by the programme's available templates. However, the task instruction, "use comparative and superlative adjectives to compare your product with the others in the market in order to show how your product is better or has been improved", asked them to include comparative and superlative adjectives in their poster; therefore, it influenced the students' modal choice, requiring them to use writing. In addition, the sample poster shown in the coursebook (Figure 3.2) consists of images and writing with different font types and colours. This can also influence the students' modal choices to include both image and

writing in their poster, as well as the design of their writing. Moreover, the criteria of the poster assessment (Appendix H), i.e. success of communication, language accuracy, creativity, and attractiveness, appear to shape the students' semiotic choices. The language accuracy criterion requires them to use and pay attention to the accuracy of their writing, while creativity and attractiveness prompt the use of multiple modes and creative design to convey their message effectively. Overall, GOT4 combined multiple modes to make signs in their poster, i.e. writing, image, and spatial (i.e. layout) modes (Figure 4.7), with writing and image carrying major informational weight. Section 4.4.1.1 will present the analysis of how writing was used, highlighting how the students represented the product name as the most salient sign and used font, space, and colour as framing devices. Section 4.4.2 will illustrate how image was used. Lastly, the analysis of how layout was used to make certain signs more salient will be presented in Section 4.4.3.

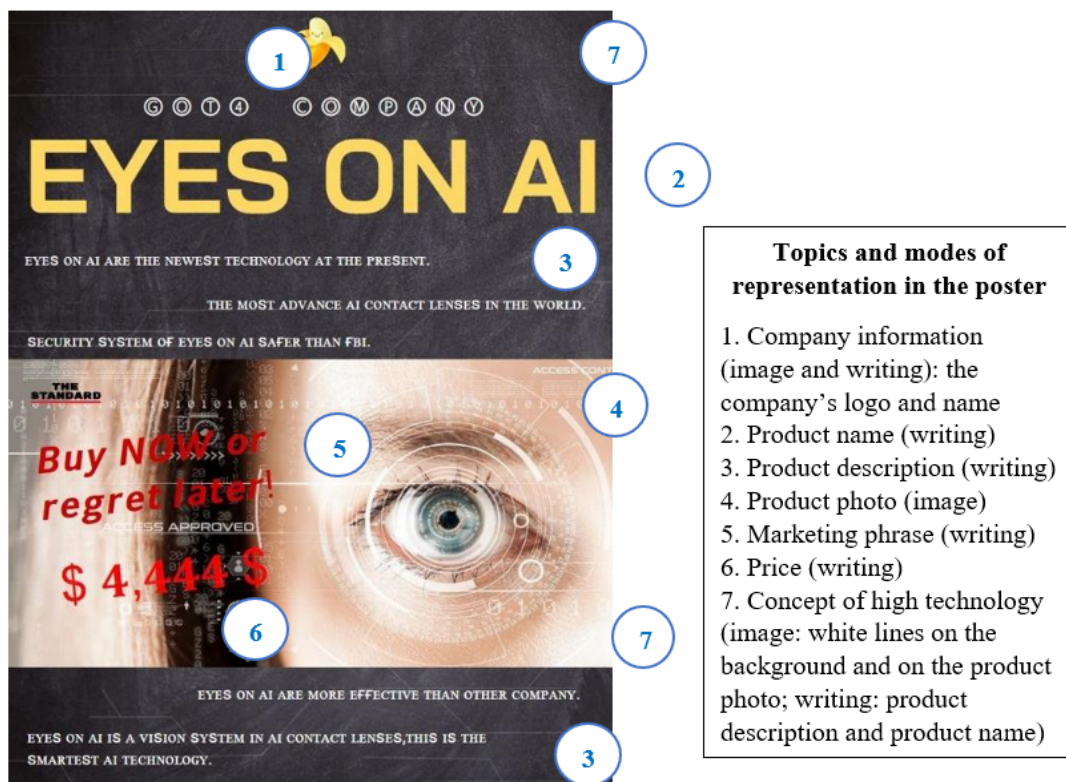


Figure 4.7 Topics and modes of representation in the poster

4.4.1.1 Writing: Main Functional Load, Grammatical Correctness, Ambiguity in Meaning

Writing was used to represent the company name, product name, product description, marketing phrases, price, and concept of advanced technology (Figure 4.7). Similar to the

draft, the students' sentences were not fully grammatical although the accuracy of their writing was assessed. However, their writing conformed to conventional rules of English grammar, making it possible to understand the meaning being made. In terms of the product description, when observed closely, it does not provide much detail (number 3, Figure 4.7). One sentence represents one feature of the product, but most sentences highlight how hi-tech the product is.

The product description consists of five sentences (number 3, Figure 4.7). The sentence "Security system of Eyes on AI safer than FBI" introduces one product feature, signifying that the product has a better security system than the FBI. However, it is unclear in this context what exactly the system is or how it works. Three of the written sentences - 1) "Eyes on AI are the newest technology at the present", 2) "The most advance AI contact lenses in the world", and 3) "Eyes on AI is a vision system in AI contact lenses, this is the smartest AI technology" - clearly emphasise the concept of advanced technology through the adjectives and nouns used to describe the product, i.e. 'newest technology', 'most advance AI contact lenses', and 'smartest AI technology'. These sentences together represent the product as the newest and most advanced contact lenses with the smartest AI technology.

While grammatical mistakes do not always indicate a failure to communicate, they can affect meaning and cause ambiguity. The last sentence - "Eyes on AI are more effective than other company" - compares two things (the students' product and other companies). This comparison causes confusion and ambiguity regarding the meaning being expressed as to whether it compares their product with other companies' products or Eyes on AI as a company. The sentence may have been influenced by the students' L1, i.e. the omission of objects when it is clear from the context (Jenks, 2006). However, the other sentences on the poster concern the product; therefore, it can be assumed that this comparison sentence means that the students' product is more effective than other companies' products.

4.4.1.2 *Graphic Resources and Positions to Make Signs Salient*

Compared to the draft, Google Slides offers a wider variety of graphic resources of writing such as font types and different shades of colour. The analysis shows that the students made use of semiotic resources available not only to represent their product name, but also to make it clearly outstanding and noticeable.

In GOT4's poster, the product name 'EYES ON AI' is the most salient among all the written texts, represented through a combination of graphic resources and position. The product name is written 'EYES ON AI' in a distinct font and colour in a larger size than the other written texts on the poster. Moreover, considering the position, the poster can be divided into three parts (see Section 4.5), and the product name is a central element in the upper part (Figure 4.20). Being placed at the centre means that "it is presented as the nucleus of the information to which all the other elements are in some sense subservient" (Kress and van Leeuwen, 2006, p.196). The way the students designed the product name suggests that they viewed it as more important and worthy of immediate attention than the other written elements on the poster.



Figure 4.8 GOT7's logo and the design of their album name compared to the design of the company's and product's names in the students' poster

Excerpt 4.5. The students discuss the font design of the company name (40:23-40:28, Zoom recording 1)

- 01 **Alice:** หรือเราจะทำเหมือนไอ้นี่เลยอะ เรียกว่าอะไรอะ Logo Logo ชื่อบริษัทเราก็เป็นแบบ แบบ font เดียวกับ GOT7 แล้วต่อมาก็เป็น EYE ON AI คือ เป็น FONT เดียวกับเขาเลยแค่เปลี่ยนเป็น EYE ON AI
Or should we do something similar to this? What is it called? Logo? Logo. Our company name is like. Like. The same font as GOT7. Then EYE ON AI. Use the same font with them, but change it to EYE ON AI.
- 02 **Chloe:** ก้อปเกรดเอ (หัวเราะ)
AAA replica. (laughed)

The potential reason for the design of the product name, as well as the company name, was influenced by the students' out-of-class interests. In Excerpt 4.5, Alice introduces her idea of using fonts similar to GOT7's (a music band) logo and poster from their album, 'Eyes on You' (Figure 4.8). However, the association between the two artefacts is not direct because the font, colours, and graphics are not exactly the same. Yet, they are similar in other ways. The students have retained most of the words from the originals but adapted

them slightly with a different number (from GOT7 to GOT4), and a new word (from EYES ON YOU to EYES ON AI).

4.4.1.3 *Font, Space, and Colour as Framing Devices*

The written texts in the poster were represented in different fonts, sizes, and colours, the design of which grouped and divided the writing into different topics. In terms of fonts, the students used four different ones in the poster (numbers 1, 2, 3, 5 and 6 in Figure 4.7). Fonts have meaning potential. Different font styles can be used to express some kinds of meaning (van Leeuwen, 2006). For example, *Courier* has often been used to convey the meanings of ‘typewriting’ and ‘old-fashioned’ (Nørgaard, 2009). However, the analysis shows that the different font types were not used for their meaning potential, but functioned as a framing device which categorised writing into four different topics: company name, product name, product description, and marketing phrase, including the price. For example, Unicode characters (Enclosed alphanumerics) were used for the company name (number 1 in Figure 4.7) and Bai Jamjuree in bold was used for the product name (number 2 in Figure 4.7)

Excerpt 4.6. The students discuss choosing a font for their company name (1:07:10-1:07:10, Zoom recording 1)

- 01 **Emma:** แต่ไอ้ที่กลมๆ ที่ส่งมาอะชอบ
I like the round one that you sent.
- 02 **Chloe:** แต่มันมีสองกลมอะ กลมนี้ด้วย ลองดูอยากได้แบบไหน
There are two rounded fonts. This one. Which one do you want?
- 03 **Minnie:** ต้องลองเอามาวางดูว่ามันเวิร์คไหม
We must put it [on the poster] to see if it works.
- 04 **Chloe:** เราเอาตัวหนังสือนี้ใช้ไหมสรุป หรือว่าเราจะเปลี่ยน
Are we going to use this font? Or should we change?
- 05 **Emma:** ตัวนี้ก็ได้นะ น่ารักออก แต่ว่าเป็นสีอื่นที่ไม่ใช่สีดำ
This one is okay. It's cute. But it has to be in different colours, not black.

While the types of fonts were not used to express certain kinds of meanings, the Zoom recordings reveal two reasons for the selection. Excerpt 4.6 shows that the students chose the font for their company name for *the purposes of appropriateness and aesthetics*. In line 02, Chloe asks the other members which one of the two fonts they prefer. Minnie suggests in line 03 that the two fonts should be placed on the poster “to see if it works”. The phrase ‘if it works’ has several potential meanings. For example, it can mean ‘if the font is coherent

with other elements in the poster’ or ‘if it looks nice amongst the other fonts used’. Although Minny does not mention the way in which ‘it works’, Emma agrees to the font being used because “it’s cute”; she chose the font for aesthetic purposes (line 05). The other students do not further discuss font types; thus, it can be assumed that Minny also found the font appropriate for their company name.

The four topics are differentiated more obviously with the use of space and colour. The company name, product name, three sentences of product description, marketing phrase, price, and other product descriptions are separated by the use of a space between each line (Figure 4.7). The position of the marketing phrase ‘Buy now or regret later’ and the price ‘\$4,444\$’ are also clearly distanced from the others, signifying separation. Regarding colours, the writing is represented in white, yellow, and red (Figure 4.7).

The use of each colour also serves as a framing device that differentiates different sections of writing. Yellow is used for the product name (number 2), white is for the company name and product description (numbers 1 and 3), and red is for the marketing phrase and price (numbers 5 and 6). Although the company name and product description are both represented in white (numbers 1 and 3), the space between the two, the in-between position of the product name, and the distinct font types help to separate the company name and product description as two different topics.

Excerpt 4.7. The students discuss colours for the marketing phrase (1:06:08-1:07:15)



Figure 4.9 Using blue



Figure 4.10 Changing to yellow



Figure 4.11 Changing to red

- 01 **Chloe:** เอาสีน้ำเงินไหม สีน้ำเงินมันแบบชัดเจนรูปอะ (Figure 4.8) อาจารย์จะอ่านออกไหมอะ
What about blue? Blue is obvious from the background. (Figure 4.8)
Can the teacher read it?
- 02 **Chloe:** หรือจะเอาเหลืองแบบ (Figure . 4.9) โอ้ยไม่ได้อีก ลืมไปว่าสีเหมือนพื้นหลัง
Or yellow? Like (this). (Figure 4.9) Oh. No. I forget the colour looks like the
background.
- 03 **Chloe:** (Figure 4.10) มันอ่านออกใช่ไหม
(Figure 4.10) Is it readable?
- 04 **Emma:** ออกๆ
Yeah. Yeah.
- 04 **Chloe:** โอเคเอาอันนี้
Okay. This one, then.

Colour was not only used to differentiate types of writing. Combined with space, colour grouped elements together. In Figure 4.7, the marketing phrase and price were represented in slightly different shades of red (numbers 5 and 6). These similar colours, together with the position of the two texts, groups them together and suggests a connection between them. Nevertheless, the Zoom recordings show that the students did not intentionally choose the colour for such purpose. In Excerpt 4.7, Chloe changes the colour of the marketing phrase several times from blue to yellow and finally to red. Red was chosen because of its contrast with the background colour to make the writing readable for the teacher (Excerpt 4.7, lines 01 to 03). The analysis revealed that the students did not refer to the affordance of colour for framing and grouping the texts together, but two other factors shaped the students' sign making: the background colour and the audience (i.e. the teacher). However, when the product is analysed without reference to students' justification of their choice, the way the colours were used for both texts, together with their positions, functions as a framing device which groups the two texts as related elements.

Excerpt 4.8. The students discuss the price (0:42:03-0:45:00, Zoom recording 2)

- 01 **Chloe:** ราคาเราเท่าไรหรนะ สีแสนใช่ไหม
How much is our product? Is it 400,000?
- 02 **Alice:** สี่ล้าน
It's 4 million.
- 03 **Chloe:** โอ้วแพงจัง ใครคิดจะราคา (หัวเราะ)
Oh. That's so expensive. Who came up with that? (laugh)

- 04 **Chloe:** เราใช้เป็นอันนี้ใช่ปะ ที่มันเป็นสหรัฐอะ
Do we use this one? The one that is the U.S.?
- 05 **Emma:** ดอลลาร์หรือ
Dollars?
- 06 **Chloe:** ส จีตรงกลางใช่ปะดอลลาร์
S with the middle dash. Is that dollars?
- 07 **Emma:** ใช่ๆ
Yeah.
- 08 **Alice:** แพงไปมัย
Is it too expensive?
- 09 **Chloe:** งั้นเอาเป็น สี่หมื่นดอลลาร์ ดีกว่าขอค่าเงินก่อน คอนนี้สามสิบ ถ้าสี่หมื่นสี่คูณสามสิบ อยู่ที่ผู้ละล้านสามอะ
What about 40,000 dollars? Wait. Let me check the exchange rate. Now is 30 Baht. If 40,000, then it will be 1.3 million.
- 10 **Chloe:** สี่พันจะอยู่ที่หลักแสน แต่ถ้าเป็นสี่หมื่นจะอยู่ที่หลักล้าน 1 ล้าน
Four thousand will be about a hundred thousand. But if it is 40,000, it will be one million.
- 11 **Alice:** สี่พันก็ได้
4,000 is fine.

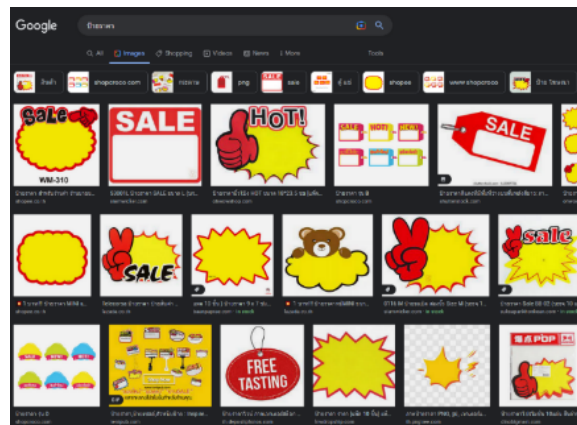


Figure 4.12 The search for “ป้ายราคา” or “price tags” on Google.com

While the students’ reason for choosing red for the marketing phrase was discussed on Zoom, possible reasons for why the students used red for the price can be hypothesised. Firstly, red is a colour of power and an attention grabber. It is often used to represent pricing information and emphasise savings in US retail advertisements (Puccinelli *et al.*, 2013). Likewise, in Thailand, red and yellow are the two colours commonly used to represent pricing information, especially sales prices (Figure 4.12). The price of the students’ product was 4,444,444 baht in the draft, reduced to 4,444 dollars in the poster (equivalent to about 167,000 baht) because the former was too expensive (Excerpt 4.8). The students did not

state why they changed the currency, but they expressed an awareness of the different value of the currencies (line 09, Excerpt 4.8), with Chloe calculating the exchange rate before deciding the final price. The reduction of the price may be one possible reason why they decide to use red. However, it is also possible that the students chose red for the same reason when choosing a colour for the marketing phrase—to make it readable and noticeable for the teacher (lines 02 and 03, Excerpt 4.7).

4.4.2 Image: the Other Main Functional Load Representing Different Product Details

Section 4.4.1.1 analysed the mode of writing in the poster designed by GOT 4. In this section, I investigate the use of the mode of image. The analyses will show that while writing does not provide much detail about the product beyond the security feature and how hi-tech the product is, image also carries main functional loads, representing different additional details of the product. Moreover, the analysis will show how ‘hi-tech’ was highlighted as the key characteristic of the product. In the poster, two images are used: one represents the product’s appearance, and the other is the company’s logo. Each one is analysed below.

4.4.2.1 Product Photo

In the draft, the product was described as hi-tech contact lenses, which was transduced to the mode of image in the poster. The image is situated around the middle of the poster, with its size accounting for almost half of the poster. As there are two images in the poster and the rest are written texts, the product photo with its size and position, immediately stands out and draws attention to itself, making it salient and of central focus.

The image used is the image of a human eye wearing green contact lenses with many white lines, digits, and circles foregrounded (Figure 4.7, no.4). Emma revealed in the interview that she found this image on Google and selected it because it matched the picture she had in her head (Emma, interview).

“At first, I don’t think there will be an image of eyes with contact lenses and some kinds of lines on Google. When I found it, I was like... Wow. There is. I felt it really matches the picture in my head”. (Emma, interview, 1st December 2020)

The image allows the students to illustrate further details about the product. It visually represents how the product should look when used and its ideal colour. In other words, it

suggests that your eye should look like this when wearing Eyes on AI contact lenses. The logo in the left corner of the image is irrelevant, but it reveals where the image was taken from (<https://thestandard.co/>). Moreover, thin white lines, circles, and digits in the foreground of the image, and the white lines in the background, signify the concept of advanced technology represented throughout the poster. Chloe revealed in the interview that she created the lines by herself to make the image and background look more advanced (Chloe, interview).

“For me ... um... I don’t know if you can see the lines. I invested my time drawing it. To make it look more like advanced technology. I drew it using another application and then pasted the picture there [on Google Slides]. I invested my time with it, so I like it the most”. (Chloe, interview, 1st December 2020)

“The lines on the background. On the product image. I also ... um... drew some more lines as well”. (Chloe, interview, 1st December 2020)

The concept of advanced technology is also represented through writing using keywords such as ‘AI’, ‘newest technology’, ‘the most advance’, and ‘smartest AI technology’ across the poster. Together the combination of writing and the image reinforces each other, highlighting the concept of advanced technology as the criterial sign.

4.4.2.2 Company Logo

The second image in the poster is a cartoonish banana, representing the company’s logo. The students revealed in the interview that they chose a banana as their logo on purpose as they were inspired by Apple Inc., a prominent technology company best known for producing hi-tech devices for telecommunications (Minnie and Emma, interview).

“We have inspiration from Apple. Apple company” (Minnie, interview, 1st December 2020).

“Apple is the most famous technology company. Our [logo] is like AAA replica. (laugh). We then. Change the fruit a bit” (Emma, interview, 1st December 2020).

The Apple logo is an image of an apple with a flat design and a bite mark on the right (Figure 4.13). The logo has become highly recognisable for the company and technology without the need to give the company’s name. The students were inspired by Apple’s logo but chose a different fruit for theirs.

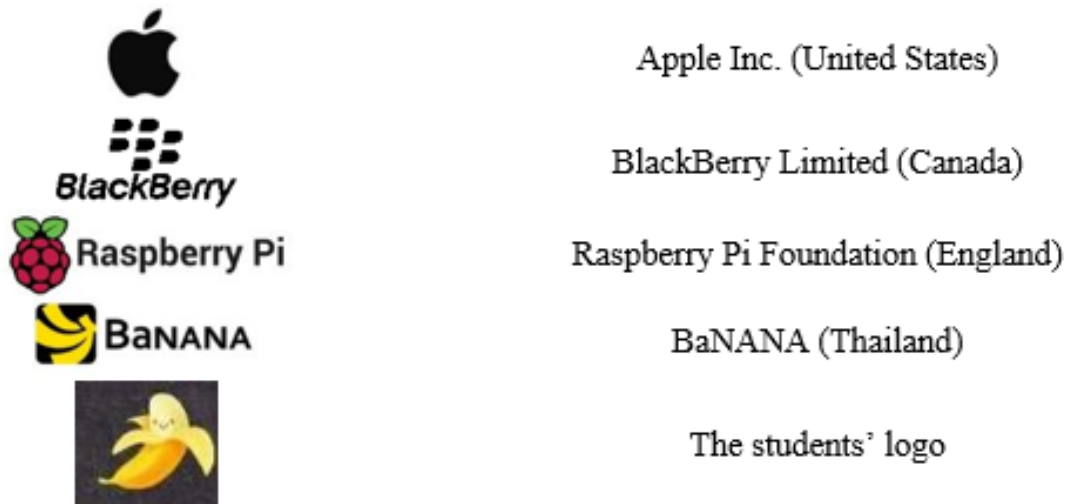


Figure 4.13 Technology companies that their name or logo relate to fruit and the students' logo

Besides the inspiration from Apple, the students' semiotic choice of a banana may also have been shaped by their previous exposures to technology companies with fruit logos. In addition to Apple Inc., Figure 4.13 shows other well-known technology companies whose names and/or logos are related to fruit. In Thailand, there is a well-known computer shop with over 100 branches nationwide called BaNANA. It sells many kinds of technological devices and has a banana as its logo. Thus, for people who recognise the shop, the word 'banana' may refer to a kind of fruit and signify one specific technology company, i.e. BaNANA, within this socio-cultural context.

After the students chose the image for their logo, they expressed an interest in editing the design. Chloe and Emma discuss whether to put a bite mark on the logo or not (Excerpt 4.9). The students regard the bite mark as a criterial signifier of Apple's logo as they want to replicate it. However, they decide not to include the bite mark because it would take time and effort (lines 04 and 07 in Excerpt 4.9). This could imply that, to them, the bite mark may not be as important as the fruit itself to signify the concept of a technology company. The use of fruit, without the bite mark, is an apt signifier for the students' representational needs.

Excerpt 4.9. Excerpt from the poster composing process when the students discuss a bite mark (25:27-26:35)

- 01 **Emma:** เราต้องเอาเข้า Photoshop นิดนึง
We need to edit the picture a little bit with Photoshop.
- 02 **Chloe:** ลบพื้นหลังอะนะ โหลด png ก็ได้หะ
Delete the background? We can download a PNG file instead.
- 03 **Emma:** หมายถึงว่าปรับให้มันเป็นรอยกัด ... มั้ย
I mean to add a bite mark?
- 04 **Chloe:** จะเอาขนาดนั้นเลยหรอ
Do you want to do that much?
- 05 **Emma:** แค่คิดไว้ก่อน แล้วแต่เลย ไม่แน่ใจว่าเพื่อนจะเอาแบบไหน
I'm just thinking. Up to you. I am not sure what the others think.
- 06 **Chloe:** เพื่อนคิดว่าไง (เงียบ) เราว่าไม่เอารอยกัดก็ได้ปะ
What do you guys think? (silence) I think we don't have to put the bite mark on it.
- 07 **Emma:** ได้นะ จะได้ไม่ต้องทำ มันน่าจะหายากอยู่
I'm okay with that. So, I won't do that. It may be difficult to do anyway.

However, without their explanation in the interview, it is not easy to relate the students' logo to the hi-tech concept. One potential reason might be the smiley face in the students' logo, which clearly differs from the highly recognisable logos of other famous technology companies (Figure 4.13). These logos do not have a face, nor are they (half-)peeled. In addition, the Apple logo, which serves as a metaphor for high technology, is widely recognisable with a bite mark; therefore, the students' decision not to place the bite mark on their logo seems to affect how the concept of technology is represented.

Under the students' logo, writing is used to signify the company name as 'GOT4 company'. Without the writing, it is not very clear what the image represents. It may be seen as irrelevant in the poster because the product is contact lenses; the banana image does not provide a link to either contact lenses or the concept of hi-tech. Moreover, the space between the banana image and the writing on the students' poster is rather large, which seems to separate the two elements from each other and suggests that the company name is not a part of the logo. Nevertheless, the use of the image together with the company name underneath forms a *complementary relationship*. Writing not only represents the company name but also plays an important role, suggesting that the image placed above is the company's logo named GOT4. In Thailand, it is relatively common to see the use of image and writing (i.e. company name) together as a company logo (Figure 4.14). Therefore, combining image and writing (i.e. the company name) in this context provides a more precise meaning for the image to be seen as the company logo.



Figure 4.14 Logos of 50 popular Thai companies in the SET50 index (Itti, 2016)

To summarise, the mode of image was used to represent the product appearance and the company logo. The product image represents the product appearance and the high technology concept. However, it may be difficult to associate the logo with the concept of high technology due to its design, even though it was chosen intentionally.

The combination of two modes (image and writing) in the poster forms *complementary and concurrent relationships (i.e. reinforcing relation)*. For the complementary relationship, writing was used to name the product, provide a product description, persuade customers to buy, and specify the price. The product image shows the ideal product, representing its appearance when used. Writing and image were used to represent different aspects of the product, but they provide a richer meaning of the product when used together. Similarly, as discussed above, the logo and the company name complement each other, contributing to the company information. For the concurrent relationship, the modes of writing and image (the product image and white lines the students created on the background) represent the concept of advanced technology (writing with keywords, image with white lines, circles, and digits in the foreground) and *reinforce* one another. The combination of writing and image increases the salience of the concept, making the product stand out as the key sign highlighted in the poster.

4.4.3 Layout: Organising Information Values

According to Kress (2010), layout spatially organises information and orients “viewers/readers to meanings such as ‘centrality’ or ‘marginality’, ‘given’ or ‘new’, ‘prior’ and ‘later’, ‘real’ and ‘ideal’” (p.92). The students’ poster was vertically designed with a single column running from the top of the page to the bottom (Figure 4.15). The product image was placed in the middle of the poster while the other elements were placed above and below the image product, except the marketing phrases and the price. The size of the product image creates a large horizontal line functioning as a framing device which divides the poster into three parts: 1) the upper part with the company information, product name, and some of the product description, 2) the middle part with the visual of the product, marketing phrase, and price, and 3) the lowest one with the rest of product description (Figure 4.15).

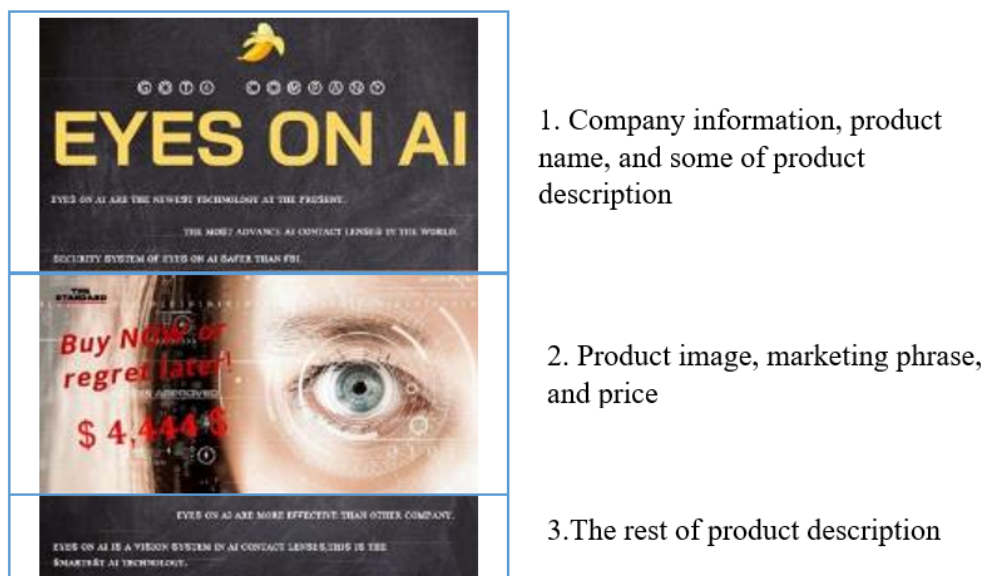


Figure 4.15 Layout of the poster

The arrangement of the elements on the poster suggests a vertical centre-margin layout structure (Kress and van Leeuwen, 2006) (Figure 4.15). This is confirmed by the data from the Zoom recordings of the students’ poster composing process. Table 4.2 shows the sequence of elements the students placed on their poster. The product image was placed as the first element on the background, almost at the centre of the poster. Placing it at the centre makes it the nucleus of the information (Kress and van Leeuwen, 2006, p.196).

Therefore, the product image is the most salient and plays a lead role in providing the generalised essence of the product’s detail, i.e. what the product looks like and its hi-tech features. Other elements in the poster were then clearly placed around the product image (above and below), except the marketing phrase and the price.

Table 4.2 Screenshot and timestamp when the students put different elements on the poster (Zoom recording 2)



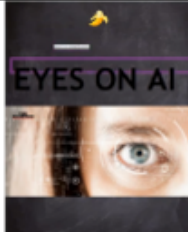

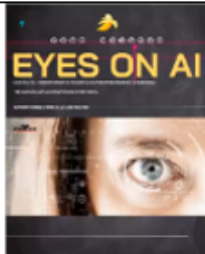



Screenshot				
Timestamp (hrs: mins)	0:00-0:01	0:02-0:03	0:04-0:11	0:12-0:23
Element	Product image	Company’s logo	Product name	Company name
Screenshot				
Timestamp (hr: mins)	0:24-0:35	0:36-0:44	0:45-0:50	0:51-1:08
Element	Product description	Product description	Price	Marketing phrase

Table 4.3 Transcript of the moment the students place the marketing phrase on the poster (52:37-53:02, Zoom recording 2)




Line	Speaker	Transcript	Screenshots
01	Chloe	เดี๋ยวๆ เราจัดก็ได้ <i>Wait. I will arrange it.</i>	
02	Chloe	เนี่ยๆ เราจะเอาไว้ตรงนี้ เอาไว้ตรงนี้ ((moving the text's position to the left side)) ตรงนี้เป็นรูป Product ของเรา <i>Here. I'm going to place it here. Here. ((moving the text's position to the left side)). Here is our product image.</i>	

Table 4.3 (cont.) Transcript of the moment the students place the marketing phrase on the poster (52:37-53:02, Zoom recording 2)

Line	Speaker	Transcript	Screenshots
03	Alice	ทับรูปเลข <i>It's overlapping the image.</i>	
04	Emma	ไม่ได้ ((inaudible)) <i>No, we can't. ((inaudible))</i>	
05	Chloe	ได้ๆ ((splitting the sentence into two lines)) <i>Okay. ((splitting the sentence into two lines))</i>	

Although the marketing phrase and the price were placed on the product image, they are in a space to the left-hand side, over the 'hair', not overlapping with 'eye' and 'contact lens' on the right. This position of the marketing phrase and price suggests that the right side of

the product image is not only the primary visual representation of the students' product, but also the more salient element. This observation was confirmed by the Zoom data when the students arranged the position of the marketing phrase (Table 4.3). Their discussion shows that they arranged the marketing phrase on the left to avoid overlapping with the eye and contact lens on the right; in other words, the students saw the product image as the most salient among the three elements (the marketing phrase, the price, and the product image) being placed at the centre of the poster.

While the product image was placed at the centre, the other elements in the poster were considered as margins. According to Kress and van Leeuwen (2006), "In many cases the Margins are identical or at least very similar to each other, so that there is no sense of a division between Given and New and/or Ideal and Real elements among them" (p.196). In the students' poster, all the elements around the product image (the Margins) are also very similar. Almost all of them are represented in writing, and the elements below the product image are the product description, just like the elements placed above the image. With this structure, the product image serves as the most salient information while the Margins play a subservient role in elaborating what the product looks like with more detail about the company information, product name, price, and further information about the product.

To summarise, in the poster, writing and image are the primary modes that represent the product details. While writing highlights how high-tech the product is, image provides additional information such as the product appearance. Layout organises information, making certain signs more salient than the others. The combination of writing, image, and layout provides a more comprehensive description of the product and highlights more information about the product than a single mode could. In addition, the poster includes a cartoonish banana deliberately chosen as the company's logo; however, it presents challenges in associating it with the high-tech concept due to its design.

4.5 The Use of Modes in the Presentation

This section provides an overview of the final stage of the multimodal composing project, the modes used in the presentation, and potential factors that shape the students' semiotic choices. The final stage was performing an in-class presentation. According to the task instructions, the presentation content had to include: 1) background and rationale, 2) product name, and 3) functions and features comparing the product with others in the

market. In the classroom a computer and a projector could be used to show digital files or any materials that the students had prepared. The genre requires the students to use speech as the main mode of communication while also offering a different range of modes for making meaning, such as gestures, audio, and 3D materials, compared to the draft and poster. The presentation was assessed using the rubric (Appendix H), with two criteria that can influence the students' semiotic choices. Similar to the poster assessment, the language accuracy criterion directs the students' attention to the form of their speech. The intelligibility criterion encourages them to combine a range of modes to express meaning in a way that can be clearly and effortlessly understood. The rubric, thus, can influence the student's semiotic choices, requiring them to use speech, focusing on the form, and promoting the combination of multiple modes in the presentation.

Overall, GOT4 used various modes, including speech, gestures, audio, and 3D objects (clothes), in their presentation. The students set the scenario as a product launch event of GOT4 company and performed a role play as the company members. Their poster was shown on the projector screen as the background during the presentation. The presentation can be divided into seven discourse moves: 1) opening the presentation, 2) greeting and introducing the members, 3) background and rationale for the product, 4) features (something that makes the product unique or different from other similar types of products) and functions (what the product can do), 5) a video from a real user, 6) a sales promotion, and 7) ending the presentation (Table 4.4).

Vignette 1: GOT4's in-class presentation

The students' presentation lasted about 9 minutes (Table 4.4). In the beginning, Minny, Alice, Emma, and Chloe stood in order and waited on the right side of the room. Chloe started the presentation by turning on the music on her phone. The music she used was the chorus of Look, a Korean song from the GOT7 band. The music drew audience attention towards their presentation. All the members then walked in a line across the room, from the right side to the left. While walking, they raised their right arms to their eyebrows with a particular hand gesture. They stopped walking when they reached the computer desk. Then they turned their bodies towards the audience and turned off the music.

Minny started and led the presentation, introducing herself as the CEO of the company ('Steve Job'). Next, she introduced the other group members and set the scene as the official product launch event. She explained what the product is, talked about the rationale behind the design of the product, and briefly introduced the AI chip. She then gave the floor to Alice and Emma. Alice and Emma, the 'research team', explained the benefits of their contact lenses and stated the price. Emma ended her turn by showing a one-minute video from a real user. The video was recorded by the students themselves. Chloe played the role of a real customer who was using Eyes on AI contact lenses to solve her eyesight problems. After the video, Chloe, as the 'PR Officer', emphasised that their company was the first one to produce this type of contact lens. She mentioned two features of the product - 1) environmental friendliness, and 2) a better security system than the FBI - and ended her turn with a sales promotion. Compared to the other members, Chloe clearly struggled speaking English and frequently resorted to filler words and repetition (line 06, presentation excerpt, Figure 4.22). In the final part of the presentation, Minny thanked the audience and all members ended the presentation with their company slogan.

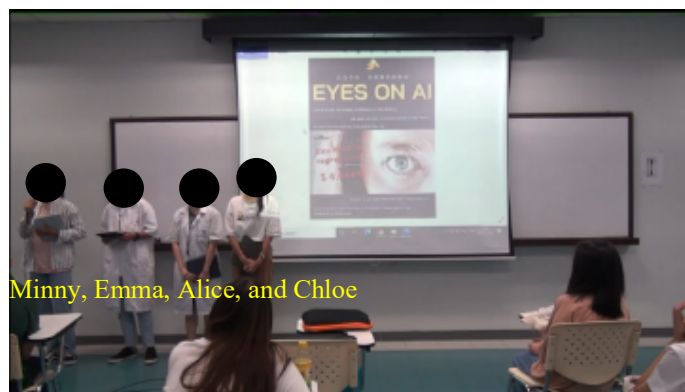


Figure 4.16 Overview of the presentation

The analysis in this section focuses on two discourse moves (1 and 2), showing the most varied use of modes in order to understand how the students employed and combined different modes in greater detail. The following vignette describes what happened in the students' presentation, providing further insights into the context.

Table 4.4 A brief description of the presentation with time stamp










Timestamp (mins: sec)	Sections	A brief description of what happened	Modes	Screenshot
00:15-00:32	Opening the presentation	Opening the presentation with music and walking into the scene.	Audio (Music) Gesture	
00:33-01:02	Introducing company members	Mিনny, as a CEO, greeted the audience and introduced the company members.	Speech Gesture 3D object (Clothing)	
01:03-02:42	Background and rationale	Mিনny set the scene, explained what the product was, and talked about the rationale behind the product design.	Speech	
02:53-03:38	Feature and functions	Alice explained a vision system (AI) and talked about two functions of their contact lenses: 1) automatic adjustment to eyesight and 2) information and facial recognition.	Speech	
03:40-04:36	Feature and functions	Emma talked about the other two functions: 3) the security system, which is safer than the FBI, and 4) electronic device control. She then introduced the target customers and the price.	Speech	
04:39-06:03	Real feedback from a customer	Showing a review video from a 'real' user.	Visual (Video)	

Table 4.4 (cont.) A brief description of the presentation with time stamp

Timestamp (mins: sec)	Sections	A brief description of what happened	Modes	Screenshot
06:20-08:34	A sales promotion	Chloe claimed that they were the first company to produce this type of contact lens and argued that their product is environmentally friendly. She then emphasised that their security system is better than the FBI's and ended her turn with a sales promotion.	Speech	
08:42-08:52	Ending the presentation	Minnie thanked the audience for coming to the event.	Speech	
08:53-09:06		Everyone said their slogan, "We are one. The future is yours."	Speech Gesture	

4.5.1 Music, Gesture, Image and Writing: Opening the Presentation

The first selected instance for analysis is when the students began the presentation. They turned on one part of a song and performed a particular hand gesture while walking across the room with the poster shown in the background (Table 4.5). The following analysis will show how music and gesture were used to represent the meaning 'looking at me' and to draw attention from the audience. Also, it will show how the combination of modes highlighted 'eye' and 'looking' as the criterial sign and meaning during the presentation opening.

The music used in the presentation is the chorus of the song 'Look', by the boy band GOT7, which was intentionally selected. In the interview, the students revealed two primary reasons behind their choice (Chloe and Emma, interview): firstly, it is a song from GOT7, the inspiration for their group name; secondly, the meaning of the song is about 'looking', which relates to their product (discussed next). In addition, Emma asserted that the song is from the Eye on You album, which was also the inspiration for their product name

(Emma, interview). Up to this point, it can be clearly seen that the students' interest in GOT7 had been a significant source of inspiration that shaped their semiotic decisions in all the three multimodal texts, i.e. the group name, the product name, the font of the product name in the poster, and the music used in the presentation (see sections 4.2 and 4.4). In other words, the analysis shows how the students used their out-of-class interests and experiences and connected them to the classroom context.

“The song is called Look. It’s from GOT7, the band that inspired our group name. We use GOT4 because we have four members. And Look is like. It’s like. Its meaning is about looking. And our product is contact lenses” (Chloe, interview, 1 December 2020).

“Another thing is that it is one of the songs in the Eye on You album, which is similar to the name of our contact lenses. Actually, we copied their name” (Emma, interview, 1 December 2020).

According to the interview, the meaning of the song is one of the reasons for their selection. Chloe summarised its meaning as “about looking” (Chloe, interview), but did not explain it in detail. However, the next sentence in her response - “And our product is contact lenses” - suggests that the concept of looking was criterial and was able to signify the students' product.

The song is in Korean but has been translated into many languages, including English, mostly by fans. Table 4.5 shows the original and English-translated version of the chorus used in the presentation. While Chloe provided an overview of the song's meaning, the analysis of the lyrics reveals that the looking represented in the chorus is particularly about 'looking at me' (Table 4.5). The lyrics consist of many first- and second-person pronouns (i.e. you, our, me, us), suggesting listeners as the direct addressees of the song. When the students used the song, the audience in the class became the direct listener. 'You' appeared to have been used as a metaphor for the classmates and instructors in the class who were listening to the song, and 'me' as a metaphor for the GOT4 group themselves. As Chloe appeared to understand the song's meaning, the students were likely to select this song not only because it relates to the product but also to express the meaning 'looking at me' and draw the audience's attention to them, i.e. to look at them and not turn their eyes away.

Table 4.5 Original and English-translated lyrics of the chorus

(source: <https://genius.com/Genius-english-translations-got7-look-english-translationlyrics>)

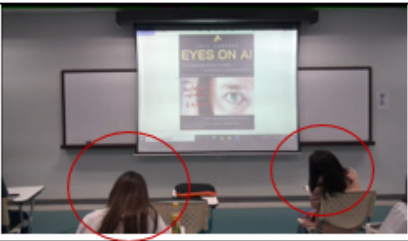



Original lyrics	English-translated lyrics
You look at me now	You look at me now.
Oh 시선을 맞추고	Oh, our eyes are locked.
익숙해질 때까지 나만 보일 때까지	Until you get familiar, until you can only see me.
눈 돌리지마	Don't turn your eyes away.
이 대로 눈 맞춰줘	Lock eyes with me.
누가 뭐라 한대도 우릴 떼 놓을 순 없어	No matter what anyone says.
	They can't keep us apart.

Excerpt 4.10. Planning to use music for the presentation's opening (26:38-31:00).

- 01 **Chloe:** เราไปดูเพลง Look มา เราค้นเพลง Look ใหม่ มันอยู่ในอัลบั้ม Eyes on You อะ
I know one song, Look. Should we dance this one? It's in the Eyes on You album.
- 02 **Emma:** ออๆ เปิดมาเต้นก่อน
Uh. Start with dancing.
- (Then the students changed the topic to the video review for a few minutes before coming to the presentation opening.)
- 03 **Emma:** เค ตอนแรก เปิดด้วย เปิด
Ok. First, we start with ... with
- 04 **Chloe:** เปิดก่อนสุดเพลงลุดอะ Got7 เรียกเรื่องความสนใจก่อน แล้วก็บอกว่า สวัสดีเรา
With the chorus of Look. Got7. Draw attention first and then we say, Hello, we...
- 05 **Emma:** สวัสดีค่ะบ:! ทุกคน (หัวเราะ)
Hello:! everyone. (laugh)

The students' intention to use the music to draw the audience's attention was revealed in the recording of their planning process. In Excerpt 4.10, line 04 shows that they used music to attract attention from the audience before introducing themselves. Moreover, it is evident in the presentation recording that this semiotic choice was successful (Table 4.6). In Table 4.6, line 01 shows the audience sitting at their table gazing downwards before the music starts. In line 02, it can be seen that, when the music is turned on, the audience shifts their gaze (and potentially attention) to the right side of the room where the sound is coming from and where the presenters are standing. In lines 03 and 04, the audience follow the presenters with their eye gaze and head direction. The gaze and head direction indicate what the audience attend to in the visual environment (Bezemer and Kress, 2016), suggesting that the audience are paying attention to the presenters.



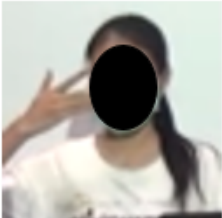
Table 4.6 The moment when music draws attention from the audience

Line	Timestamp (mins: sec)	Screenshot	A brief description of what happens
01	00:00-00:15		The audience look at their desk.
02	00:16		The students turn on the music. Then, the audience look towards where the students are standing.
03	00:20		The audience follow the group with their eyes and slightly turn their head.
04	00:25		The audience look straight at the group.

While the music signifies the meaning ‘looking at me’, the students’ hand gesture further emphasises it. Along with the music, the students use a particular hand gesture which appears to draw attention to the eye (Table 4.7, lines 01 to 03). While walking across the room with music turned on, the students raise their right hand to their eyebrow level with a particular hand gesture (line 01, Table 4.7). The students’ hand gesture is similar to the hand gesture GOT7 performed at the end of their performance video (Table 4.8). They open their right hand with the palm facing inward and separate the index finger from the rest to create a ‘V shape’ around their eye while looking directly at the camera. Their gaze direction directly addresses the viewer, establishing an imaginary relationship with them (Kress and van Leeuwen, 2006). GOT7 make the gesture in the last part of the song while singing the word ‘me’ (Figure 4.17). Their hand gesture, together with their gazing direction and the moment they perform the gesture, emphasises the object of the sentence


in the lyrics, signifying the importance of who to look at, i.e. place your eyes only on who—on me.

Table 4.7 The presentation opening scene

Line	Timestamp (mins: sec)	Screenshot	Description
01	00:15-00:25		<p>The students walk in a line with a particular hand gesture while the music is playing.</p> <p>Lyrics: You look at me now Oh 시선을 맞추고 익숙해질 때까지 나만 보일 때까지 눈 돌리지마 이 대로 눈 맞춰줘</p>
02	00:25-00:30		<p>The students turn towards the audience while the last part of the lyrics in Table 3 is playing.</p> <p>Lyrics: 누가 뭐라 한대도 우릴 떼 놓을 순 없어</p>
03	00:29		<p>The zoomed screenshot focuses on the hand gesture.</p>

For the students' hand gesture, they also use their right hand with their palm facing inward like GOT7's, but they separate the thumb and index finger from the rest, creating two V shapes (line 03 in Table 4.7). One reason for the difference may be that GOT7's thumbs cannot be seen in the video. Therefore, the students needed to be creative and devise where to keep their thumb. Despite the difference, both the eye-level position of the students' hand and the V shape created with their fingers highlight the eye area. The V shape creates a leading line to the students' eyes, which seems to suggest where to attend, i.e. their eyes. Together with the music, the gesture is likely used to highlight the meaning 'looking at me'.

Table 4.8 GOT7's hand gesture of Look (GOT7, 2018)

Timestamp	Screenshot	Transcript
03:12	 <p>Figure 4.17 Screenshot from the original videos</p>	<p>네 시선을 only 내게만 [뒤] <i>[(Fig 17)]</i> <i>Place your eyes only on [me]</i> <i>[(Fig 17)]</i></p>

In addition, the poster in the background consists of the product photo showing the image of ‘an eye’ gazing directly forward and the large product name ‘Eyes on AI’ (Table 4.7). During the presentation opening, the meaning of the music about ‘looking at me’, the use of the students’ hand gesture drawing attention towards the eye, and the elements clearly shown on the poster all involve ‘eye’ and ‘looking’. The combination of these modes forms *a concurrent relationship* presenting similar meanings that *reinforce* one another. It suggests ‘eye’ and ‘looking’ are the criterial sign and meaning as they are repeatedly represented in different modes during the presentation opening.

4.5.2 Speech, Clothes, and Gesture: Greeting and Introducing Character Roles

This section presents an analysis of the second selected discourse move from the students’ presentation: when the students greet the audience and introduce themselves as members of the GOT4 company. Minny acts as the CEO and introduces the other members: Chloe (PR officer), and Alice and Emma (research team). In this part of the presentation, the students make use of speech, 3D objects (clothes), and gestures. Although the poster displayed behind them gives access to the meanings represented through writing and image, it is irrelevant to the introduction of the characters the students are acting out in the presentation since they do not refer to the poster, either verbally or by gesture. Therefore,

the analysis of the poster is only presented in Section 4.3 and not included here. The ensuing analysis will demonstrate the following findings:

- The mode of speech overall carried the main functional load. It was the primary mode used to greet the audience in different languages, introduce the names of the characters, and their positions in the company.
- Clothes were used to signify the characters’ position in the company while gestures were used for greetings and to signify particular characteristics of the roles.
- The combination of speech, clothes, and gestures not only introduced the characters’ names and roles, but also further represented different aspects of the characters.

Table 4.9 The students greet the audience and introduce themselves




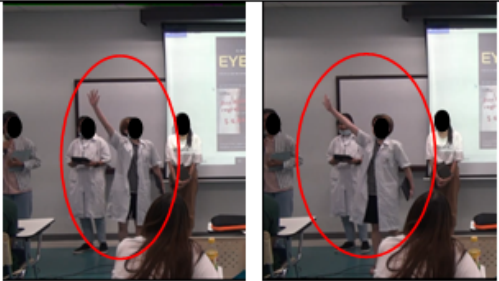
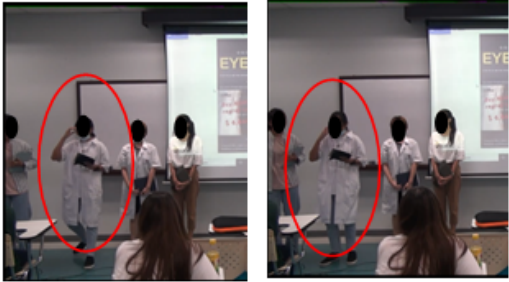
Line	Speaker	Transcript	Screenshots from the presentation
01	Minnie	Hello everyone. We are GOT4.	
02	Everyone	Annyeonghaseyo. <i>((Everyone bows.))</i>	
03	Minnie	I am Steve Jab, a CEO of GOT4 company. I will introduce <i>((mispronounced as introduct))</i> my team. The PR is Melinda. <i>((Chloe clasps her left hand over a closed right fist and bows.))</i>	

Table 4.9 (cont.) The students greet the audience and introduce themselves

Line	Speaker	Transcript	Screenshots from the presentation
04	Mিনny	The research team are Robert Einstein. <i>((Emma raises her right hand up, moving from the right to left.))</i>	
05	Mিনny	And sir Isaac ka. <i>((Alice grabs her eyeglasses with her right hand and moves it up and down.))</i>	

Speech was used to greet and introduce names and positions. Table 4.9 shows that the students do not only speak in English, but also in Korean (line 02) and Thai (line 05); they thus drew upon signifiers from different countries. In line 01, Minny greets the audience in English by saying “Hello”. Then, all the members say “Annyeonghaseyo” (‘hello’ in Korean), and bow their heads (line 02). Bowing is a greeting in many Asian countries. However, when the bow is used with speech (‘hello’ in Korean) here, the combination clearly signifies a traditional Korean greeting. Speech scopes down the potential meanings of the bow. Moreover, the gesture and speech used for greeting (line 02, Table 4.9), together with the Korean music at the presentation opening, suggests a strong interest in utilising different signifiers from Korea (e.g. speech in Korean and a Korean song) for their design choices.

The students also speak in Thai. Line 05 in Table 4.9 shows that Minny ended her sentence with “ka”. ‘Ka’ or ‘Kha’ is a Thai particle commonly used by females at the end of sentences to express politeness and courtesy (Baker, 2009). It has no direct English translation. However, the use of it here suggests not only the end of Minny’s sentence but also represents her politeness towards the audience.

After greeting, Minny firstly introduces her name and position and then introduces the others individually. The names the students chose for their roles suggest their creativity and

how they relied on their out-of-class knowledge to make apt signs. The chosen names were similar to the names of famous people, with minor changes: Steve Jobs (Steve Jobs), Robert Einstein (Albert Einstein), Melinda (Melinda Gates), and Sir Issac (Sir Isaac Newton). Moreover, the names and the roles of the students in the presentation (Steve Jobs as a CEO, Melinda as a PR officer, Robert Einstein and Sir Issac as a research team) reflect what these famous people are well-known for in real life (Steve Jobs - a co-founder and CEO of Apple Inc., Melinda Gates - a marketing manager of Microsoft, Albert Einstein and Sir Isaac Newton – ground-breaking scientists). How the students designed the names and used them to match the roles suggests that they purposively chose names that resembled real people who were well-known for the specific jobs their characters represented. Moreover, these famous people are widely recognised for their intelligence and success. Therefore, the chosen names and the roles *complemented* each other, representing intelligence and success, which in turn also signifies the credibility of the company and its product.

Focusing on clothes, Emma and Alice, acting as the researchers, are wearing a laboratory coat and Minny, the CEO, is wearing a shirt. The audio recording of the students' presentation planning shows that they selected specific clothing purposefully (Excerpt 4.11). Lab coats make the role of researcher explicit, with Emma explaining that wearing one reflects that they are a part of the research team (Emma, interview). While a lab coat can be used in many occupations, such as a doctor or scientist, Emma saw a lab coat as an apt signifier for a researcher from the start (Excerpt 4.11). She also suggested that a CEO should wear a suit and a tie (line 03). However, this latter idea was dropped, seemingly because they did not have a suit.

Excerpt 4.11. The students discuss what to wear for the presentation (34:37-35:50)

- 01 **Emma:** ทีมวิจัยก็ต้องใส่เสื้อกาวน์มาด้วย ไม่ยอม
 The research team must wear a lab coat. I insist.
- 02 **Chloe:** เออ เอเสื้อกาวน์มาด้วย ใครก็ได้เนะ เอเสื้อกาวน์มาด้วยนะ
 Yeah. Bring a lab coat. Those who get [a researcher role] should bring a lab coat.
- 03 **Emma:** CEO กรุณาใส่สูทกับเน็คไทค์
 A CEO, please wear a suit and a tie.
- 04 **Minny:** ใครมีสูทอะ
 Who has a suit?
- 05 **Alice:** ไม่มี
 I don't.
- 06 **Chloe:** เคี้ยวลองไปหาให้ อัยาลิม CEO ต้องมีสูทนะ
 I will find it later. Don't forget that a CEO has to wear a suit

“*[It] shows we are a part of the researcher team of the company*” (Emma, interview, 1st December 2020).

Excerpt 4.12. The students change their minds about the CEO’s clothes (37:05-37:29)

- 01 **Emma:** ผู้แล้ว CEO ใส่คอเต่าแบบ Steve Jobs ใส่แว่นมาด้วย เป็น Steve Jobs 2
I figure it out. A CEO can wear a turtleneck like Steve Jobs. Wearing eyeglasses too like a second Steve Jobs.
- 02 **Chloe:** เออๆ ใครมีคอเต่า
Yeah. Who has a turtleneck?
- 03 **Emma:** ไม่มี แต่ว่ามีเชิ้ต
I don't, but I have a shirt.
- 04 **Chloe:** กูก็มีเชิ้ต เอามาเชิ้ตแล้วกัน ใส่เชิ้ตแบบพนักงานออฟฟิศ
I also have a shirt. Wearing a shirt then. Like an officer worker.
- 05 **Emma:** Yes, sir.
Yes, sir.

Then Emma suggests that the CEO could wear a turtleneck and eyeglasses like Steve Jobs (Excerpt 4.12, line 01). However, the students do not have a turtleneck, so they decide that the CEO could wear a shirt instead (lines 03 and 04). Line 04 suggests that the students see a shirt as a signifier of an office worker. However, it was chosen in this context not because it would be the best signifier of a CEO, but because of practicality.

The use of speech to introduce the position of a researcher and a lab coat forms a *concurrent relationship*, reinforcing and making the researcher's position more explicit. However, the use of speech and a shirt is *complementary* (Unsworth, 2008). The speech “I am Steve Job, a CEO of Got4 company” reveals Minny as CEO. A shirt, on the other hand, is used because of its practicality and as a metaphor for an office worker (Excerpt 4.12, line 04). The combination of speech and a shirt implies that the students viewed a CEO as an office worker. In addition, Minny’s chosen shirt signifies particular characteristics. Unlike suits and ties, which signify ‘formality’, Minny wears an unbuttoned short-sleeve shirt over a T-shirt with jeans (Table 4.8, line 01), suggesting the casualness and informality of her CEO character, which is also represented in other famous CEOs such as Steve Jobs’ signature look (Figure 4.18).



Figure 4.18 Steve Jobs in a turtleneck (Smith, 2012)

During the introduction, the students perform different hand gestures for greetings (Table 4.9, lines 03-05). Firstly, in line 03, Chloe is introduced as Melinda. She clasps her left hand over a closed right fist and bows her head while slightly moving her hands up and down, which is similar to a traditional Chinese greeting. In line 04, when Emma is introduced as Robert Einstein, she raises her right hand, and waves to the audience. Her gesture is similar to one common greeting gesture in many Western countries. For Chloe and Emma, there is no explicit connection between their gesture and the characters they are playing. However, the prior speech and the moment they perform the gesture suggests the gesture is used for greeting. Lastly, Alice's hand gesture differs from the two. In line 05, when Alice is introduced as Sir Isaac, one of the research team, she uses her right hand to grab the eyeglasses and slightly moves them up and down (Figure 4.19). Considering the sequence of modes when introducing the characters, Alice's hand gesture can also be considered as a greeting gesture. However, it also represents additional meaning. People who wear glasses tend to be generally perceived as more intelligent (e.g. Fleischmann *et al.*, 2019; Leder, Forster and Gerger, 2011). Thus, considering her gesture which draws attention to the eyeglasses and the speech (the name 'Sir Isaac' and the position), the combination of them highlights the character Alice is playing as a highly intelligent researcher.



Figure 4.19 Alice's hand gesture

To summarise, while speech was the main mode used to introduce the names of the characters and their roles, the names the students chose and their choice of clothing highlights the positions of the characters, leading to an additional meaning, i.e. the credibility of the company and their product. Different gestures were used after the speech that introduced each character, signifying that they were used to greet the audience. In addition, gestures were also used to signify Alice's character as an intelligent researcher. Thus, combinations of speech, clothes, and gestures formed sign complexes that not only introduced the characters' name and the roles, but also further represented different aspects of the characters.

4.6 Remaking Signs across the Multimodal Texts

Sections 4.3 to 4.5 illustrated how modes were used in the students' multimodal texts. This section focuses on the remaking of signs through transduction and transformation across the three texts (draft, poster, and presentation). This allows us to understand what signs the students perceived as crucial as well as the ones that were not deemed essential to communicate their intended meanings. Also, the analysis investigated gains and losses in meanings to understand how the students subsequently refined their ideas and re-represented them with different modes and resources available in each stage of the multimodal composing project.

Overall, this section will reveal a number of transformations and transductions of signs across the draft, poster, and presentation. There were a few instances of mimesis within the presentation, but there was no mimesis across the three texts. Therefore, only the processes of transduction and transformation are in focus here.

Four sign/sign complexes that were remade across the three multimodal texts were identified. They were the signs that signified: 1) basic information about the product (i.e. product and type), 2) selling pitch, 3) high technology, and 4) price (Table 4.10). The analysis focuses on the two sign complexes which were remade through most varieties of modes across the three texts to illustrate how the changes in modes and arrangement affected the signs and meaning being remade. These two sign complexes were: 1) the product's basic information (Eyes on AI as contact lenses) (Section 4.6.1), and 2) the high-tech concept (Section 4.6.2).

In the presentation, the poster, which consisted of writing and visual modes, was displayed behind the students on the projector screen. However, due to insufficient contrast and excessive lighting on the screen, some elements of the poster lacked clarity, especially the product description; thus, only the signs that were clearly readable are analysed in this section.

Table 4.10 Signs/sign-complexes remade across the three multimodal texts

Signs/sign-complex	Mode in the draft	Mode(s) in the poster	Mode(s) in the in-class presentation
1. Basic information of product (product name and type)	Writing	Writing and visuals (image)	Speech, writing and visuals (image)
2. Selling pitch	Writing	Writing	Speech and writing
3. The concept of high technology	Writing	Speech and visuals (image)	Speech, writing, and visuals (image and video)
4. Price	Writing	Writing	Speech and writing

4.6.1 *The Contact Lenses: ‘Eyes on AI’*

The first selected sign complex is the basic information about the students’ product, i.e. the name (Eyes on AI) and type of product (contact lenses). In the draft, the product details were represented in writing as one paragraph, including the product name and type. These two signs were transformed and transduced to writing and image in the poster, and to speech, writing, and image in the presentation. The analysis below has two subsections: 1) the remaking of the signs in the draft to the poster, and 2) in the poster to the presentation.

4.6.1.1 *From Writing to Writing and Image: The Transformation and Transduction of the Product’s Basic Information in the Draft to the Poster*

When the students transformed the written sign, i.e. the product name (Eye on AI) in the draft into the same mode in the poster (Figure 4.20), there was *a gain in the degree of salience*. In the draft, the product name was made salient with the use of capitalisation and the position. The product name - ‘Eye on AI’ - is written with capitals E and A, showing the word is a proper noun, the name of a specific thing. In this case, it is the name of the students’ product and is the only proper noun in the paragraph. The product name is introduced as the last element on the first line, “Launching the first product of the company. For all ages is Eye on AI” (number 1, draft, Figure 4.20). In a culture with a left-to-right reading direction, left is the starting point for the message (Given), and the right is

considered a crucial point to where readers are moving (New) (Kress and van Leeuwen, 2006). While the position of the product name signifies its salience, the use of graphic resources seems to differ. Although some letters are capitalised, the product name is represented in writing in a similar colour and size to the other texts; it blends in more with the other product details in the draft. The students did not make use of other graphic resources (e.g. bolding, colour, underlining) to make it clearly salient or distinct from the others.

However, in the poster, the transformation *increases the sign's salience* through the use of various graphic resources and position in a way that differs from the draft. The product name is represented in a yellow font, with the largest size, positioned at the poster's top centre (Section 4.4). This makes it large, clearly distinctive, and easily noticeable. The design of the product name suggests it as the most salient among the other written texts. However, the transformation results in *a loss of meaning*. The meaning expressed in the draft is not just 'the product name', but also 'the first product for all ages that is launched by the company'. The latter is not represented anywhere in the poster. This suggests that, during the transformation, the students perceived the latter meaning as less important than the product name.

The image displays a handwritten product summary on the left and a digital poster on the right. The poster features a large eye graphic and various text elements. Numbered callouts (1 and 2) link specific text in the poster to the handwritten notes.

Handwritten Product Summary (Left):

STAGE 1: WRITE A SHORT PRODUCT SUMMARY (150 words)

Group name: Got 4

Instruction: Write a short product summary. Your summary should include the what your product is, what it is used for, and explaining why your product's w...

Launching the first product of the company for all ages is Eye on AI. Buy it once and can be used all the time, no harm and does not affect the eyes. Because contact lenses can be adapted for people whose vision changes without using the high-tech operating system chip. 2. The product type automatically connect with the technology that we can see. And able to command through the brain. There is a system to scan the face for the person. All of which we mentioned above, you can buy it for only \$4,444.444 Bath.

Digital Poster (Right):

GETO COMPANY 1

EYES ON AI

EYES ON AI ARE THE NEWEST TECHNOLOGY AT THE PRESENT.

THE MOST ADVANCE AI CONTACT LENSES IN THE WORLD.

SECURITY SYSTEM OF EYES ON AI SAFER THAN FBI. 2

Buy NOW or regret later!

\$ 4,444 \$

CLASS APPROVED

EYES ON AI ARE MORE EFFECTIVE THAN OTHER COMPANY.

EYES ON AI IS A VISION SYSTEM IN AI CONTACT LENSES. THIS IS THE SMARTEST AI TECHNOLOGY. 2

Transcript excerpt of the presentation when Minny explains what the product is (01:03-02:42)

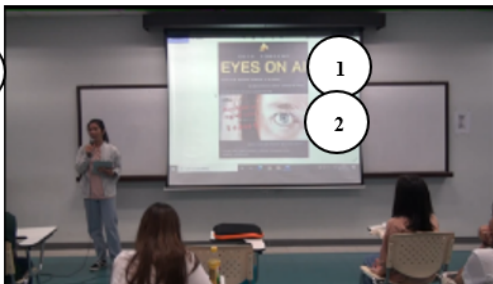
- 01 **Minny:** This is event. This event is the official launch event of GOT4 company 1
- 2 The product is called Eyes on AI. It is a contact lenses product that wear the AI system. To help make it comfortable for everyone.
- 02 **Minny:** Contact lenses today are known to be difficult. Is to use. To be difficult to use and. Need to be changed frequently because the eyesight is constantly charging. This is the reason why our company came up with this contact lenses.
- 

Figure 4.20 Transformations and transductions of the product name and product type in the draft (top left), poster (top right), and presentation

To represent what the product is, the students use the word ‘contact lenses’ in the third line of the draft (number 2, draft, Figure 4.20), which is transformed and transduced as an image in the poster. Here we observe *a gain in the degree of salience* from these processes. In the draft, the words ‘contact lenses’ are represented in a similar design to the other written texts, i.e. the same handwriting, size, and colour (number 2, draft, Figure 4.20). This makes it coherent with other elements, but, at the same time, the sign is not foregrounded or salient. This is further evident in the position of the sign. The words ‘contact lenses’ are first represented in the third line. Thus, it is not yet clear what the product is until the third line, which provides a clear sense of what the product is with the words ‘contact lenses’. The design and position show that their product type is not a salient sign in the draft. In contrast, when ‘the product type’ is transformed and transduced in the poster, the sign becomes prominent, especially with the use of image, i.e. the large product photo which clearly depicts what the product is.

The transformation to the poster brings about changes in meanings: *a gain in the concept of advanced technology and a loss in the product function and target customer*. In the draft, the word ‘contact lenses’ is a part of the sentence “Because contact lenses can be adapted for people whose vision changes without using glasses anymore”. This tells us what the product is (contact lenses), what it can do (be adapted) and the target customer (people whose vision changes). In the poster, the words ‘contact lenses’ are used in two different sentences: “The most advance AI contact lenses in the world,” and “Eyes on AI is a vision system in AI contact lenses, this is the smartest AI technology” (number 2, poster, Figure

4.20). These two sentences represent a distinctive feature of the product - the concept of advanced technology - signifying that the product is not just ordinary contact lenses, but the most technologically advanced and smartest ones. This concept was gained through the transformation while the signs representing the target customer and the vision adaptation feature were no longer represented in the poster.

If there had been only transformation, it would have been ambiguous what the students' product really was. Although the sentence "The most advance AI contact lenses in the world" in the poster indicates that the students' product is AI contact lenses, the other sentence - "Eyes on AI is a vision system in AI contact lenses ..." - suggests another potential meaning: Eyes on AI may not be contact lenses but a vision system that is installed in AI contact lenses (number 2, poster, Figure 4.20). Despite the ambiguity, it becomes much more apparent with the product image that the students' product is contact lenses.

The product type was also transduced from writing to image in the poster, resulting in *gains in specificity and idealisation*. The word 'contact lenses' in the draft told us only that the product was contact lenses. However, in the poster, the product image depicts a partial female face showing her right eye, wearing a green contact lens, looking straight to the (assumed) camera, with white lines and digits in the foreground (number 2, poster, Figure 4.20). The contact lens in the image is clearly visible: circular in shape, regular in size, and blue-green in colour. Moreover, the digits and white lines in the foreground signify the concept of advanced technology (Section 4.4.2), specifying that the contact lens in the image is not ordinary but 'high-tech'. In addition, the image depicts an ideal picture of the product. It entails expectations about the high specifications and how all Eyes on AI contact lenses should look when worn; this includes the idealisation of the shape, size, and colour of the contact lenses. This is known as *epistemological commitment*, the unavoidable commitment from the different affordances of each mode which inherently prompt sign-makers to engage with and to perceive the world in specific ways (Bezemer and Kress, 2016).

4.6.1.2 *From Writing and Image to Writing, Image, and Speech: Transduction of the Product's Basic Information in the Poster to Presentation*

This section presents gains and losses from the transduction of the product name and type from the poster to the presentation. Both signs were transduced to speech as well as in the modes of image and writing in the poster shown in the background during the presentation.

In Figure 4.20 (number 1, poster and presentation), there is *a gain in the information related to the product* due to the logic of speech. In the mode of speech, the order of expressing information is fixed in sequence by the presenter, suggesting a rigid and linear path for the signs to unfold in a particular order. In the presentation, speech is used to specify the context of the presentation (a product launch event) before announcing the name of the product and what the product is (presentation excerpt, Figure 4.20). In other words, when the name and product type are expressed in speech, the name of the event is already verbally unfolded. The latter is not represented in the poster; thus, it is gained from the transduction.

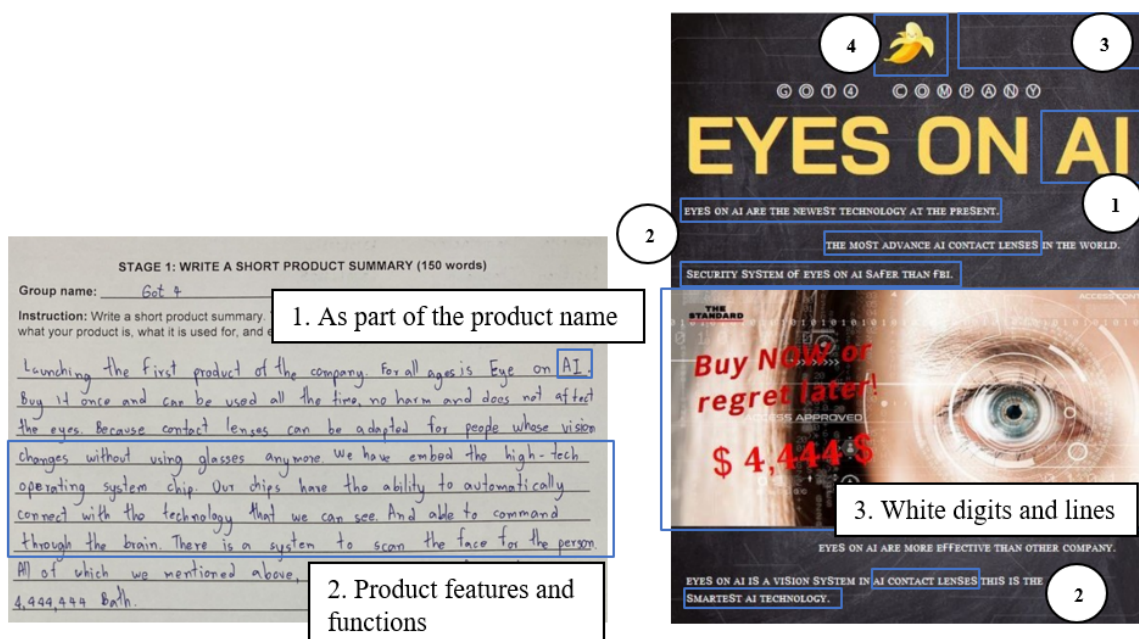
On the other hand, there is *a loss in some specificity*. In the poster, some of the product description consists of the superlative structure to represent how advanced their product is, i.e. “the most advance AI contact lenses in the world” and “the smartest AI technology” (number 2, poster, Figure 4.20). However, the image quality drops when the poster is shown via projector. Only the product name and image are clearly noticeable while the product description is small and illegible. Also, in the presentation, Minny introduces the name and the product by saying, “The product is called Eyes on AI. It is a contact lenses product that wear the AI system” (line 01, Figure 4.20). These two sentences represent the product name, what the product is, and a distinctive feature of the product, but do not highlight how advanced their product is; thus, *the salience of high technology feature is lost to some extent*. Moreover, line 01 in Figure 4.20 does not specify what the contact lenses look like. If the student had used only speech, such detail would also have been lost. However, with the poster shown in the background, the appearance of the product still remains visually.

4.6.2 The Concept of ‘High Technology’

The second selected sign complex is the concept of high technology, a key feature of the students’ product (Section 4.4.2). In the draft, the concept of high technology is represented in writing the acronym ‘AI’ (‘Artificial Intelligence’) as part of the product name and as the product features and functions. It was then transformed and transduced to writing and image in the poster, and to speech, image, and video in the presentation (Figure 4.21). As with the previous section, the analysis starts with the remaking of the signs in the draft to the poster, followed by the remaking of the signs in the poster to the presentation.

4.6.2.1 From Writing to Writing and Image: The Transformation and Transduction of the 'High Technology' Concept in the Draft to the Poster

In the draft (see numbers 1 and 2, draft, Figure 4.21), the concept of advanced technology was represented in writing with the acronym 'AI' as part of the product name, and was also represented as part of the product features and functions. It was then transformed within the same mode of writing as part of the product name (number 1, poster, Figure 4.21) and as part of the product description in the poster (number 2, poster, Figure 4.21). The high-tech concept was also transduced into the mode of image, as white digits and numbers on the product image and the background (number 3, poster, Figure 4.21)



01 **Mিনny** (01:03-01:27): This is event. This event is the official launch event of got4 company.

The product is called Eye On AI. It is a contact lenses product that wear the AI system. To help make it comfortable for everyone.



02 **Mিনny** (02:05-02:42): We are also adding new technology to our product. By implantation of

AI chip. Which our research team. Has done experiments that are not harmful to the eyes. The chip AI is called vision system. What is this system? And what are the advantages? I will let the research team explain further.

03 **Alice (02:53-03:38):** A vision system is a system that helps to remember. It stores information based on what we see. And saves it in a data warehouse. Which the ability of this contact lens. The first is that the eyesight can be adjusted automatically according to our eyesight. Making it less difficult to buy new contact lenses. The second is contact lenses that can scan and recognise the people's faces. While scanning, the system will display information that only the owner can access to see this data.

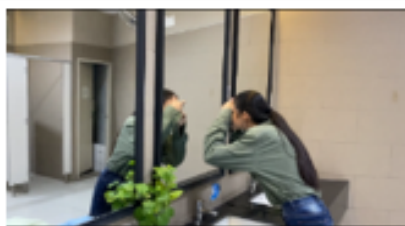


04 **Emma (03:40-04:36):** Thirdly, our security system for data retention is much more secure and stricter than FBI security systems. You can be assured that your information will not be leaked. It's not enough. Our contact lenses are also very easy to control electronic devices. Just blink your eyes and activate



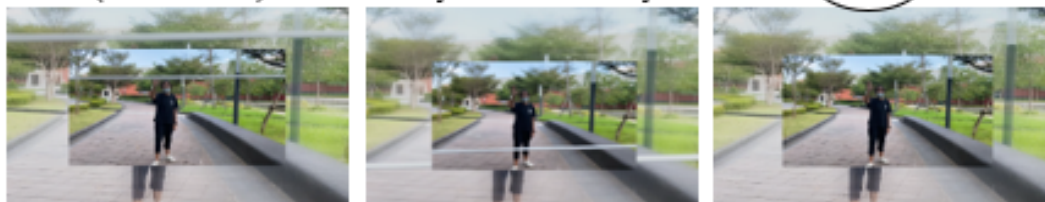
them. Which our products are suitable for all gender and age. Anyone can use and cost only \$4444. Next, we will give everyone the view from real users. Let's go.
 05 – Show the video (04:39-05:59) –

Excerpt from the students' video when the high technology concept is represented



Chloe (05:41-05:43): But nowadays I have tried Eyes on AI.

2+3



(05:44-05:47): [Digital scanning sound effect]



Chloe (05:48-05:57): Making it visible from distance at all distance. And also has AI system that makes our lives easy. [Looney Tunes opening theme song]

06 **Chloe** (06:20-08:08): It's over for real use review. Uh. From. From the video. Uh. Every- Everyone can see. The performance. Uh. Performance of use product. Uh. Can tell that. This. Can tell that. This product Uh. This product was the first company. Uh. To be to able to product this new type of contact lens. Uh. Moreover, Our. Our AI system. System is more advanced and advanced than that of all different companies. Our products don't just bring comfort to you. The products themselves are not polluted to the environment, and most importantly, our information security system is. Is definitely superior to the FBI.



Figure 4.21 Transformations and transductions of the high-tech concept: the draft (top left), poster (top right), presentation (middle), video shown during the presentation (bottom)

The transformation and transduction of the high technology concept results in a deletion of actor and losses in meaning in relation to the product details. In the draft, the sentence “We have embed the high-tech operating system chip” (number 2, draft, Figure 4.21) is in the active voice, indicating the person who performs the action and expressing ‘ownership’; it is ‘we’, GOT4 company, nobody else, that has embedded the high-tech chip into their product. In the poster, this detail is lost. Although the company name is presented under the logo, it only suggests that GOT4 company is the owner of the product. The relationship between the company and the high-tech chip installed in the product is not represented anywhere in the poster. Moreover, the high- tech concept is represented in the draft as two innovative functions: 1) the ability to directly command the chip through the brain, and 2) a face scan function (number 2, draft, Figure 4.21). These functions are not represented in the poster; they are lost.

On the other hand, there are gains in a new product feature and degree of salience of the concept of high technology. In the poster, the high-tech concept is represented in writing as part of the product description (number 2, poster, Figure 4.21). One sentence of the product description - “Security system of Eyes on AI safer than FBI” - introduces a security system as one product feature. This was not represented in the draft but has been added to the poster. Most of the other sentences are used to highlight how hi-tech the product is with the superlative structure, i.e. “the newest technology at the present”, “the most advance AI contact lenses in the world”, and “the smartest AI technology” (Section 4.4). Moreover, the

acronym 'AI' is frequently used (eight times) all over the poster. The students' word choices in their product description suggest that the high-tech concept, particularly AI technology, is the criterial signified in the poster. The transformation shows an increase in the salience of the high-tech concept to a certain degree, further emphasised through transduction. The white digits and lines in the foreground of the product image (number 3, poster, Figure 4.21) signify the concept of high-tech technology. Also, the white lines on the background, added by the students and their choice of the company's logo (see section 4.4), reflect the importance of the hi-tech concept because it is represented in different modes all over the poster. The transformation and transduction of the concept into the poster has clearly resulted in a gain in the sign's salience.

4.6.2.2 From Writing and Image to Speech, Image, Writing, and Video: The Transduction of the High Technology Concept in the Poster to the Presentation

For the presentation, the concept of high technology was transduced to speech, image, writing, and video. For speech, the concept is represented mostly as part of the product features and functions (numbers 2 and 3, presentation transcript excerpt, Figure 4.21). The high-tech concept is also represented in the poster on the screen. It is represented in writing with the term 'AI' as part of the product name and as white digits and circular lines surrounding the eye in the product photo. For the video, the students recorded a short clip of a product review from a real user played by Chloe. The video starts with Chloe introducing herself as Natasha, explaining her eyesight problems, and then reviewing how her life has been improved by using Eyes on AI. The high-tech concept is represented as one function of the product, i.e. the auto adjustment to the user's eyesight (excerpt from the students' video, Figure 4.21).

Firstly, there are gains in the emphasis on how high technology the product is and the specificity of product functions. The high-tech concept is represented through words, sentences, white digits, and white lines in the poster (numbers 2 and 3, poster, Figure 4.21). Also, it is represented and emphasised through speech throughout the presentation as part of the product features and functions. In lines 01 and 02, Minny straightforwardly presents their product as contact lenses with an AI chip in the sentences, "It is a contact lenses product that wear the AI system" and "We are also adding new technology to our product. By implantation of AI chip" (presentation transcript excerpt, Figure 4.21). This not only introduces the product features but also signifies the concept of high technology in the

students' product. Similarly, in lines 03 and 04, Alice and Emma describe several innovative features and functions of the product, such as an automatic adjustment to the user's eyesight, a face and identity scan, a safer security system to protect personal data, and electronic device control (presentation transcript excerpt, Figure 4.21). All of these rely on sophisticated technology; thus, they also connote the high-tech concept. The features and functions here are not represented in the poster; they are gained from the transduction of the concept into the presentation.

The concept of high technology is also represented in Chloe's speech near the end of the presentation. However, how she uses speech affects the intelligibility of the signs she makes. In line 06, presentation transcript excerpt (Figure 4.21), Chloe claims that they were the first company to produce this new type of contact lens and their AI system is more advanced than other companies. However, her speech consists of many pauses, attempts at self-repair, and the filler utterance 'uh', which in turn imposes a strain on the listener and decreases the clarity of the meaning being expressed.

Moreover, the use of video brings about *gains in the emphasis on high technology and the specificity of one product function*. The video represents the high-tech concept through one function of the product: the automatic eyesight adjustment. This function is represented twice in the presentation, first with Alice's speech and then again in the video; thus, this is also a transduction within the presentation. In line 03, Alice introduces this function: "The first is that the eyesight can be adjusted automatically according to our eyesight" (presentation transcript excerpt, Figure 4.21). The speech represents what the product can do, but it does not detail how the product actually performs the function. Similarly, the product image in the poster represents the product's appearance. However, it leaves questions about how the product really works. This matter is specified and illustrated in the video.

The video is designed in a problem-solution structure, visually showing the solution to Chloe's eyesight problem (video excerpt, Figure 4.21). The video shows how the contact lenses automatically adjust the user's eyesight through a rectangle screen and a white horizontal line. This highlights how high-tech the product is and illustrates the sequential functioning when in use. There are three scenes in the excerpt: 1) the student wearing the contact lenses, 2) the process of auto adjustment, and 3) the reaction of the students (video excerpt, Figure 4.21). After the first scene of Chloe wearing the contact lenses, there is a

rectangular screen overlaid on the very blurry background. Inside the screen, it shows a less blurry vision of Chloe's friend who is standing and keeping her hand up (second row of the video excerpt, Figure 4.21). Then, there is a white line moving from top to bottom with a digital beeping sound, and, at the same time, the vision on the screen becomes clear. The process of the automatic adjustment function of Eyes on AI is specified and illustrated in the video; the meaning is gained from the transduction.

Moreover, the video brings about *the idealisation of the product's function* differently from the product image in the poster. While the image in the poster signifies how the product looks when being used, the video entails the epistemological commitment of having the same experience as the person in the video when wearing the contact lenses, i.e. seeing the rectangular screen with automatic eyesight adjustment and digital scanning sound effect as represented in the video. Finally, there is *a gain in the involvement of the viewer* through the first-person point of view (POV) shot. POV structure is typically used to "portray what the character sees and how he/she reacts to it" (Feng and O'Halloran, 2013, p. 93). In this case, the students represented how the function works in a first-person POV showing what happens from the characters' eyes, i.e. Chloe's direct experience when using Eyes on AI. This entails *an emphasis on the involvement of the audience* as if they were experiencing the actions themselves.

To summarise, the analysis above has shown how transduction and transformation affected the signs and meanings being remade. These processes helped the students engage with the signs they made, evaluate them, and identify the criterial signs to remake in the subsequent texts. They also offered opportunities to utilise different modal affordances to better re-represent the refined ideas. For instance, the transduction to video allowed the students to re-design the organisation of the signs and engage the audience through POV (Section 4.6.2).

4.7 Semiotic Awareness

Section 4.5 analysed the signs that were transduced and transformed across the multimodal texts. This section examines the instances of semiotic awareness the students displayed during their multimodal composing process. To remind, the multimodal composing project in this study was not purposively designed to help the students improve their multimodal literacy. Thus, the students were not 'taught' meta-language nor trained specifically in multimodal literacy. However, they were provided with guiding questions to encourage

their design discussion and enhance collaborative work (Appendix G). Overall, the analysis revealed multiple instances of semiotic awareness. These instances were categorised according to Nelson's (2008) taxonomy and emerging instances (see Section 3.6.5.2). The analysis is divided into two sections. Sections 4.7.1 and 4.7.2 will present the instances where the students demonstrated their *existing semiotic awareness* and *developing semiotic awareness instances* respectively.

4.7.1 Existing Semiotic Awareness

Existing semiotic awareness refers to instances where the students demonstrated their awareness related to signs, signified, signifier, and sign making. The instances of existing semiotic awareness were divided into three main categories: 1) recognition of semiotic problems and solutions, 2) design decisions borrowed from other resources, and 3) recognition of how modes and semiotic resources can be used to make signs. Overall, all instances were found in GOT4's multimodal composing. However, the students most frequently showed their awareness of borrowing designs from other sources to make signs in their multimodal texts.

4.7.1.1 Recognition of Semiotic Problems and Solutions

The analysis revealed that the students sometimes recognised problems in their sign-making and also offered solutions. The semiotic problems found in the data were categorised into problems related to 1) representational needs, and 2) aesthetic needs. The semiotic knowledge the students proposed as solutions included drawing on 1) their existing knowledge, and 2) external resources.

4.7.1.1.1 Semiotic Problems Related to Representational Needs

The students noticed semiotic problems related to representational needs a number of times. In Section 4.3.2, the recording of the drafting process revealed the students' reliance on 1) a translation website, and 2) an introduction from the example provided in the handout when writing in English. Here, the extract is used to as evidence of students' semiotic awareness (Excerpt 4.13). Before this excerpt, Emma put many Thai sentences on the website at one time. Chloe identified this as a problem and pointed out that Emma should not attempt to translate too many sentences at one time because it would be difficult for the website to translate them (line 01).

Excerpt 4.13. The students discuss using a translation website (35:00-35:12)

- 01 **Chloe:** มึง เขียนทีเดียวมันจะแปลลำบาก
Hey. If you type too many sentences, it will be difficult ((for the translation website)) to translate.
- 02 **Emma:** เหรอ
Is that so?
- 03 **Chloe:** อืม ต้องพิมพ์ทีละประโยค
Yes. Need to type one sentence at a time.
- 04 **Emma:** เเค ทีละประโยคก็ได้
Okay then. One sentence at a time.

In Excerpt 4.13, Chloe not only demonstrates her awareness of the limitations of the software they are using to translate their ideas from Thai to written English; she also displays her knowledge of different semiotic resources of English and Thai. One difference between writing in English and Thai, in addition to what was discussed in Section 4.3.2, is the different resources for framing. English has punctuation marks as framing devices to indicate the (dis)connection of its units (e.g. a full stop and question mark). Thai relies on space as its framing device. It does not have an obvious boundary of a sentence; it can go from one sentence to another (Thep-ackrapong, 2005). Therefore, typing multiple sentences in Thai into a translation website can result in inaccurate English translations and affect the meaning being represented.

Chloe then suggests a solution drawing on her knowledge. She shows awareness of how to effectively utilise the affordances of the translation tool to make signs in the mode of writing in English by advising Emma to input one sentence at a time (line 03, Excerpt 4.14). This excerpt shows not only the students' agency in how they used technologies for making signs but also Chloe's awareness of the tool's limitations and her solution, which improved the group's effectiveness in conveying meanings through their signs.

Excerpt 4.14. The students discuss adding an '-s' to their product name (05:10-05:23, Zoom recording of poster composing1)

- 01 **Emma:** เราต้องเติม s ตรงคำว่า eye ไหมอะ
Do we need to put -s to the word eye?
- 02 **Chloe:** น่าจะไหม มันมีสองอันอะ ต้องเติม s แลอะ
I think so. There are two of them. I think we must add -s there.

During the poster composing process, Emma noticed that the product name “EYE ON AI” lacked an ‘-s’ (Excerpt 4.14). Recognising this as a semiotic problem, she asks the others whether they should add an ‘-s’ to the end of the word “EYE”. Chloe, also recognising this issue, proposes a solution, insisting that they must add an s because “there are two of them” (line 02, Excerpt 4.14). As Chloe responds immediately, the solution and reason she provides suggest that she used her existing knowledge to solve the problem. Although it is not very clear from the context whether “two of them” refers to contact lenses that generally come as a pair or the fact that people have two eyes, the excerpt revealed the reason behind the students’ sign making, namely, to make signs based on the real world rather than on their imagination. This analysis highlights the students’ existing semiotic awareness of the written sign and its meaning, as well as their underlying intention to revise the signs to better represent their intended meaning.

4.7.1.1.2 *Semiotic Problems Related to Aesthetic Needs*

The students expressed only one instance of noticing semiotic problems that related to aesthetic needs. During the poster designing, they drew upon graphic resources of writing to design their product and company name. Figure 4.8 and Excerpt 4.5 in Section 4.4 provided evidence of the students’ intention to replicate the design of GOT7’s logo and their album name by using the same fonts. However, Excerpt 4.15 underscores their dissatisfaction with the fonts available in Google Slides. The students perceive the fonts as too simple and inapt semiotic resources for their company name. Chloe, therefore, proposes a solution by introducing an external resource (line 04, Excerpt 4.15). She introduces a website which provides more font options. In addition, in the interview, when the students were asked about what they (dis)liked about the poster in the interview, Chloe provided a reason that the fonts available in Google Slides were “not right” for their poster (Chloe, interview).

“Some fonts in Google Slides look okay, but they are not right for our poster. So, we look more fonts from other places” (Chloe, interview, 1 December 2020).

Excerpt 4.15. The students discuss a website for designing fancy letters (1:05:18-1:05:35, Zoom recording 1)

01 **Chloe:** อักษรนี้มันดูธรรมดาไป

This font is too simple.

02 **Minny:** เหมือน font นี้ถ้าเกิดไปทำในแอปอื่นๆ น่าจะง่ายกว่าปะ

Will it be easier if we use other Apps for the fonts?

03 **Emma:** มันจะมีให้เลือกเยอะกว่า Google slides รึเปล่า

Will it be more options than Google Slides?

04 **Chloe:** ฉัน เคียวฉันพยายามส่งลิงค์ไอ้ที่อยู่ มันเป็นเว็บเลือก font

I'm trying to send you a link. It's a website for choosing font.

(1:06:28-1:06:50, Zoom recording 1)

05 **Chloe:** เนี่ย ลิงค์ font แบบ พอเราพิมพ์ไปแล้วเราก็ไปก๊อปมาวาง เพื่อนอยากได้ตัวหนังสือแบบไหนกัน

Here it is. The link for fonts. It's like we just type [words] in and then we can copy and paste [on our poster]. Which fonts do you like?

06 **Emma:** เอ้า ดีจังวะ ทำไมใช้ง่ายแบบนี้

Oh. So cool. How easy to use!

4.7.1.2 Decisions Borrowed from other Resources

Among the instances of semiotic awareness found from the analysis, GOT4 students expressed their awareness of recognising the designs from other sources as apt to be used in their sign making. The analysis found that they most frequently borrowed the designs from other sources in their multimodal composing. The instances of borrowing designs were divided into three sub-categories according to how the borrowed designs were used: 1) taken as is, 2) taken with modifications, and 3) taken as symbols.

4.7.1.2.1 'Taken as is'

When the students borrowed designs from other resources, they perceived the signs or signifiers as apt and took them as is, i.e. without making modifications. In the presentation, for instance, the speech “We are one. The future is yours” at the end of the presentation is the company slogan, which was borrowed from two different sources (Table 4.4, Section 4.5). In Excerpt 4.16, Emma, who suggested adding these two sentences to the presentation, reveals the origins of the ideas.

Excerpt 4.16. Sources of the company slogan (58:25-58:35)

- 01 **Emma:** The future is yours. กูได้มาจาก Bambam กับ Lisa ส่วนอี We are one. ได้มาจาก Exo ลอกเค้ามาหมดเลย (หัวเราะ)
The future is yours. I got it from Bambam and Lisa. For We are one, I got it from Exo. Just copy and paste all of them. (laugh)
- 02 **Chloe:** บอกแล้วงานเราก็อปเกรด A
I told you. Our work is an A replica.

In line 1, Emma reveals that “We are one.” is the slogan of a Korean band called EXO, referring to the unity among its members and fans. “The future is yours” was a slogan presented in one advertisement by AIS, Thailand’s largest telecommunications and digital service company, in a campaign introducing the newest technology (5G mobile networks) with Bambam and Lisa as the presenters. Bambam is a Thai member of GOT7, and Lisa is also a Thai member of a Korean band, Blackpink. Although the students did not explicitly state why they decided to use these sentences as their slogan, their decision reflects a strong interest in Korean pop music and in mixing resources from different countries in their multimodal composing.

Moreover, other borrowed design decisions further highlight the students’ interest in using sign and signifiers from different countries, especially Korea. In addition to the slogan, the students adopted a GOT7 song in the presentation (Section 4.5). Although the lyrics are Korean, Chloe reported that she was aware of the lyrics’ meaning and they decided to use the song because the meaning (looking at me) relates to their product (contact lenses) (Chloe interview, Section 4.5). Furthermore, to greet the audience, the students used speech in Korean, saying “Annyeonghaseyo” (meaning hello) and performed different gestures that resembled greeting gestures in China and Western countries (Section 4.5). The students also borrowed media discourse from Thai ads, which will be discussed next.

4.7.1.2.2 ‘Taken with modifications’

Besides taking the borrowed designs ‘as is’, the students most frequently engaged with the borrowed design and subsequently made modifications to it when making their own signs.

One example of this was when the students used the introductory sentence provided in their handout as a resource for making their own signs in the draft (Section 4.3.2). Section 4.3.2 revealed how the students replicated the example sentence in the handout along with their discussion regarding the structure of the sentence and the meanings being made in different parts of the structure (Excerpt 4.4). The students identified parts of the sentence that

represented ‘a company name’ and ‘a product name’. They decided to cut the company name and modify the sentence to make apt signs that represent their company and product.

Relatedly, there was evidence of students’ semiotic awareness in their interview data. When talking about how they chose the name of the company, Chloe revealed that their group name was inspired by a Korean pop group, GOT7 (Chloe, interview). Since their group consisted of four members (not seven), the students adjusted the number from ‘7’ to ‘4’ to represent the actual number of the group members.

“Our group name, GOT4, was inspired by GOT7. We have four members”. (Chloe, interview, 1st December 2020)

The analysis of the poster found that the students used an image found on Google to represent their product and made some adjustments. According to Emma, the borrowed image - an eye wearing a contact lens with digits and white lines - perfectly aligned with the mental image she had in her mind (Emma, interview, Section 4.4.2). Relatedly, Chloe mentioned that she modified the image by adding white lines to impart a more advanced technology appearance (Chloe, interview, Section 4.4.2). Thus, the interview data is evidence of Emma’s and Chloe’s awareness in recognising the digits and white lines as signifiers for the concept of advanced technology.

As mentioned above with regard to borrowing signs from different countries, the students also borrowed ideas from their out-of-class experiences with Thai media to design a video clip reviewing their product. In Excerpt 4.17, Emma suggests following the structure of a TV Direct advertisement. TV Direct is a Thai direct marketing company widely known for direct response television (DRTV) advertising since 1999.

structure. This is evidence of their existing semiotic awareness of the discourse structure of TV Direct ads, which they adopt by borrowing the same sequence and then create new content following the same structure to represent their product.

Table 4.11 Sequences of the content in the students’ review video

Line	Min: Sec	A brief description of the content	Screenshot
1	00:00-00:13	Introducing herself as a customer	
2	00:14-0:47	Stating the first problem: the necessity to change eyeglasses frequently to suit her changing eyesight.	
3	0:48-0:58	Stating the second problem: being unable to see her friends clearly from a distance.	
4	0:59-1:16	Wearing Eyes on AI contact lenses and the problems solved. (see more details in Figure 4.21)	

4.7.1.2.3 Taken ‘as symbols’

The last subcategory of the instances of existing semiotic awareness where the students borrowed designs from other resources is ‘taken as symbols’. The analysis in this section will present the instances when GOT4 noticed the relations between the signifier and

signified of the existing designs as symbols and decided to borrowed them to represent similar things.

For instance, when designing their company logo for the poster, the students recognised the Apple logo as an apt representation of a technology company, prompting them to borrow the design (Minnie and Emma, interview, Section 4.4.2). Instead of an apple, they opted for a banana for their company logo. This suggested that the students perceived ‘fruit’ as an apt signifier for a technology company. Additionally, in Excerpt 4.9, the students’ discussion about whether to put a bite mark on their logo demonstrates their existing awareness of the bite mark as a crucial element in Apple’s logo. Despite this awareness, they ultimately decided against including the bite mark due to concerns about the required time and effort.

Another instance is evident when the students discussed what to wear for the presentation. In excerpts 4.11 and 4.12 (Section 4.5), they displayed existing semiotic awareness of using clothes as symbols for certain occupations in the presentation. The discussion shows that the students perceived a lab coat as an apt signifier for a researcher and decided to wear it (Excerpt 4.11, lines 01 and 02). Moreover, the students saw a formal dress code (i.e. a suit and tie) as an apt signifier for a CEO (Excerpt 4.11, lines 03 and 06) and recognised a turtleneck and eyeglasses as a representation of Steve Jobs’ character (Excerpt 4.12, lines 01). While both clothing choices were dropped for practical reasons, the students decided for a CEO to wear a shirt. In line 04, Chloe expressed her existing awareness of how a shirt can be used to signify an office worker through her speech, “I also have a shirt. Wearing a shirt then. Like an officer worker” (Excerpt 4.14).

4.7.1.3 *Recognitions of how Modes and Semiotic Resources can be Used to Make Signs*

The final category of existing semiotic awareness is when the students demonstrated their recognitions of how modes and semiotic resources can be manipulated during the sign-making process to represent certain meaning or semiotic effects.

The analysis shows an instance when the students select the colour for the marketing phrase. They change the colour several times before reaching the final decision to use red because it made the phrase noticeable against the product photo (Excerpt 4.7, Section 4.4.1.1). Yet, when this happens, Chloe then mentions that the price is no longer foregrounded as it is also written in red (Excerpt 4.16). This appears to be why they

eventually used red in different shades for each written text, with a brighter red for the price and a darker shade for the marketing phrase. In this excerpt, Chloe not only demonstrates her awareness of how colour can be used to enhance the visibility of written signs, but also her practical application of this awareness.

Excerpt 4.16. Chloe shows her awareness of the affordances of colour (58:25-58:35)

- 01 **Chloe:** เราว่าเปลี่ยนเป็นสีแดงหมดเลยก็ได้ ((เปลี่ยนสี)) แต่มันจะไม่เด่นเลยอะ ราคา มันจะไม่ดึงดูดสายตา
I think we can change them all to red. ((changing the colour of the marketing and price)) But it's not outstanding. The price is like. It is not eye-catching.

4.7.2 Developing Semiotic Awareness

Developing semiotic awareness refers to instances where the students demonstrated their enlightenment on an issue related to signs and sign-making, implying progress towards greater semiotic awareness. The instances of developing semiotic awareness were divided into two main categories: 1) gaining of new semiotic knowledge from other participants, and 2) perceived developing semiotic awareness.

For the first category, while Excerpt 4.13 demonstrates Chole's existing semiotic awareness regarding the limitation of the translation tool, it also provides evidence for developing semiotic awareness from other participants. In line 02, Emma's response - "Is that so?" - suggests a degree of unawareness which then changes to a display of 'awareness' in line 4 when she utters, "Okay then. One sentence at a time", and in her subsequent behaviour as she follows Chole's advice. The conversation here suggests the development of Emma's semiotic awareness as she realises how to use the translation tool to make signs in English more effectively. In addition, when Chloe introduces a website to solve the problem, she displays and shares her existing awareness of how an out-of-class resource can be used to facilitate their sign-making. As a result, she has created an opportunity for another member, Emma, to access this website as a new available semiotic tool for their future sign-making.

The other instance involves the sign representing a currency. Chloe asks the others whether an 'S' with a middle dash is a sign that represents dollars (Excerpt 4.8 in Section 4.4.1.1). By replying "Yeah", Emma demonstrates her existing awareness of a sign that is used to represent dollars (\$) and, at the same time, confirms what Chole has asked. Therefore, Emma shares her awareness with Chole, indicating Chloe's developing semiotic awareness.

The second category is instances of perceived developing semiotic awareness. During the interviews, the students were questioned about the skills they believed they had developed through the multimodal composing project. Three students' responses implied progress towards greater semiotic awareness. Chloe mentioned that she learned new English vocabularies from her presentation script and which proved helpful for her final exam (Chloe, interview). Alice said she noted improvement in her understanding of verb usage and grammar (Alice, interview) and Emma mentioned she had been introduced to a new translation website that helped her write in English (Emma, interview). All of the students' perceived development in semiotic awareness was related solely to the modes of writing and speech.

“I’ve learned some new vocabularies that I’ve never known before. From the presentation script I memorised on that day. Many of them were in the final exam.”

(Chloe, interview, 1st December 2020)

“For me, I understood more about verbs and grammars. I can identify errors”.

(Alice, interview, 1st December 2020)

“I’ve got a new translation website to help me write in English”. (Emma, interview,

1st December 2020)

In summary, the analysis in Section 4.7 has illustrated instances of semiotic awareness the students displayed when engaging with the multimodal composing project. The most frequent observed instances involved borrowing design decision from other resources, as the students recognised and borrowed them, either with or without modifications, into their multimodal composing. In addition, a few instances showed the students' increasing semiotic awareness, especially through interactions with their peers. While the multimodal composing project was not specifically intended to enhance students' multimodal literacy, the analysis revealed that it offered opportunities for them to demonstrate, engage with, and develop semiotic awareness.

4.8 Chapter Summary

The analysis in this chapter has illustrated the complex process of L2 multimodal composing of the first case, GOT4. It has provided evidence for how the use and combination of modes allowed for greater expressiveness in communication and enabled individuals to convey nuances and subtleties more effectively. In addition, it has presented

a number of factors which shaped the students' sign making and their semiotic choices, demonstrating how transduction and transformation resulted in gains and losses in meaning across the three artefacts (draft, poster, presentation). Moreover, by engaging with multimodal composing, GOT4 displayed their existing semiotic awareness especially for borrowing designs from various sources, and their developing semiotic awareness as they co-designed the artefacts in collaboration either guiding or confirming each other's practices.

The next chapter presents the second case - Pungpuriyé. In contrast to GOT4, this case used fewer variety of modes, predominantly relying on writing and speech despite having opportunities to use and integrate multiple modes during their multimodal composing activity.

Chapter 5. Pungpuriyé Group

5.1 Introduction

While multimodal composing invites students to orchestrate semiotic modes to represent their ideas (Kress, 2010; van Leeuwen, 2004, 2022), the analysis here shows that Thai EFL students do not always combine other modes with speech or writing. To understand how Thai EFL students compose multimodally, this chapter reports on the data from the second case, i.e. Pungpuriyé. This is the group that used and combined the lowest number of different modes in their multimodal texts despite being encouraged to be creative and utilise multiple modes in their composing.

Section 5.2 provides contextual information with a case description. Sections 5.3 to 5.5 present an analysis of RQ1, i.e. how modes and semiotic resources were used in the students' multimodal texts and potential reasons behind the students' semiotic choices. Section 5.6 focuses on the transduction and transformation of signs across the three texts, investigating gains and losses in meanings (RQ2). Section 5.7 presents instances of semiotic awareness (RQ3).

This chapter will present analyses that led to the following findings:

- 1) The students relied heavily on writing in the draft and speech in the presentation while combining multiple modes in the poster. The combination of modes facilitated the students in expressing fuller details of the product. However, their choice of relying on speech alone constrained their meaning potential in the presentation.
- 2) Remaking signs allowed the students to refine the signs and meanings, such as making them more salient with different configurations of modes and semiotic resources, increasing the quantity of the signs, and using visual modes. Moreover, there were always gains and losses in meanings from various factors, for example different logics of modes, writing space constraints, material differences (i.e. the actual poster and the poster shown on the projector), proficiency in a mode of speech in English, and opportunities to access other signs from gestures and drawings.

3) Although they used fewer modes in their multimodal composing, this group still demonstrated instances of semiotic awareness. However, in contrast to the first case (see Chapter 4), there were fewer instances overall and most of those instances related to how specific drawings could be used to represent certain meanings. In addition, a few instances of a lack of semiotic awareness that affected the students' meaning potentials are also presented.

5.2 Description of the Focal Case 2 – Pungpuriyé

This section provides a context of the second focal case. The second case is the group Pungpuriyé [pʌŋpurije'], consisting of one female (Ava) and three male students (Niko, Oliver, and Zane) (Figure 5.1) from the School of Engineering. Similar to the first case, the students talked to each other and discussed the work primarily in Thai when composing each text.

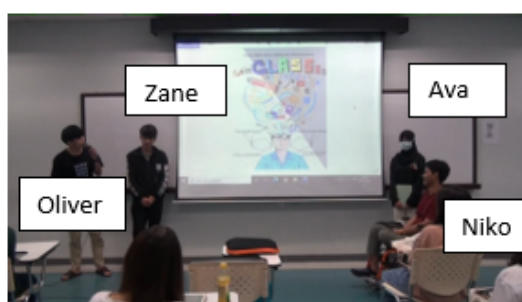


Figure 5.1 Pungpuriyé group members and their pseudonyms

From the background questionnaires' responses, the students generally participated in many kinds of technological activities, such as using messenger applications and social media and studying online. All of them were confident in using technology for communication, but only Ava and Oliver felt confident using technology for graphic design (Table 5.1).

Table 5.1 The students’ perceived ability to use technology for communication and graphic design (background questionnaire items 7 and 8)

Pseudonyms	Using technology for communication	Using technology for graphic design
Niko (M)	capable of teaching others	beginner and needs support
Ava (F)	confident on her own	confident on her own
Oliver (M)	capable of teaching others	capable of teaching others
Zane (M)	confident on his own	beginner and needs support

In terms of modes of communication, unlike the first case, only one student (Zane) preferred to use writing with other modes when communicating with others in everyday life ‘for enjoyment’. The other three said they preferred to use solely writing because they believed that “writing can better express emotions and convey meaning” (Oliver) and “[writing] is easy to use for communication” (Ava) (questionnaire items 2.1 and 10.1). Niko and Oliver similarly reasoned: “Writing conveys clearer meaning” and “for emojis and images, sometimes we don’t understand their meaning. So, we may not understand some jokes or trendy memes.” These answers suggest that they perceived writing as a primary tool for communication because it provides a clearer meaning and is an easy tool for communication.

Moreover, the students had different experiences with Thai and English writing. They used Thai writing alone in formal situations, such as when communicating with teachers or acquaintances and for some topics that need formality and seriousness (questionnaire item 3), as with the first case. For Thai writing in combination with other modes, Zane said he used multiple modes for in-class presentations. Ava used Thai writing with Malay speech at home, and Oliver and Niko used multiple modes when communicating with friends (questionnaire item 4). Niko also used other modes to “increase vividness in communication and used emojis to emphasise the meaning expressed by writing”. However, the students had limited experience of English writing, either alone or in combination with other modes (questionnaire items 9 and 10). All of them reported that they used English writing mostly in the classroom context and when required by teachers. Oliver said he had “never used English writing with other modes”, while Ava “rarely used multiple modes and only used them for classroom purposes.” Only Zane and Niko used English writing with other modes. While Zane used a combination of modes when

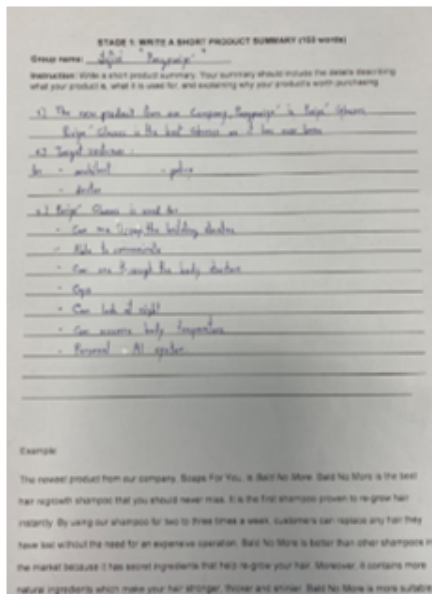
travelling aboard, Niko used them to create funny memes and, for him, meaning expressed in a written text is emphasised by image.

Overall, these responses indicated that the group members were familiar with and preferred to use writing as the main communicative mode, either in Thai or English. They seemed unaware of how modes beyond writing could be used to make signs, except for Niko and Zane. Although Niko expressed his awareness of using other modes, such as using emojis to emphasise meanings represented in writing, for him, writing provides a clearer meaning than images and emojis. Also, Zane used other modes for enjoyment and combined them with writing in English when required. Thus, for Niko and Zane, it can be assumed that other modes are seen as supplementary to writing.

The following sections will illustrate how the students designed their multimodal texts, what modes and semiotic resources they used, how they were used, and the potential reasons for the students' semiotic choices. Section 5.3 will present the analysis of the mode of writing and resources that facilitated the students' sign-making in the handwritten draft (i.e. out-of-class experiences and teacher provided resources). Section 5.4 will focus on the poster, highlight how graphic resources of writing were used for making signs salient and framing the signs, how the students designed their drawing to represent the product, and the ways layout was used to organise the signs' values. Section 5.5 will turn to the presentation presenting the employment of speech, gesture, and gaze to open the presentation and introduce the product, and the modes of speech and gestures to present one product function.

5.3 The Use of Modes in the Handwritten Draft

The first text of the multimodal composing project was composed in class. The students wrote a draft of the product description on a given handout. Their designed product was a pair of multi-functional glasses called Puriyé Glasses.



Group name: ព័ង្សុរិយ៉េ “Pungpuriyé”

1.] The new product from our Company, Pungpuriyé is Puriyé Glasses.

Puriyé Glasses is the best Glasses as it has ever been.

2.] Target costumer :

for - architect - police
- doctor

3.] Puriyé Glasses is used for

- Can see through the building structure.
- Able to communicate
- Can see through the body structure
- Gps
- Can look at night
- Can measure body temperature.
- Personal AI system. [sic]

Figure 5.2 Pungpuriyé’s handwritten draft and the transcript

5.3.1 Writing: Main Functional Load, Numbers, Dash, and Space for Listing

Similar to the first case, their modal choices can be influenced by the task instruction, the design of the handout, the example provided, and their previous experiences with English learning activities. In this case, writing also carries the main functional load, representing all the product details in the draft (Figure 5.2). However, Pungpuriyé drew upon the semiotic resources of writing in a different way from the other groups and the example in the handout. While the horizontal lines in the handout afford space for writing, they do not confine the students to writing only in paragraph format.

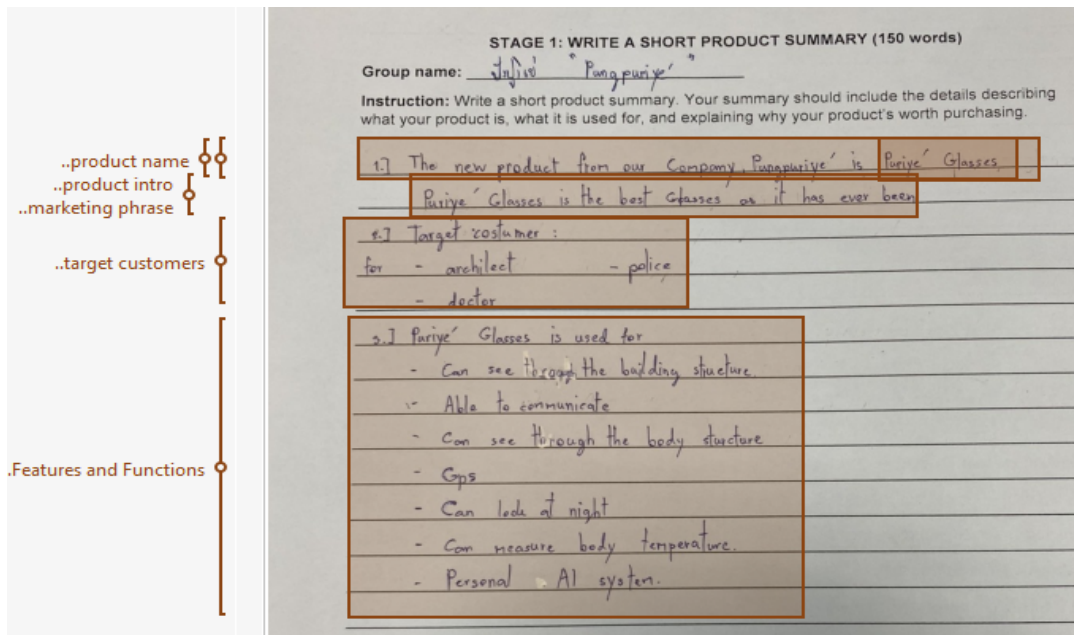


Figure 5.3 Topics represented in the draft

In the draft, Pungpuriyé not only made use of lexis, grammar, and syntax; they also used numbers and other symbols to categorise and list their product details through words and phrases instead of producing a paragraph. The draft consists of sentences, phrases, and keywords representing product introduction, product name, marketing phrase, target customers, features, and product functions (Figure 5.3). The product details were grouped and divided using *numbers and other symbols*. Numbers have meaning potentials. For example, in some countries, numbers 3 and 7 are used to signify ‘sacredness’ and ‘luck’, while the number 13 is often associated with ‘misfortune’ (Menninger, 2013). However, in this case, numbers were used together with dots and square brackets for listing. Using a number with a dot and/or a parenthesis for listing is common in Thailand. Although the square bracket is not commonly used for listing, the sequence of the symbols indicates that they were used as a framing device to group the product details into three main topics: 1) product introduction, 2) target customers, and 3) product features and functions (Figure 5.3).

Excerpt 5.1. Students discuss the product's benefits (14:37-14:49)

- 01 **Niko:** รู้ละ คือข้อดีต่างๆ นานา ไร่ปะ
I know. About benefits of the products.
- 02 **Zane:** อืม
Yeah?
- 03 **Niko:** คือ เขาเยอะๆ ไร่ก่อนปะ ซึ่งข้อดีเยอะ เราสามารถที่จะแบ่งกันพูดได้เยอะขึ้น
It's like. Should write a lot? like the more the benefits ((we can think of)), the more each of us can talk about ((during the presentation)).

In addition, the students used *dashes and spaces* to list the details of the second and third main topics. The second topic is the target customers (Figure 5.3). They made use of indentation to indicate the subtopics and dash to list three careers as their target customers: architects, the police, and doctors. For the third topic, the students also used indentation and dashes to list the product's seven features and functions. The recording reveals one potential reason that influenced the design of the students' writing. In Excerpt 5.1, they discuss how many product functions they should write down. Niko suggested writing as many as possible to have enough content for the upcoming presentation (line 03). This might be one potential reason that shaped how the students designed their draft, i.e. listing instead of writing a paragraph. Possibly, by listing English words and phrases, the students did not have to worry much about producing sentences with correct grammar, so they could focus on generating ideas as they wished.

5.3.2 Resources Facilitating the Students' Sign-making

Out-of-class experiences

The audio recording of the composing process reveals that the students' out-of-class experiences shaped how they designed their product name. They initially proposed several possible names - 'Magic Glasses', 'Electronic Glasses', and 'Electronic Versatile Glasses' (Excerpt 5.2, lines 01-04). These options suggest that the students aimed to design names that represent the product's key characteristics. However, these names were rejected as 'lame' (line 04). Then Niko proposed a new name which was agreed on (Excerpt 5.2, line 05). He talked about Google Glass, pointing out that the name was taken from the company name and suggested doing the same. He proposed the name 'Puriyé' [purije'] (line 07), shortened from Pungpuriyé, their group and company name. The product name 'Puriyé Glasses' does not represent any key characteristics of the product, but it does signify a connection between the product and the company. Niko's out-of-class experiences with the

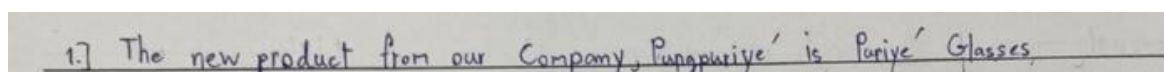
product name ‘Google glasses’ had thus shaped the students’ sign-making to represent their own product name.

Excerpt 5.2. The students discuss the product name (07:28-09:45)

- 01 **Zane:** ไม่ต้องแบบตั้งชื่อว่าแว่นตา x-ray ดีปะ เอาแบบ [แว่นตา]
I think we don't have to name the glasses X-ray. What about [glasses].
- 02 **Niko:** [แว่นตาวิเศษ] ไม่ใช่ (หัวเราะ)
[Magic glasses] No. (laugh)
- 03 **Ava:** แว่นตาอิเล็กทรอนิกส์ (หัวเราะ)
Electronic glasses (laugh)
- 04 **Zane:** แว่นตาอิเล็กทรอนิกส์ อเนกประสงค์ ชื่อโคตรลาวอะ (หัวเราะ)
Electronic versatile glasses. The names are so lame. (laugh)
- 05 **Niko:** รู้ละๆ แว่นตา x-ray มันเป็นแค่นิยาม แต่ว่าเราต้องเอาชื่อตัว product แบบ Google Glass มันก็เป็นชื่อบริษัทใช้ปะ แล้วของเราอะ ชื่อกลุ่มเราอะปึงปิริเยใช้ปะ ก็แว่นตาแบบ
Ah. I know. X-ray Glasses is just like a description, but we need to think of the product name. Like Google Glass. It's a company name, right? So, for us. Our group's name. Pungpuriyé, right? The ((name of)) glasses would be.
- 06 **Zane:** ปึงปิริเย (หัวเราะ)
Pungpuriyé (laugh)
- 07 **Niko:** Puriyé Glasses เอามะ
What about Puriyé Glasses?
- 08 **Zane:** เอาดี เอาเลย
Sure.

Teacher-provided resources

Similar to the first case, these students also perceived the introductory sentence provided as the example in the handout as an available resource for making their signs.



1.7 The new product from our Company, Pungpuriyé is Puriyé Glasses.

Example:

The newest product from our company, Soaps For You, is Bald No More.

Figure 5.4 Product introduction in the draft and example

In Figure 5.4, the introductory sentence, “The new product from our Company, Pungpuriyé is Puriyé Glasses”, differ slightly from the example - “The newest product from our company, Soaps For You, is Bald No More” - provided in the handout. Both sentences start

by introducing the new or newest product from the company and end with the product name. The only differences between the two sentences are the words ‘new’ and ‘newest’, the use of commas, and the company and product names, which were replaced with the students’ product information.

The different word choice affects the meanings being represented. When the students replaced ‘newest’ with ‘new’, the implication that the company has more than one product no longer exists. However, the concept of newness is still represented in the students’ introduction. Moreover, using one comma instead of two creates ambiguity in the students’ sentence (Figure 5.4). In the example, the use of two commas makes ‘Soaps For You’ an appositive and clearly signifies it as the company name. In the students’ introduction, they used one comma between the words ‘Company’ and ‘Pungpuriyé’. The position of the comma separates the sentence and affects the meaning of the word ‘Pungpuriyé’. Instead of being a company name, the word ‘Pungpuriyé’ now signifies ‘Puriyé Glasses’. The students’ sentence, “The new product from our Company, Pungpuriyé is Puriyé Glasses”, can mean ‘Pungpuriyé which is Puriyé Glasses is the new product from our company’.

Excerpt 5.3 The students identify parts of the introductory sentence in the example (14:05-14:30)

01 **Ava:** อันนี้ชื่อบริษัทเปล่า

Is this the company name?

02 **Niko:** is Puriyé Glasses

03 **Ava:** อ้อใช่ ส่วนไอ้ Bald No More นี่น่าจะเป็นชื่อสินค้า

Ah. It is. And this one, Bald No More, must be a product name.

The students’ use of the example product description is further evident in the recording of their composing process. Excerpt 5.3 shows them discussing the meaning made in the example sentence. Ava and Niko attempt to identify parts of the example sentence. Ava seems uncertain about which proper name, ‘Soaps For You’ and ‘Bald No More’, was used as the company or product name in the example sentence. She asks, “Is this the company name?”. Her question is left unaddressed (line 01). Niko’s speech in line 02, “Is Puriyé Glasses”, suggests he is paying attention to the product name, but it is not a response to Ava’s question. Then, Ava figures the answer out herself, saying “Ah. It is.” in line 03. She now identifies ‘Soaps For You’ as the company name and its position in the example sentence. Line 03 suggests that Ava feels confident as she concludes the other proper noun, saying “This one, Bald No More, must be a product name”. Both the proper nouns in the

example's sentence were then replaced with the students' company and product names. Considering the students' discussion and their sentence, it is apparent that they made use of the teacher-provided resources to create their own introductory sentence.

To summarise, Pungpuriyé used writing as the main mode to represent the product details in the draft, similar to the first case. However, they configured semiotic resources of writing to make signs in a different way. Instead of writing a paragraph, as in case one, they used numbers, spaces, and dashes together with phrases and keywords to list their product details. Their design decision appeared to come from their concern about the amount of content for the presentation; thus, they preferred to list as many ideas as possible. Similar to the first case, the students made use of in-class resources (i.e. the example provided) to facilitate their sign-making process while also drawing upon their out-of-class experiences.

5.4 The Use of Modes in the Poster

Section 5.3 analysed the use of modes in the draft. This section investigates the use of the modes in the poster. Similar to the first case, the students' modal choices were not constrained by the programme's available templates as they designed on a blank slide. Their modal choices and text designs were shaped by the task instruction requiring them to include writing, the sample poster featuring images and writing with varied font types and colours, and the assessment criteria emphasising the accuracy of their writing while promoting the use of multiple modes and creative design for effective communication.

In terms of the modes, Pungpuriyé used writing, visual, and spatial modes to represent their products, similar to the first case. However, instead of using existing images from the Internet, the students decided to draw their own product photo (Figure 5.5). Overall, writing and image are the primary modes representing the product details; they were complementarily and concurrently combined, providing fuller details of the product. The analysis in this section starts from the context of the students' composing process, followed by the social semiotic analysis of how writing, drawing, and layout were used in the poster (Sections 5.4.1 to 5.4.3).

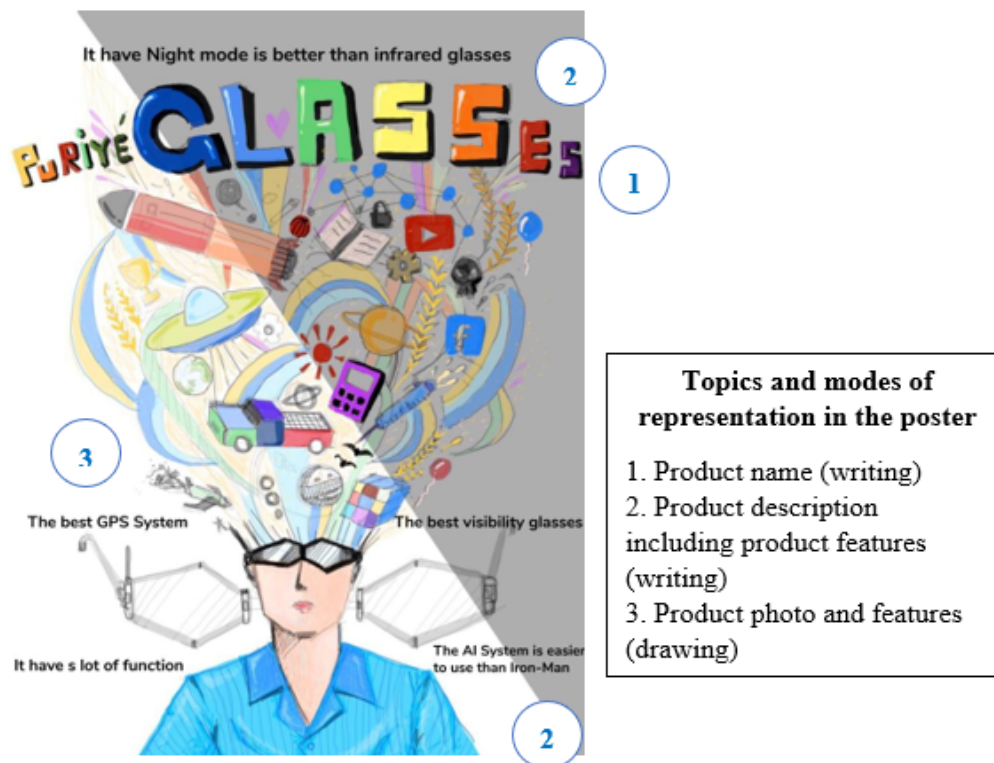


Figure 5.5 Topics and modes of representation in the poster

Unlike the first group, Pungpuriyé met twice to design the poster, once online and once offline. The first meeting happened online on Zoom to generate ideas for the poster's style and choose a product photo. Although the students were encouraged to work online because of the university policy during COVID-19, the second meeting happened offline. It was found from the first meeting recording that they wanted to draw their own product, and Zane suggested meeting physically (Excerpt 5.4). For the second meeting, one student opened a Zoom meeting using his laptop, showing a shared screen of their Google Slides page. However, the process of Zane's drawing could not be captured because he used an iPad to draw the product on a different application. Therefore, Zoom was able to record only their discussion during the drawing process. After they finished drawing, they pasted the image on Google Slides and started working on the design of the poster, making it possible for Zoom to record their working process on the shared screen.

Excerpt 5.4. Zane suggests meeting in person for the second meeting (1:02:28-1:02:33, Zoom recording 1)

01 **Zane:** ต้องแบบได้นัดมารวม ได้นัดมาเจอกันอะ แล้วแบบมาใช้ไอแพดนี่จวาดไว้จี้

It's like. We need to meet up. Meet physically. Then, drawing with an iPad.

5.4.1 Writing: The Main Functional Load, Salient Sign, Framing Devices

In the poster, writing is used to represent the product name and product description (no. 1 and 2 in Figure 5.5). The product description consists of three sentences and two phrases. Despite typos and grammatical mistakes, most students' phrases and sentences conformed to conventional rules of English grammar (e.g. SVO order and adjectives before a noun); thus, their writing was able to represent the product features and functions as intended (Excerpt 5.5).

Excerpt 5.5. The students discuss the product features (0:13:48-0:14:50, Zoom recording 2

- 01 **Niko:** มี GPS ดีกว่าดาวเทียม ต้องขยายความด้วยนะว่าทำไมถึงดีกว่าดาวเทียม เพราะว่าเรามีดาวเทียมของเราเอง
Having a GPS is better than a satellite. We need to explain why it is better than a satellite too. It's because we have our own satellite.
- 02 **Niko:** สามารถเห็นในที่มืดได้ดีกว่าแว่นอินฟราเรด แว่นที่ดีที่สุดที่เคยมีมา มีฟังก์ชันที่มากที่สุด
Can see in the dark better than infrared glasses. The best glasses as it's ever been. It has the most functions.
- 03 **Niko:** ระบบ AI ที่ใช้งานง่ายกว่า Jarvis (หัวเราะ)
AI system that is easier to use than J.A.R.V.I.S. (laugh)
- 04 **Niko:** เป็นแว่นสายตาที่ดีที่สุดก็หมายความว่า สามารถใช้ได้กับทุกสภาพสายตา
The best glasses meaning it can be used with every eyesight.
- 05 **Oliver:** เป็นแว่นสายตาที่ดีที่สุด
The best eyeglasses.
- 06 **Niko:** เออ เป็นแว่นสายตา
That's right. It's eyeglasses.

In excerpt 5.5, Niko and Oliver review the list of the product features to place on the poster: 1) a GPS (line 01), 2) a night vision mode (line 02), 3) having the most functions (line 02), 4) a user-friendly AI system (line 03), and 5) an eyesight adjustment feature (line 04-05). In the poster, the sentence 'The best GPS System' signifies that the product has the best GPS although the comparison with a satellite in line 01 was dropped. The sentence 'It have Night mode is better than infrared glasses' represents a night vision feature compared with infrared glasses as in line 02, and 'It have a lot of function' signifies the number of product functions, as in line 02. These signs can signify the first three product features, as the students discuss in Excerpt 5.5. The last sentence, 'The best visibility glasses', signifies that these glasses are designed to provide optimal visibility, which aligns with the students' intention expressed in lines 04 and 06 (Excerpt 5.5).

However, the last written text does not seem to clearly represent the students' intended meaning. The sentence 'The AI System is easier to use than Iron-Man' compares two things (the AI system and Iron Man) that are not in the same category. For this group, the students intended to represent the meaning 'their AI system is easier to use than J.A.R.V.I.S.' (line 03, Excerpt 5.6). J.A.R.V.I.S. is an AI system in the famous Iron Man comic and film series. However, the words 'Iron-Man' have several possible meanings, such as the name of the comic, the film series, the superhero, and the armour; none directly refers to the AI system J.A.R.V.I.S. This comparison causes confusion and ambiguity, forcing readers to interpret the sign and make sense of the meaning being expressed. This is similar to the analysis of the first case (see Section 4.4.1.1), when the faulty comparison caused confusion and ambiguity to the meaning being expressed.

5.4.1.1 *Graphic Resources and Positions to Make Signs Salient*

Similar to the first case (Section 4.4.1.1), the product name was the most salient among all the written texts in the poster through the use of graphic resources of writing and its positions (Figure 5.5). The product name is represented in the largest size in a top-centred position with colours that make it stand out (Figure 5.6). In Excerpt 5.6, Niko suggests using vivid colours to make it outstanding and noticeable (line 01). Zane agrees and paints the word 'Glass' in many colours. The students' attempt to make the product name outstanding and distinctive from the other elements indicate the saliency of the sign, suggesting that the product name is the most important element among the other written texts.



Figure 5.6 The product name in the poster

Excerpt 5.6. The students discuss the design of the product name (2:16:09-2:17:54, Zoom recording 2)

- 01 **Niko:** ต้องมีสีสดฉาดๆ ปะ มันจะได้แบบเด่นๆ สะดุดตา
Should it be colourful? So, it'll be outstanding. Noticeable.
- 02 **Zane:** เอาตรงไหนอะ เนี่ยก็เอาสีสดฉาดตรงคำว่าแว่นตา คำว่าแว่นตาจะได้เด่นสุด สีเข้มกว่าเพื่อน
Where do you want? See here. I use vivid colours with the word glasses ((on the poster, it is Glass)). The word glasses will be the most outstanding. Its colour is vibrant than the others.
- 03 **Oliver:** ต้องใส่ชื่อด้วยไหม ว่าชื่อแว่นตาอะไร ...
Should we put the name too? Like the glasses' name.
- 04 **Niko:** เออใช่ Puriyé ตัวใหญ่ๆ เลย ข้างบนอะ แต่มันทำไม่ได้นี่หว่า Glass ใหญ่ละ
Yeah, that's right. Puriyé with the large size. Above. But it can't. The word Glass is already big.
- 05 **Zane:** ไม่ทันแล้วอะ
It's too late.
- 06 **Niko:** เอ้ยเขียนผิดป่าว
Hey. Is it a typo?
- 07 **Zane:** เออออก ไม่มี -es แก้ว อย่างนะ
Oh. Right. There's no -es. ((it means)) glass. No.
- 08 **Oliver:** -es ตรงนี้ได้ปะทับไปเลย
Can we add -es here? Just overlay it.
- 09 **Zane:** เดี่ยวเติมตัวเล็กๆ ก็ได้ (หัวเราะ) ลืมเขียนต่อ
I'll add a small one here (laugh). I forgot to write it.
- 10 **Niko:** แล้วก็ข้างบนก็ Puriyé ใหญ่ ตัวเล็กๆ แต่ glasses จะใหญ่กว่า
Then add the word "Puriyé" above? Small size. But "Glasses" will be bigger.
- 11 **Zane:** Puriyé ด้านหน้าได้ไหม จะได้เท่ากัน
Can we add Puriyé at the front? To keep balance.
- 12 **Oliver:** เออใช่
Yeah. Right.
- 13 **Zane:** จะได้เท่ากัน เพราะเติม es มาเนาะ
It'll be balanced since we added -es.

The product name was designed as a slight arch, starting with the word 'Puriyé' in the smallest size, followed by the word 'Glass' as the biggest one and 'es' in a smaller size (Figure 5.6). The design here suggests the saliency of the word 'Glass', implying that 'what the product is' is more important than 'what the product is called'. However, the recording reveals that the students did not purposely design the product name this way. Lines 03 to 05 in Excerpt 5.6 show that, at first, there was only the word 'Glass' as the product name. When Oliver suggests adding 'Puriyé', Niko and Zane do not agree as there is no space left, and it is too late to add anything new now (lines 04 and 05). Nevertheless, what Niko says in line 06 makes a significant difference as he notices a typo. Zane then realises in line

07 that he forgot to add ‘-es’ after the word ‘Glass’. Thus, the students decide to add ‘-es’ and then add ‘Puriyé’ at the front to keep the symmetry between the product name and the horizontal space (lines 09 and 13).

5.4.1.2 *Graphic Resources and Positions as a Framing Device*

Pungpuriyé also configured graphic resources of writing and positions as framing devices to differentiate the product name and product description (no. 1 and 2 in Figure 5.5). While the students drew the product name and painted it with multicolours, they made use of available resources on Google Slides for the product description, selecting one font (Nunito in bold) and colour (black) for the representation. The different typefaces functioned as a framing device that not only differentiates the written texts and divides them into two topics but also groups the five sentences and phrases of the product description together.

However, the recording of the composing process revealed a different reason for the students’ design. The students are worried that if they draw everything, it might come out they have not produced the poster using Google Slides, as instructed by the task (Excerpt 5.7). That was the main reason why they designed their writing differently. Despite having no intentions, the different typefaces in the poster worked as a framing device that not only differentiates the written texts and divides them into two topics, and but also groups the five sentences and phrases of the product description together.

Excerpt 5.7. The students discuss whether to type the product name or draw it (25:39-25:59, Zoom recording 2)

01 **Niko:** เราต้องพิมพ์ปะ หรือว่าต้อง หรือว่าเขียนลงไปนี่เลย

Do we need to type it ((the product description))? Or. Or just write it.

02 **Zane:** พิมพ์เอาก็ได้

We can type it.

03 **Niko:** จะพิมพ์ไหม หรือว่า

Will you type it? Or.

04 **Zane:** พิมพ์ไหม จะได้ทำงานในนั้นด้วย เคียวอาจารย์ว่าเราไม่ทำงานในนั้นเลย

What about typing? So, we can work on that ((Google Slide)), otherwise, the lecturer may say we don’t work on it ((Google Slide)) at all.

5.4.2 *Drawing: The other Main Functional Load*

While writing was used to represent the product name as well as some of its functions and features, drawing represented further details. The students did not use images available on

the Internet, as in the first case; they drew a picture to represent the product's appearance and some of its functions.

Excerpt 5.8. The students discuss finding a product photo (0:12:06-0:12:37, Zoom recording 1)

- 01 **Niko:** เรื่องรูป product เอายังไงดี
What should we do with a product photo?
- 02 **Zane:** หารูปดีปะ แล้วค่อยเอามาแปะๆ
Searching ((on the Internet))? Then we can just paste it ((on the poster)).
- 03 **Oliver:** โหวกใหม่ แบบหารูปมาหนึ่งรูปแล้วโหวกกันว่าเอารูปไหน เสริชเน็ตเอาก่อน
What about voting? Like ((each)) finds one photo and then we vote for the one. Searching from the Internet first.
- 04 **Zane and Ava:** ได้้นะ
Okay.

Excerpt 5.9. The students mention drawing (Zoom recording 1) (0:41:42-0:41:46)

- 01 **Zane:** เริ่มอยากวาดเอาแล้วสิ
I start to feel like drawing instead.
(0:45:12-0:46:10)
- 02 **Zane:** ถ้าเราเปลี่ยนรูปแว่นตาได้จะดีมาก
If we could change the glasses, it would have been really good.
- 03 **Niko:** วาดเลยไหมละ
Should we draw then?
- 04 **Zane:** จริงๆ เราวาดได้้นะ แต่เราไม่มีไอแพดอะ
Actually, I can do it, but I don't have an iPad.
- 05 **Zane:** เราว่าเอ็งดีกว่าไหม วาดๆ แล้วทำในไอแพดเลยดีกว่า เราแบบนัดมาเจอกันแล้ววาดไหม เราวาดได้้นะ เคยไปแข่งอยู่
I think we can just draw it. Doing it on iPad. Should we meet up and draw? I can draw it. I used to join a drawing competition.

The data from the Zoom recordings shows that the students did not decide to draw from the beginning, but they started by searching for an apt image on the Internet (Excerpt 5.8). In line 03, Oliver suggests that each member find one photo from the Internet and vote for the one they like. After spending a considerable amount of time, they are unable to find one that matches their needs, and so they start to think about drawing. Zane mentions drawing (Excerpt 5.9, line 01) and shares his opinion about one of the photos, saying that it would be good if they could change the glasses in the photo (line 02). Thus, Niko suggests drawing

(line 03). Zane agrees and volunteers to draw. However, he does not have an iPad, so he suggests meeting up physically in the next session to draw the product photo (line 05).

The students' drawing was strongly inspired by one photo they found on the Internet. Ava finds one photo and pastes it on Google Slides. It is a fan-art poster from Ready Player One, a 2018 movie about a virtual reality technology that people use to escape from a dystopian world (Figure 5.7). It is a computer graphic of one person wearing glasses with many elements coming out of the glasses. Zane expresses his preference towards the photo, especially for the part where many elements come out of the glasses. He believes such a design can represent how much their product can do (lines 01 and 03, Excerpt 5.10). Niko agrees and suggests using the photo as a model to minimise time spent on drawing (line 04). Clearly, the students made use of the existing resource as an idea for their drawing's design and adapted the elements in the model photo to create a drawing that represents their product.

Excerpt 5.10. The students decide to draw (0:53:20-0:54:06, Zoom recording 1)

- 01 **Zane:** เราชอบสไตล์แบบของ Ava เป็นแว่นตาแล้วแบบ ออกมาเยอะๆ อะ
I like the style of the photo that Ava sent. Like glasses with a lot of things coming out.
- 02 **Niko:** ของตาอะหรือ
Ava's photo?
- 03 **Zane:** อืม มันคือสื่อคือว่าแว่นตาเราทำได้หลายอย่าง แล้วก็ถ้าแว่นตาเราทำอะไรได้บ้างเราก็วาดให้มันออกมาข้างนอกด้วย
Yeah. It's like it's conveying that our glasses can do many things. We can draw what our glasses can do.
- 04 **Niko:** ได้อยู่นะ งั้นเอารูปภาพนี้เป็นต้นแบบไปก่อนแล้วกัน แล้วค่อยไปวาดตัวโครงแว่นอีกรอบหนึ่ง มันก็จะใช้เวลาน้อยกว่า
Sounds good. We use this photo as a model. Then we can just draw a new design of glasses. It will take less time.
- 05 **Zane:** อืม ได้ล่ะ ลองดู
Um. Okay. We can try.

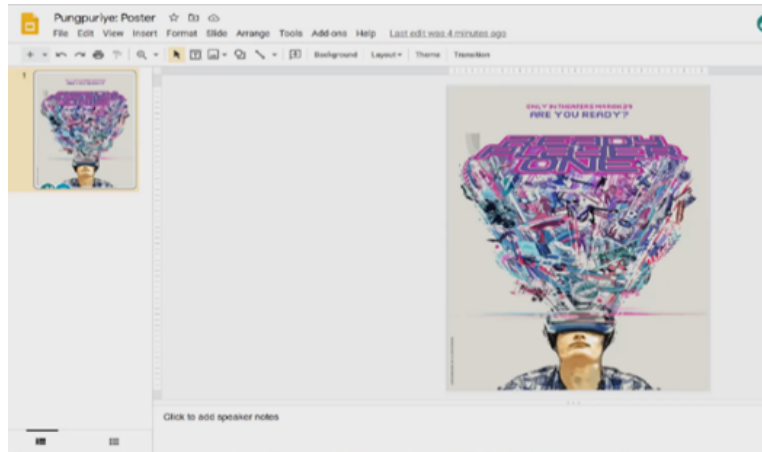


Figure 5.7 The photo used as a model for the students' drawing

The students' drawing can be divided into two parts: the lower part, representing the product appearance, and the upper part, representing the product functions and features (Figure 5.8). The lower part of the drawing, a picture of a person wearing glasses with hexagonal lenses, represents the product's appearance and also how it should look when used (no.1, Figure 5.8). It provides details about the product, such as the size of the glasses, the lens shape, the lens quality, and the frame thickness. Moreover, the students drew an enlarged sketch of their product, making it possible to see a very small detail of the product—the small antenna on the glasses. None of these details were represented in the mode of writing. The upper part of the drawing represents the product functions and features through various objects (no.2, Figure 5.8). This was also evident in the interview when the students were asked about the aim of their poster. Zane and Niko said that they designed the poster to represent various product functions and a connection to different careers (Zane and Niko, interview)

“For the poster, I want to represent the variation of glasses. Like it can do many things.” (Zane, interview, 9th December 2020).

“In the poster, we try to represent what the product can do and also to link the functions with different careers. Something like that.” (Niko, interview, 9th December 2020).

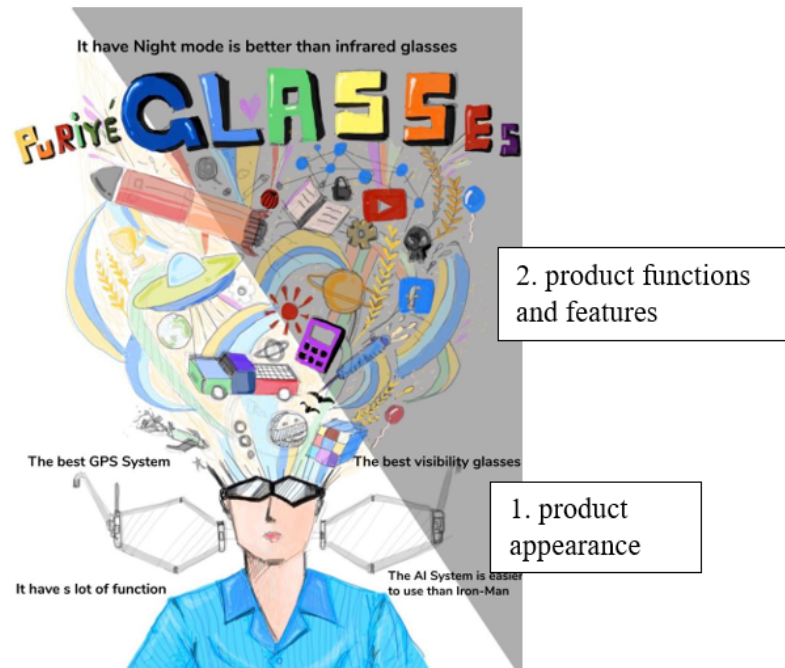


Figure 5.8 The students’ drawing with the topics represented



Figure 5.9 The elements that represent the product’s functions

While the students intended to represent the multi-functionality of their product by drawing many different elements above the glasses, when observed closely, only some of the drawings seem to be a clear representation of the product’s functions. For example, the Facebook and YouTube icons clearly signify that the students’ product can be used to access social networking platforms. However, the relationship between most elements,

such as the big red rocket, the colourful truck, the aeroplane, the UFO, the planets, the skull, and the bats, and the eyeglasses and its functions, is not clear.

Excerpt 5.11. The students discuss the drawing's details (0:21:27-0:21:57, Zoom recording 2)

01 **Zane:** เอารูปอะไรดี คิดไม่ออก

What should we draw? I can't think of any.

02 **Niko:** ก็มันทำอะไรได้บ้างก็ใส่ลงไป มีดาวเทียม มีโทรศัพท์ แล้วก็มือถือเน็ตเวิร์ค แล้วก็มืออะไรอีกอะ มี

ร่างกายคน คับไตไส้พุง มีโครงสร้างตึก

Just draw what the product can do. Satellite. Phone. Networking system. What else? Human body. Liver. Spleen. Intestine. Belly. Building structure.

However, the possible meanings of these signifiers can be guessed from the interviews and the Zoom recordings. In Excerpt 5.11, Niko suggests drawing what the product can do (line 02). He provides a list of things: satellite, phone, networking system, human body, liver, spleen, intestine, belly, and building structure. Although Niko does not explicitly state reasons for his suggestions, his interview points out that he wanted to represent the functions in relation to different careers. Considering the target customers and product functions the students wrote in the draft (Figure 5.3) together with the Zoom data, that the 'satellite' might represent the GPS feature, the 'phone and networking system' can signify the communication function, the 'human body and organs' may represent the see-through function for doctors and the 'building structure' could be for architects.

Excerpt 5.12. The students discuss drawing planets (0:37:24-0:37:40, Zoom recording 2)

01 **Niko:** เนี่ยวาดรูปโลก ดวงดาวต่างๆ นานา ดวงอาทิตย์ ดาวเสาร์ ดาวศุกร์ มันก็จะดูแบบว่าครอบจักรวาลนิดหนึ่ง

Draw a globe. Planets. The Sun. The Saturn. The Venus. It'll look universal.

02 **Ava:** อ้อ

Oh.

03 **Niko:** แสดงถึงความยิ่งใหญ่

Expressing greatness.

In Excerpt 5.12, Niko further suggests drawing many planets to represent greatness and universality. In the interviews, the students further explained their design decisions. For Niko, the UFO and aliens represent how advanced the product is, the book represents limited knowledge, and the trophy signifies that their product is the best of the best (Niko, interview). Zane, in addition, said that he drew the skull to make the poster 'look cool'

(Zane, interview). While Niko perceived the different elements as apt representations of the various aspects of the product, Zane saw a skull as an apt element to include in the poster for aesthetic purposes.

“It’s like. It’s so advanced beyond what exists on the earth. We have UFOs and aliens [in the poster]. It’s like the product can do so many things. It can be a networking system that connects to everything. It can be used to watch YouTube. It can connect to the Internet. Something like that. The book means limited knowledge. The trophy means the best of the best (laugh)” (Niko, interview, 9th December 2020).

“For the skull. It’s like. We just added to make ((the drawing)) looks cool.” (Zane, interview, 9th December 2020).

To summarise, the mode of image was used to represent the product appearance, functions, and features. Instead of using existing images, the students decided to draw a poster by themselves to better meet their representational needs. The analysis here has provided evidence of motivated signs, asserting that the students made signs according to their interests and what seemed apt to represent the meanings they intended to convey, for example a picture of a satellite as a signifier for a GPS. Additionally, it has demonstrated that while the students’ design decisions affected the meanings being represented, they were not always made with that specific intent, for example the product name’s design that highlights the product type.

The use of drawing and writing on the poster forms *complementary and concurrent relationships*. For the complementary relationship, writing was used to represent the product name and the product description, including three specific product features (a GPS, a night mode, and an AI system). Drawing represents the product’s appearance. It depicts how the product looks, represents the product when it is being used, and provides a close-up view of the product. Drawing and writing represent different aspects of the product which complement each other and result in nuanced layers of meaning compared to the use of solely writing. For the concurrent relationship, the written sentence, “It have a lot of function” and the other three sentences that represent the three product functions signify and highlight the multi-functionality of the product. Based on the students’ design decisions (excerpts 5.11 and 5.12), the drawing (i.e. the different elements above the glasses) was also used to represent multi-functionality. Combining the writing and drawing further

reinforces the other, highlighting the salience of the concept and making it the key product message.

5.4.3 *Layout: Drawing as the Gist, Writing as Marginal*

The arrangement of the elements on the Pungpuriyé poster also suggests a centre-margin structure, similar to case 1 (Section 4.4.3). In Figure 5.10, the product drawing (no.1) was placed in the middle while the written texts were placed around it (no. 2 and 3). The drawing is the largest element and takes up most of the space of the poster, suggesting the product drawing is the most salient element in the poster. In other words, the product features and product appearance represented in the drawing are more important and worth more attention than the product name and product description represented in writing. Moreover, the Zoom data provides clear evidence of a centre-margin layout of the poster. It shows the sequence of the elements placed on Google Slides. The students placed the drawing before the written texts and adjusted the location of the writing to avoid overlapping the drawing (Table 5.2).

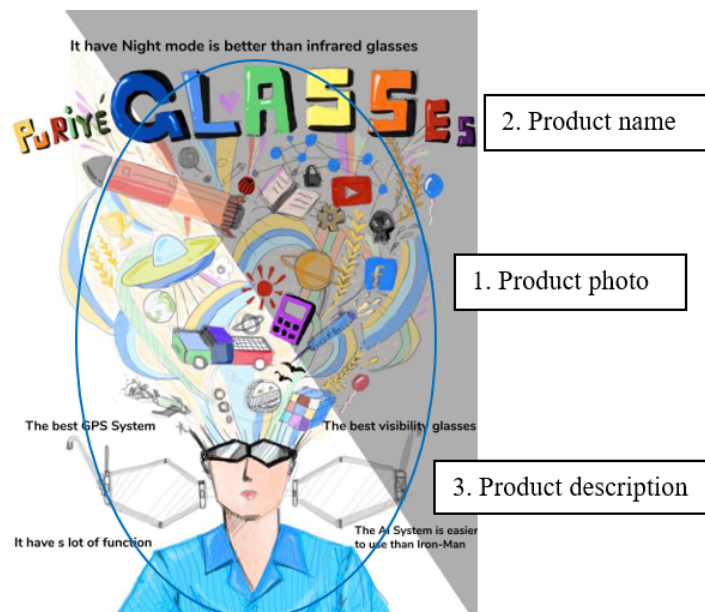




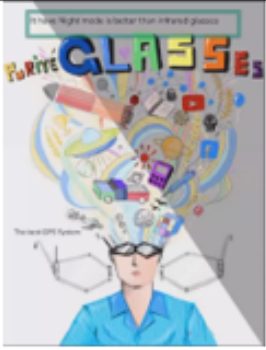
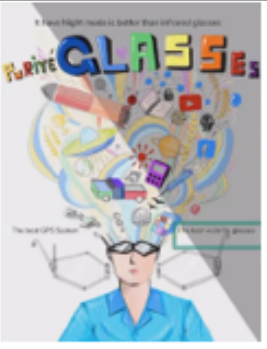
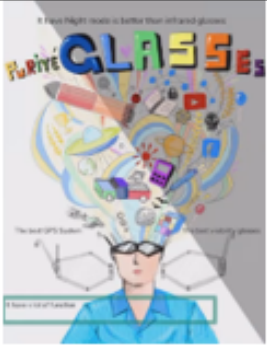

Figure 5.10 Layout of the poster

In addition, while the drawing represents the product features and appearance, the former is more salient. The product features represented in the drawing of different objects take approximately over two-thirds of the space and were located directly in the middle of the poster, while the product appearance was represented in the lower part of the poster. Being positioned in the centre signifies that the product features are the nucleus of the information.

The importance of the product features is also evident in the students' interviews, where they stated that they intended to represent the multi-functionality of the product and the connection to different careers (Zane and Niko, interview, p.16).

In short, writing and drawing were the primary modes used to represent different aspects of the product details in the poster. The poster's layout suggests the drawing was the gist and the writing was marginal. The combination of them complement each other, providing richer and more precise product details than a single mode alone. In addition, they also emphasised multifunctionality as the key product highlight.

Table 5.2 The students put different elements on the poster (Zoom recording 2)

Screenshot			
Timestamp (hr:mins:sec)	02:42:06	02:44:12	02:46:41
Element	Product drawing	Product description 1	Product description 2
			
Timestamp (hr:mins:sec)	02:48:30	02:49:32	02:51:37
Element	Product description 3	Product description 4	Product description 5

5.5 The Use of Modes in the Presentation

Section 5.4 presented the analysis of how writing, drawing, and layout were used in the poster. This section provides an overview of the presentation context and potential factors shaping students' modal choices. It then critically investigates the use of the modes.

Similar to the other group, the students' modal choices and their presentation designs can be influenced by the genre which necessitates the use of speech and provides a range of modes for meaning-making (e.g. speech, gestures, and 3D objects), the task instructions specifying presentation contents and encouraging the use of multiple modes and creativity, and the assessment criteria emphasising language accuracy and promoting modes integration for intelligibility. However, the students in this group relied heavily on speech although the in-class presentation task offered a wide range of modes and allowed students to be creative. This differed greatly from the GOT4 group, who performed a role play and incorporated various modes in their presentation (Section 4.5).

The students' decision to use speech was implicitly agreed upon among the group members during the planning session. Initially, Zane suggested bringing glasses to the presentation, but Oliver strongly rejected it (see Section 5.7, Excerpt 5.17). Afterwards, the students did not explore other multimodal options any further and focused on discussing speaking turns and contents for the presentation. Excerpt 5.13 shows when Zane and Oliver summarised their presentation preparation steps, involving solely speech: i.e. creating Thai scripts of their speech, putting them together, translating them into English, and finally memorising the script. This suggests speech was the students' preferred mode of expression. In addition, their focus on memorising (lines 02 and 03) may suggest that they perceived the aim of the task to be repeating the script from memory rather than communicating ideas.

Excerpt 5.13. The students summarise their preparation steps for the presentation (00:22:29-00:22:38, presentation planning)

- 01 **Zane:** ประมาณนี้เนาะ แล้วพอเราได้สคริปไทยมาแล้ว ก็เหมือนเราเสร็จแล้วอะ แต่เอามารวมกัน
 Let's say. If we have a Thai script, it's like we are almost finished. Then we can just put them together.
- 02 **Oliver:** ใช่ เอามารวม แล้วก็มาแปล แล้วก็ ท่องจำ
 Right. Put them together. Then translate and then memorise it.
- 03 **Zane:** ใช่ ที่เหลือเราก็ท่องจำ
 Yes. What's left is just memorising.

The following section will present the overview of the presentation, including the vignette. Section 5.5.1 will illustrate how speech, gesture, and gaze were used to open the presentation and introduce the product. Section 5.5.2 will present how speech and gesture were used to present one product function. Pungpuriyé's presentation can be divided into five discourse moves, starting from 1) opening the presentation and introducing the product, 2) presenting the benefits of the product for police, 3) for doctors, 4) for engineers and architects, and finally 5) ending the presentation (Table 5.3). The following analysis focuses on two discourse moves (1 and 3) as they show the most various use of modes. The following vignette describes what happened in the students' oral presentation for further insight into the context.

Vignette 2: Pungpuriyé's oral presentation

The students' presentation lasted about 10 minutes (Table 5.3). In the beginning, all the group members stood in front of the class. Oliver and Zane were on the left side of the projector screen. Ava and Niko were on the right. The students' positions signified the speaking orders in the presentation, starting with Oliver first, followed by Zane, Ava, and Niko, respectively. Their poster, similar to the other groups, had been shown on the projector screen as the background during the presentation. All the members stood in place and used speech as their main mode to present their product details. Oliver was the first person to greet the audience and introduce their product, Puriyé Glasses. He introduced the product name and talked briefly about what the product could be used for. Then Zane talked about how Puriyé Glasses can be useful for the police. He introduced three features: a GPS, a unique infrared system, and a detection system of dangerous metals. Ava, next, talked about one product function for doctors, i.e. an x-ray function. Niko also talked about the X-ray function for engineers and architects. In the final part, Ava ended the presentation with selling information, saying that if the audience were interested, they could pre-order now.

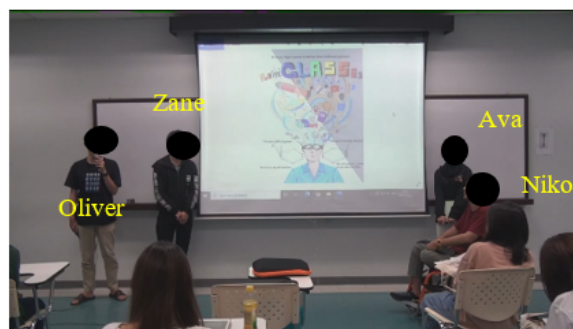

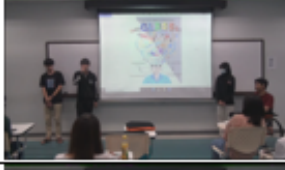
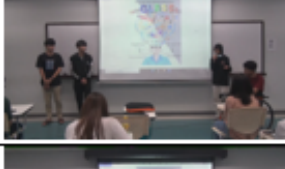




Figure 5.11 Overview of the presentation

Table 5.3 A brief description of what happened in the presentation and time stamp.

Timestamp (mins:sec)	Sections	A brief description of what happens	Modes	Screenshot
00:44-04:00	Opening the presentation and introducing the product	Oliver opened the presentation with a greeting and briefly introduced the product.	Speech Gestures (body movement and eye gaze)	
04:03-05:57	Product functions for police	Zane talked about several useful functions for the police.	Speech	
06:06-07:51	Product functions for doctors	Ava talked about an x-ray function for doctors.	Speech Gesture (hand gesture)	
07:58-10:25	Product functions for engineers and architects	Niko also talked about the X-ray function for engineers and architects.	Speech	
10:35-10:43	Ending the presentation	Ava ended the presentation with selling information.	Speech	

5.5.1 *Speech, Gesture, and Gaze: Opening the Presentation and Introducing the Product*

The first selected instance was when Oliver started the presentation and introduced the product. This section will illustrate how the use of speech as the main mode constrained Oliver’s ability to make signs and express meaning, and how combining gesture (i.e. body movement) and gaze with speech led to an expansion of meaning potentials. Table 5.4 summarised Oliver’s presentation.

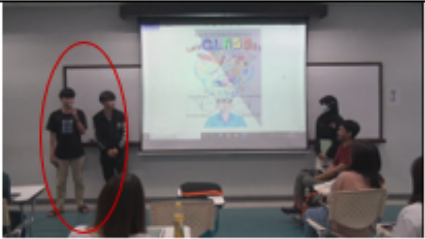
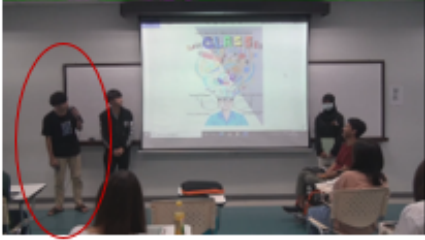
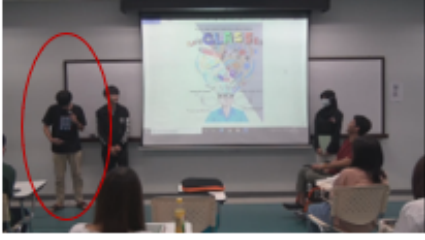
Oliver begins by greeting the audience, saying, “Hello, everyone” (line 01). His following speech, “Today present. Pungpuriyé glasses”, signifies the product they are promoting in their presentation (line 02). Considering speech alone, the absence of the subject in his speech affects the clarity of the meaning being represented. It could be ‘I’ as an agent to

emphasise Oliver as an individual presenter, or it could be ‘we’ to show inclusiveness and signify that the presentation is group work and Oliver is one of the group members.

In line 02, Oliver’s gesture (i.e. body movement) and gaze direction complement his speech. In Table 5.4, line 01, we see that when he greets the audience he is standing and facing the audience. Then, in line 02, he leans forward and turns his head to look at the poster while saying the product name ‘Pungpuriyé glasses’, changing his body position and gaze direction when introducing the product (Table 5.4). The product name he introduces in line 01 differs from the product name represented on the poster; thus, his speech causes some ambiguity as to what the product name really is. However, the use of body movement and gaze direction complements the speech, signaling Oliver’s direction of attention, at the same time drawing the audience’s attention to the poster. This made it possible for the audience to access other details of the product represented in the poster, for example the actual product name and the product appearance represented in the drawing, expanding the meaning potential of speech.

In lines 04 and 05, Oliver’s introduction to the product includes various grammatical mistakes and word choices that cause ambiguity in the meaning being expressed. In line 04, the main concepts signified in speech in the first sentence are advanced technology and life changing cool innovation, followed by the name of the product, ‘Puriyé Glasses’. This time Oliver introduces the product name correctly, aligning with the one represented on the poster. However, the last part of the sentence, “*of the latest Pungpuriyé*”, causes ambiguity because Pungpuriyé is the students’ group name. Thus, “*of the latest Pungpuriyé*” might mean ‘belonging to the newest group name’, which does not relate to the product name represented by the first part of the sentence (Puriyé Glasses). However, the word ‘*Pungpuriyé*’ was represented in the draft as the company name (Figure 5.3), which was then not included in the poster. Considering the data together, the word ‘*Pungpuriyé*’ in the presentation signified the company name, suggesting a possible meaning of the second sentence in line 04: ‘Puriyé Glasses is the latest product or the latest innovation of the Pungpuriyé company’. In line 05, Oliver’s word choice – ‘behaviour’ - in the second sentence does not relate to the students’ product and the meaning expressed prior, suggesting it as the wrong word choice. However, considering the surrounding words and the context, the sentence “the latest behaviour that we’re proud to present” still signifies the concept of ‘the latest’ and their pride in the product.

Table 5.4 Oliver opens the presentation and introduces the product (00:00-04:00)

Line	Transcript	Screenshots from the presentation
01	Hello, everyone. Today present.	
02	[Pungpuriyé glasses]. [[<i>leaning forward and gazing at the poster.</i>]]	
03	(.) Er. (0.7) (<i>looking at his phone</i>)	
04	The technology. (0.3) that go beyond (<i>pronounced as beyoi</i>). (.) lead to cool (.) inno. innovation. that (.) change our lives (<i>pronounced as out line</i>). (0.3) Change our. Change our. (0.4) (<i>looking at his phone</i>) lives forever. I would. (0.3) to be. Introduce. you to. a glasses. (0.6) (<i>looking at his phone</i>) called Puriyé Glasses. of the (0.3) latest (<i>pronounced as jest</i>) latest (<i>pronounced as jest</i>) (0.3) Pungpuriyé. (0.12) (<i>looking at his phone</i>)	
05	The glasses. are not glasses, but glasses, genius. (0.2) Er. (0.7) (<i>looking at his phone</i>) The latest (0.3) the latest (0.6) (<i>looking at his phone</i>) the latest have. behaviour. that we're proud to present. (0.3) (<i>looking at his phone</i>) These genius glasses (0.8) (<i>looking at his phone</i>) increase (<i>pronounced as intia</i>) the. ability. to be. worn in. (.) mechanical problem solving, and. also. be used. in me. di. cine. I thought. we were getting to know it.	

The transcript in Table 5.4 also shows that Oliver's speech includes multiple pauses and self-repairs. During the long pauses, he bends his head down many times in order to look at his phone. His action and the length of pauses suggest he has forgotten the words he had tried to memorise; hence, he looks at the script on his phone. Oliver's pauses, self-repairs, and actions frame his speech into many chunks that differ from the expected SVO order in English sentences. They also break down the flow of the speech and affect the transparency

of the meaning being represented. Moreover, he mispronounces some words, causing confusion. His pronunciation of ‘our lives’ as ‘out line’ (line 04), ‘latest’ as ‘jest’, and ‘increase’ as ‘intia’ (line 05) are unintelligible. As a result, the meaning of the words are drastically altered, which also changes the meaning being expressed in his speech.

While Oliver saw speech as the primary mode for meaning-making, the analysis clearly shows that his ability to express meaning is greatly constrained by his ability to use the chosen mode in English. However, it also illustrates one moment when Oliver makes use of his body movement and gaze together with his speech to introduce the product and how this integrated use of modes can result in an expansion of meaning potentials (line 02, Table 5.4). It is possible that if Oliver had used other modes, his meaning potentials could have been expanded and enhanced his ability to express himself in speech.

5.5.2 *Speech and Gesture: Presenting One Product Function*

The second selected instance was when Ava presented the x-ray function for doctors, presented Table 5.5. Similar to Oliver and the other members, Ava used speech as the primary mode of expression. However, she was the member who least struggled with expressing meanings through speech (in English) and was the only person who frequently moved her hands while speaking.

In terms of speech, Ava used it to present how Puriyé glasses can be useful for doctors. In line 01, she starts from stating the field (‘in the medical’) and career (‘doctor’), which suggests the main theme of her presentation content. In line 02, Ava’s speech is used to introduce an x-ray function that doctors can use to look inside bodies. In line 03, she states that Puriyé glasses are easier to use than an x-ray machine. The use of the word ‘because’ following this points to a causal relationship explaining why Puriyé glasses are easier to use. However, the reason is not very clear because ‘lower’ is a transitive verb and the use of ‘can lower’ without an object does not specify what aspect of the two things (‘X-ray function of Puriyé glasses’ and ‘an X-ray machine’) is being compared. Ava’s speech in line 04 introduces how using an X-ray machine has many cons and a side effect when it is used for a long time. This line starts with the word ‘because’, but it does not seem to be related to the cause-effect relationship created in the previous line (i.e. why it is easier to use Puriyé glasses than an X-ray machine). In line 05, Ava introduces one last benefit of the product: it can reduce surgical time by 30%. Ava’s speech in line 06 acts as a concluding

sentence indicating that she has presented the reasons why their product is the best new technology in the world. It thus marks the end of her speaking turn.

How Ava spoke shows that she was able to use speech to express meanings more effectively than Oliver. Table 5.5 shows that Ava produced a few pauses, most of which were short pauses, which does not have much impact on the flow of speech. Moreover, her mispronunciations are intelligible. In other words, her pronunciation does not affect the meaning being expressed in speech as Oliver's did. However, Ava repeats her words many times throughout lines 02-05 i.e. "benefits of. benefits from", "the doc. the doctors can", "Puriyé glasses can. and Puriyé glasses is" and "can lower. can lower to use", "there is a there is a side effect", and "it can low. and it. and it can lower" (Table 5.5). Although she produces more self-repetitions, fewer pauses and pronunciation do not affect the meaning being made in her speech as much as in Oliver's speech.

Regarding gestures, Ava moves her hands many times during her speaking turn (green code, Figure 5.12), but most are non-representative gestures. Her most frequently used gesture is shown in Figure 5.12, where she positions her hand around her waist and moves her hand up and down slightly during her presentation. This beat gesture moves to the rhythm of speech (McNeill, 1992).

A few times, Ava used hand gestures to transduce the signs made in her speech, leading to an emphasis of the meaning being expressed. In line 03, at first, Ava puts her hand around her waist. She then drops her hand when she says "can lower". Her gesture of moving her hand to a lower position is used to represent 'lower' (Table 5.5) in the gesture mode. In line 05, 'lower' is represented again, but with a slightly different gesture. At first, Ava moves her open-palmed hand up and down slightly around her waist. She then suddenly turns her hand upside down and moves it to a lower position. Ava makes use of her hand movement, i.e. the position of her hand, to signify 'lower'. Her hand gesture and her speech here form a concurrent relationship, highlighting the concept of 'lower'. Similarly, in line 04, Ava moves her left hand from left to right while introducing how an X-ray machine has a side effect. Her hand gesture moving to the opposite direction combines concurrently with her speech to signify the move of content from benefits to cons/side effects. This combination emphasises a move to the opposite content.

Table 5.5 Ava talks about the x-ray function for doctors (06:06-07:51)

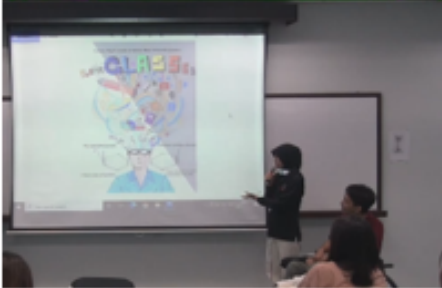
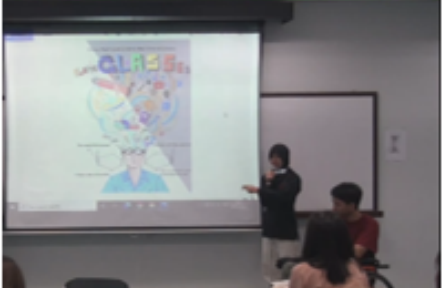




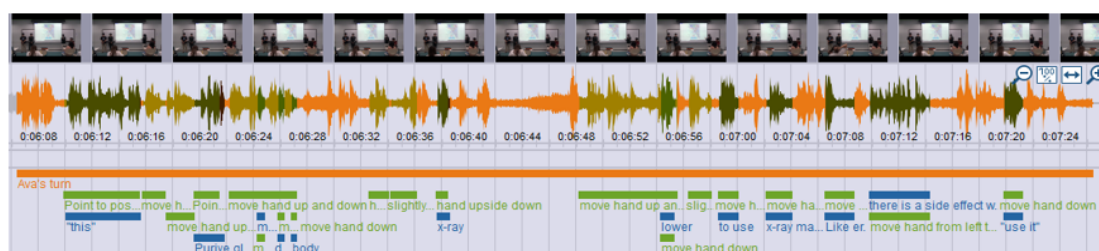
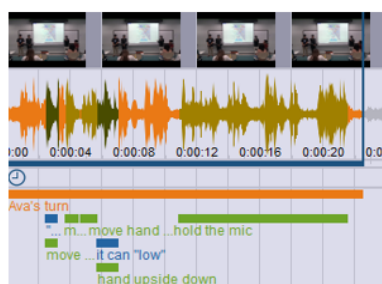
Line	Transcript	Screenshots from the presentation
01	<p>In the medical, the doctors can use. Er. [Benefits of. Benefits from these functions too.] <i>(((opened hand and moved towards the poster.)))</i></p>	
02	<p>For example. Er. X-ray function. The doc. The doctors can. Er. take [Puriyé glasses] to. to look at more. Er. details in the body. (.) <i>(((opened hand and moved towards the poster.)))</i></p>	
03	<p>And Puriyé glasses can. And Puriyé glasses. is easier to use than. X-ray. X-ray machine. Um. because (0.6) an x-ray function of Puriyé glasses is [can. (.) Er.][can lower.] can lower to use x-ray machine. <i>(((raised her hand up)))</i> <i>(((dropped her hand)))</i></p>	
04	<p>Because x-ray machine there are many of cons. like er. There is a. [There is a side effect][when using it for a long time.] (.) <i>(((moved her hand slightly up)))</i> <i>(((moved her hand to the opposite side)))</i></p>	
05	<p>Um. [And doctor can use it during the surgery. and it can] [low. And it. And it can lower] [more 30% of the surgical time.] <i>(((moved her hand slightly up and down)))</i> <i>(((turned her hand upside down and move it down)))</i> <i>(((holding the mic)))</i></p>	

Table 5.5 (cont.) Ava talks about the x-ray function for doctors

Line	Transcript	Screenshots from the presentation
06	And this is why. Puriyé glasses is. the best. new technology in the world. ((holding the mic all the time))	



Coding of Ava's hand gesture and speech 1 (cont.)



Codes and examples of sub codes:

- **Blue for Ava's speech**, e.g. this, Puriyé glasses, detail, body, x-ray, lower, and to use.
- **Green for Ava's hand gesture**, e.g. point to poster, move hand up and down, slightly move hand up and down, and move hand down.



Figure 5.12 Coding of Ava's hand gesture and speech and her common hand gesture during the presentation

The most obvious gesture that Ava uses to express further meanings is when she points to the poster being shown as the background. In line 01, when Ava says “Benefits of. Benefits from these functions too”, she stretches her left hand and moves towards the poster (Table 5.5). Her speech does not clearly specify what ‘these’ refers to. However, her gesture

directs the audience's attention to the poster, which complements the meaning expressed in her speech. Ava's hand gesture suggests that "these functions" refers to 'Puriyé glasses's functions', as depicted in the poster. This is repeated in line 02 as Ava opens her hand and moves it towards the poster while saying "Puriyé glasses". Thus, her hand gestures provide access to the poster, thereby offering opportunities for the audience to access other potential meanings that are available in the poster, but not in her speech.

The analysis shows that while hand gestures can be used with speech to expand meaning potentials, learning how to use them effectively is still necessary. On the one hand, Ava's pointing gestures led the audience's attention to the poster, which, in turn, resulted in an expansion of accessible meanings. On the other hand, the fact that Ava moved her hand up and down, and changed her hand gestures almost all the time during her speaking turn (Coding of Ava's hand gesture and speech, Figure 5.12) might have distracted the audience and caused confusion.

Section 5.5 has presented how the students used modes in the presentation. While both Oliver and Ava relied mainly on speech as the primary mode for communication, the analysis shows that proficiency in the mode (speech in English) crucially influenced the students' ability to express meaning, especially when they relied almost solely on speech. The analysis also illustrates that when other modes (i.e. gesture and gaze) were integrated with speech, they provided access to additional meanings which expanded the students' meaning potentials.

5.6 Remaking Signs across the Multimodal Texts

Sections 5.3 to 5.5 illustrate how the students employed different modes for making signs in their multimodal texts. This section focuses on signs that were remade across the texts. This is done to gain insights into the signs and meanings the students perceived to be crucial, how they were subsequently refined and re-represented across the texts with different modes and resources, and how the potential meanings were shaped and changed.

Overall, there were a number of transformations and transductions of signs across the three texts, i.e. from the draft to poster and presentation. No instances of mimesis (similar to the GOT4 group, see Section 4.6) were observed. Table 5.6 presents a summary of the signs/sign complexes that were transduced and transformed across the three texts. The subsequent analysis will focus on the first two sign-complexes as they were remade through

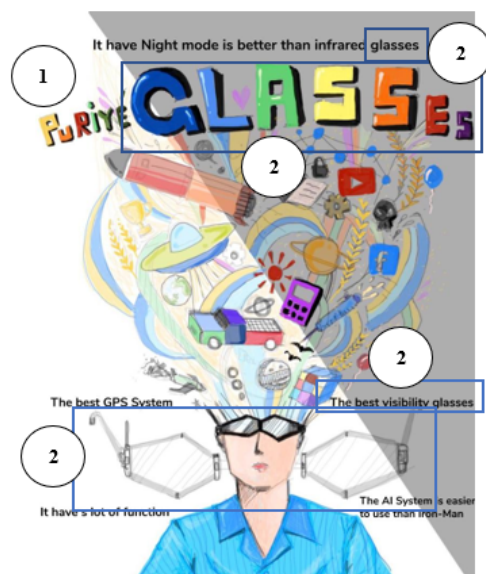
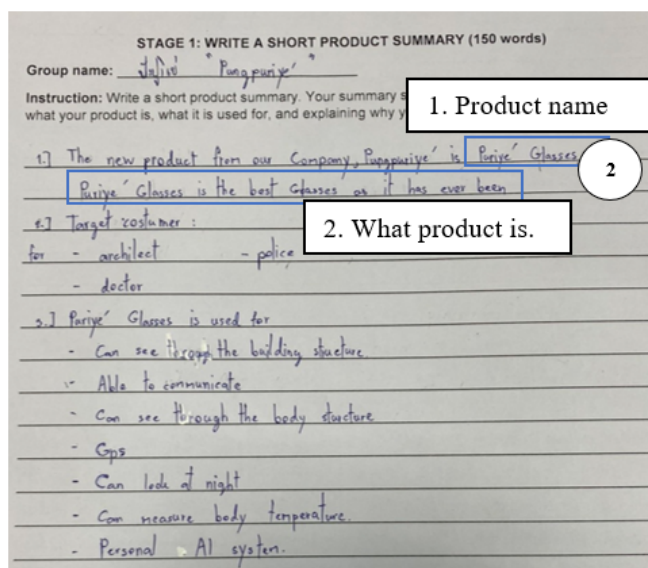
most varieties of modes across the three texts: the product basic information (product name and type) (Section 5.6.1) and the concept of multi-functionality (Section 5.6.2).

Table 5.6 Overview of the transduced and transformed signs across the three texts

Signs and sign-complex	Mode in the draft	Mode(s) in the poster	Mode(s) in the live oral presentation
1. Basic product information (product name and type)	Writing	Writing and visuals (drawing)	Speech, writing, and visuals (drawing)
2. Multi-functionality of the product	Writing	Writing and visuals (drawing)	Speech and visuals (drawing)
3. GPS feature	Writing	Writing	Speech
4. Night vision mode	Writing	Writing	Speech

5.6.1 The Genius Glasses: ‘Puriyé Glasses’

The first selected sign-complex is the basic product information, including the name (‘Puriyé Glasses’) and type of product (‘genius glasses’) (Figure 5.14). In the draft, it was represented in writing, then transformed and transduced to writing and drawing in the poster, and to speech, writing, and drawing in the presentation. The analysis below has two subsections: 1) the remaking of signs from draft to poster, and 2) the remaking of signs from poster to presentation.



Transcript excerpt of the oral presentation when Oliver explains what the product is (01:03-02:42) (see Table 5.4 for detailed transcript)

01 **Oliver:** Hello, everyone. Today present. [Pungpuriyé glasses].^{Fig5.13} The technology. that go beyond. lead to cool inno. innovation. that change our lives. Change our. Change our. lives forever.

02 **Oliver:** I would. to be. Introduce. you to. a glasses. called Puriyé Glasses. of the latest latest Pungpuriyé.

03 **Oliver:** The glasses. are not glasses, but glasses, genius. The latest the latest the latest have. behavior. that we're proud to present. This genius glasses increase the. ability. to be. worn in. mechanical problem solving, and. also. be used. in me. di. cine. I thought. we were getting to know it.

Figure 5.13 Looking at the screen

Figure 5.14 Transformations and transductions of the product name and what the product is in the draft (top left), poster (top right), and presentation

5.6.1.1 From Writing to Writing and Drawing: Transformation and Transduction of the Product's Basic Information in the Draft to the Poster

In the first case (Section 4.6.1), when the product name ('Eye on AI') in the draft was transformed into the poster, there was *a gain in the degree of salience*. A similar observation was made in case 2. In the draft, the product name is represented in the first sentence in blue and in a size similar to the rest of the written texts (top left, Figure 5.14), making the product name blend in and not stand out, suggesting it has the same importance as the other texts in the draft. However, the product name is clearly made salient in the poster (top right, Figure 5.14). Compared to the other written texts, the product name is in vivid, colourful handwriting and a larger font size. Moreover, the students make use of 'light and shadow' as a semiotic resource of writing by drawing shadows to the letters, adding depth to the product name and making it look three-dimensional and distinct from the others. The use of vivid colours and large font size with shadows results in an increase in the salience of the sign. In addition, one part of the sign is strongly emphasised. The word 'GLASS' in the product name is capitalised and is bigger than the product name 'Puriyé'. Different from the draft, the design of the product name in the poster implies that 'what the product is' is more important than 'what the product is called' (see Section 5.3.1).

In terms of the product type, the transformation and transduction also bring about *a gain in the degree of salience*. In the draft, the design of the product type also blends in with the rest of the other written texts. It is represented with the word ‘glasses’ in the first and second sentences (no.2, draft, Figure 5.14), signifying that Puriyé Glasses are a new product from their company and are the best ever glasses. Then, the product type was transformed and transduced into the modes of writing and drawing in the poster. For the transformation, the word ‘glasses’ is placed in three different positions in the poster (no.2, poster, Figure 5.14). One of them is part of the product name, made clearly noticeable in the poster, suggesting its salience (see above). The frequent use of the word ‘glasses’ and the outstanding design highlight the product type, making it more salient. Apart from the gain in salience, there is also *a loss in meaning*. What is lost from the transformation is the concept of newness, which is not represented anywhere in the poster.

The product type was transduced to a drawing on the poster. There are *gains in the degree of salience and also specificity* in this process. In terms of salience, the students not only drew a picture of the glasses when worn, but also included the enlarged version of the glasses. The students’ design suggests an emphasis on product appearance, which also provides access to additional product details represented in the students’ drawing, such as the size, shape, and opaque quality of the lenses (Section 5.4). None of these details are represented in the draft. Moreover, in the enlarged sketch, there is a small antenna on the left side of the glasses, which also possibly signifies the communication function. The transduction expanded the students’ meaning potentials and allowed them to represent aspects of their product that were not available in writing.

5.6.1.2 From Writing and Drawing to Speech, Writing, and Drawing: Transformation and Transduction of the Product’s Basic Information in the Poster to Presentation

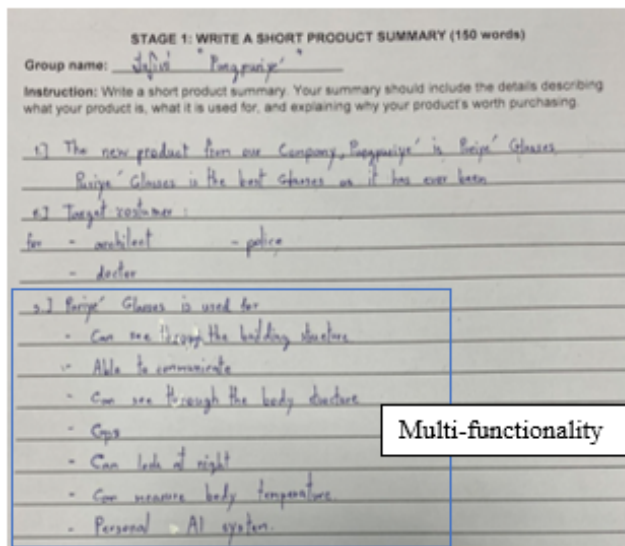
In the presentation, the product’s basic information was transduced to Oliver’s speech and it was re-represented in writing and drawing in the poster shown during the presentation (Figure 5.14). The transduction of the product name results in *a loss of clarity in meaning*. In the poster, the product name was clearly represented as ‘Puriyé Glasses’. However, how Oliver used speech in the presentation causes some confusion about the exact product name as he mentioned ‘Pungpuriyé glasses’ in line 01 and then ‘Puriyé Glasses’ in line 02 (presentation transcript excerpt, Figure 5.14) (Section 5.4.1).

Regarding the product type, the word ‘glasses’ in the poster was transformed and transduced into the modes of speech, drawing and writing as part of the product name in the poster shown during the presentation (no. 2, poster and presentation excerpt, Figure 5.14). There is *a gain and a loss in specific details of the product*. In the presentation, the product type is re-represented through the word ‘glasses’ in the mode of speech in lines 01, 02, and 03. *The concept of latest product and exceptionality were gained* through Oliver’s speech in lines 02 and 03 when he introduces the product using the word ‘latest’ to signify the product as the latest one from their company and the word ‘genius’ to signify that their product has exceptional functions that make it unique. These concepts were not represented in the poster. Moreover, the transduction also entails *a gain in the concept of advanced technology*. Oliver’s speech in line 01 introduces the product as a cool innovation developed from the advanced technology (transcript excerpt, Figure 5.14).

In addition, Oliver’s gesture while making spoken signs to represent the product type (i.e. leaning forward and turning his head to the poster in Figure 5.13) draws the audience’s attention to the poster. This provides opportunities for *a gain in product’s appearance* represented in the drawing in the poster. However, the poster shown does not clearly communicate all the same signs because of the material differences in the actual poster and its reflection on the wall during the presentation. Thus, some details of the product represented in the poster are blurry and illegible, leading to *a loss in specific details* of the product, such as the written description, the small elements in the students’ drawing that represent product functions, and the small antenna on the glasses.

5.6.2 *The Multifunctional Glasses*

The multifunctionality of the product is the second selected sign complex (Figure 5.15). In the draft, multi-functionality is represented in writing through the list of product features and functions. It was then transformed and transduced to writing and drawing in the poster, and transduced to speech and drawing in the oral presentation. An analysis of the remaking of signs in the draft to the poster is presented first, followed by an analysis of the remaking of signs in the poster to the presentation.



Transcript excerpt of the oral presentation when the students talk about product functions (01:03-02:42)

- 01 **Oliver** (03:12-04:00): This genius glasses (0.8) increase ((*pronounced as intia*)) the. ability. to be. worn in. (.) mechanical problem solving, and. also. be used. in me. di. cine. I thought. we were getting to know it.
- 02 **Zane** (04:03-05:55): For the current. For the current police department. It can be seen that there are many obstacles in. performing their duties ((*pronounced as dud-di*)). The Puriyé glasses are xxx ((*incomprehensible*)) that will (.) greatly. greatly facilitate the police. Puriyé glasses will help investigate the case tracking (.) and device search. Puriyé glasses. Puriyé glasses have a GPS function, a function developed by Puriyé glasses (.) to assist in location and travel. (0.3) This is a very useful function for police (.) officers. But Puriyé glasses can do much more. Puriyé glasses have a unique. Infrared system. That can be seen in the dark as well. (.) That's not all. Puriye glasses can also detect dangerous bombs ((*pronounced as boom*)). And Puriyé glasses also compact easy to carry. (.) All of. All of included in Puriyé glasses. which are (0.3) smart glasses (.) This the police should have in possession.
- 03 **Ava** (06:06-07:51): In the medical, the doctors can use. Er. Benefits of. Benefits from these functions too. For example. Er. X-ray function. The doc. The doctors can. Er. take Puriyé glasses to. to look at more. Er. details in the body. (.) And Puriyé glasses can. And Puriyé glasses. is easier to use than. X-ray. X-ray machine. Um. because (0.6) an x-ray function of Puriyé glasses is can. (.) Er. can lower. can lower to use X-ray machine. because x-ray machine there are many of cons. like er. There is a. There is a side effect when using it for a long time. (.) Um. And doctor can use it during the surgery. and it can low. And it. And it can lower more 30% of the surgical time. And this is why. Puriyé glasses is. the best. new technology in the world.

04 **Niko** (07:58-10:25): So, we have. (.) So, today we have. Er. (0.4) developed (.) the genius glasses. Er. It's called. It's called Puriyé glasses. Er. (.) We have more. We have more one function. It's called (.) Puriyé x-ray. It. It can help the engineers and architects. (.) They can see inside. They can see inside the. (1.0) They can. They can see inside the. Er. (1.0) They can see inside the structure of the building. This function is developed from (.) medical treatment. Er. Furthermore. we can see the internal structure of (.) objects. This function is especially developed for architects and engineers. (0.5) It won't waste your time. It won't waste your time to (.) check inside the object. (0.4) It can specify the damaged structure (.) precisely. and can also estimate the structure of. The structure. And all of this is (0.4) useful for engineers and architects. (0.4) Thank you.

Figure 5.15 Transformations and transductions of the multi-functionality in the draft (top left), poster (top right), and presentation

5.6.2.1 *From Writing to Writing and Drawing: Transformation and Transduction of the Multi-functionality in the Draft to Poster*

The transformation and transduction of multi-functionality in the draft to the poster entails *a gain in salience*. In the draft, the multi-functionality of the product was represented in writing implicitly through the list of product features and functions under the third topic of the product details, “3.] Puriyé glasses is used for” (top left, Figure 5.15). The use of indentation and dashes suggests that the product features and functions are subtopics; thus, they are not as salient as the main topic. Likewise, it also suggests that the multi-functionality that was implicitly represented is not salient. When the multi-functionality was transformed and transduced in the poster, it was not only implicitly represented through product functions and features (a night mode, a GPS, and an AI system) described in writing. It was also explicitly represented through the sentence “it have s lot of function” (top right, Figure 5.15). Moreover, the salience of multi-functionality was emphasised by the use of drawing. In the middle of the poster, the students drew different objects, such as Facebook and YouTube icons, a big red rocket, a colourful truck, an aeroplane, a UFO, some planets, and bats, to represent the varieties of the product functions (Section 5.4). Clearly, through the transformation and transduction, the students utilised different modes and semiotic resources to make the representation of multi-functionality explicit and distinctive, resulting in an increase in the sign’s salience.

Besides the gain, there is also *a loss in some specificity*. In the draft, the students listed seven product functions and features: seeing through a building structure, communicating with others, seeing through a human body, tracking locations by GPS, seeing at night,

measuring body temperature, and having a personal AI system. However, not all the functions were re-represented in the poster. Three of them - the night vision mode, AI system, and GPS - were transformed into the same mode of writing. One of them, the communication function, was transduced into the drawing of Facebook and YouTube icons. The others were not represented and were thus lost. In addition, Zane revealed in the interview that he was not very satisfied with the poster, claiming that, although their product has a lot of functions, they had to choose only a few outstanding ones to represent in the poster because of the small writing space (Zane, interview).

“It’s like. It ((The product)) has a lot of functions. We don’t know where to start. Which functions do we choose to write down in the poster? The space for writing on the poster is small. So, we have to choose only some functions that seem outstanding (Zane, interview, 9th December 2020).

“The con of this poster is that we didn’t put enough information there. We feel it’s too little ((the functions and features represented in the poster)). Our glasses can do more. (Zane, interview, 9th December 2020).

However, when the night vision mode, AI system, and GPS were remade in the poster, they were represented differently from the draft, resulting in *a gain in details of these product functions*. The night vision mode was represented through the phrase “can look at night” in the draft and it was re-represented through the sentence “it have Night mode is better than infrared glasses” on the poster. This brings about *the concept of comparison* and also *the identification of what is being compared* (i.e. infrared glasses). Similarly, when “Personal AI system” was transformed into “The AI System is easier to use than Iron-Man”, those two concepts were also gained. “GPS” in the draft became “the best GPS System” in the poster, bringing about *the concept of exceptional* through the word ‘best’. These details were not represented in the draft.

5.6.2.2 From Writing and Drawing to Speech, Writing, and Drawing: Transformation and Transduction of the Multifunctionality in the Poster to Presentation

In the presentation, multifunctionality was transformed and transduced into speech through different functions that each student presented (transcript excerpt, Figure 5.15), as well as writing and drawing in the poster shown in the background. There are *gains and losses in the number of product functions* from the transformation and transduction. Two features, i.e. “the best visibility glasses” and the AI system, represented in the poster, were not re-

represented in the oral presentation; they were lost. Despite the loss of the two features, overall, the students represented more product functions through their speech. A number of product features and functions were newly introduced, such as a device search feature, a case tracking feature, and a bomb detection feature, as well as an X-ray function for doctors, engineers, and architects (transcript excerpt, Figure 5.15); these signs are gained or newly added in the presentation.

In addition, the two product features, i.e. the night mode and GPS, were remade in the presentation, entailing *a gain and loss in details of the functions*. In the poster, the sentence “It have Night mode is better than infrared glasses” and the phrase “the best GPS System” signify the two functions - the concept of comparison and the concept of exceptionality. However, *the latter two were lost* from the transduction. The poor quality of the poster shown during the presentation affected the clarity of these sentences in the poster. The night mode and GPS features remained in the presentation through Zane’s speech:

*“Puriyé glasses have a GPS function, a function developed by Puriyé glasses
(.) to assist in location and travel. (0.3) This is a very useful function for police
(.) officers. But Puriyé glasses can do much more. Puriyé glasses have a
unique. Infrared system. That can be seen in the dark as well. (.)”*

(line 02, transcript excerpt, Figure 5.15).

Zane’s speech not only represents that Puriyé glasses have a GPS and night mode, but also *provides further details* about the functions in addition to the poster. For the GPS, Zane’s speech represents that their product has a GPS and also further signifies that the GPS function was developed, identifies who developed it (Puriyé glasses), and specifies the two things the GPS is helpful for: 1) tracking locations and 2) assisting in travelling (line 02, transcript excerpt, Figure 5.15). However, the concept of exceptionality was lost.

For the night mode, Zane represented it in “Puriyé glasses have a unique. infrared system. That can be seen in the dark as well.”. The word ‘unique’ means ‘special in some way’ (Cambridge Dictionary, 2023), and, as the sign in the poster, it does not signify whether it is better than other infrared glasses. Moreover, the words ‘as well’ in his speech imply an equal comparison. Thus, Zane’s speech signifies that their product has a special infrared system that can be used to see in the dark, as other infrared systems. The concept of comparison represented in the poster was lost and replaced with *the concept of uniqueness and equality*.

Furthermore, the transduction of multifunctionality results in a *loss in salience* of the sign itself. In the poster, the multifunctionality was clearly made salient and distinctive through the use of writing and drawing (Section 5.4). In the presentation, how the students used speech influenced *the clarity of meaning* expressed through their speech. The number and the location of pauses (e.g. Oliver and Niko's speech, transcript excerpt, Figure 5.15), as well as the number of self-repetitions (e.g. Ava's speech), disrupted the flow of the speech and divided the speech into chunks that were different from the expected SVO order in English sentences. Also, the pronunciations of some words that were very different from conventional use (e.g. Zane's speech) caused confusion about meanings and, at the same time, affected the holistic meaning being represented in speech, which in turn decreased the saliency of the multifunctionality.

To summarise, the analysis in Section 5.6 has shown that transduction and transformation of signs across the texts required the students to identify and evaluate the criteria signs they made prior in order to remake them in the subsequent texts. These processes allowed the students to refine the signs and meanings and made them more salient by using different configurations of modes and semiotic resources, increasing the number of signs, and using visual modes. By remaking the signs, there were always gains and losses in meanings from various factors, including changes in modes and their different logics, the material differences (i.e. the actual poster and the poster shown on the projector), constraints of writing space, proficiency in speech in English, and opportunities to access other signs from the use of modes (e.g. gestures and drawings). The analysis facilitated our understanding of modal affordances and increased our awareness of factors that influenced the meanings being made. Such insights can aid us to become more adept multimodal sign makers to effectively utilise diverse modes, including speech and writing, to make signs that represent meanings more clearly and effectively in their multimodal composing.

5.7 Semiotic Awareness

Sections 5.6 presented an analysis of how the signs were transduced and transformed across the multimodal texts and how the processes affected the meanings being made. This section focuses on the instances of semiotic awareness the students displayed during their multimodal composing process. These instances were categorised according to Nelson's (2008) taxonomy and emerging instances (Section 3.6.5.2).

While Pungpuriyé utilised fewer varieties of modes than the first case (sections 5.3 to 5.5), the students still demonstrated instances of semiotic awareness throughout the multimodal composing project. However, unlike the first case, there were fewer instances overall, and not every subcategory was observed. In addition, the students demonstrated a few instances of their unawareness, which affected their potential for expressing meaning. Section 5.7.1 will present the analysis of *existing semiotic awareness* and Section 5.7.2 will illustrate the instances of *developing semiotic awareness*.

5.7.1 Existing Semiotic Awareness

Instances of existing semiotic awareness refers to the instances where the students demonstrated their recognitions of signs, signified, signifier, and issues related to sign making. These instances were categorised into three main groups: 1) recognitions of semiotic problems and solutions, 2) design decisions borrowed from other resources, and 3) recognitions of how modes and semiotic resources can be used to make signs. Overall, all instances were found and the students most frequently showed their awareness of the third category, i.e. recognitions of the way modes and semiotic resources can be used to make signs.

5.7.1.1 Recognitions of Semiotic Problems and Solutions

The analysis identified a few instances when the students recognised problems in their sign-making and offered solutions. In the case of Pungpuriyé, these instances were solely related to the problems of representational needs and the students brought their existing knowledge to address them.

During the poster composing process when the students were designing their product name, the recording reveals that the students initially drew the word ‘Glass’ to represent their product (instead of glasses) (lines 06-07, Excerpt 5.6, Section 5.4.1). Niko and Zane demonstrated awareness of how a lack of ‘-es’ affects the word’s meaning. Thus, they added -es as a solution; the word ‘Glass’ became ‘Glasses’, which represented their product accurately. Another similar instance was when the students made signs to represent their product appearance. The students spent a considerable amount of time searching the Internet for an image, yet they were unable to find an apt one that matched their representation needs. Zane, for example, commented on one photo they found and expressed his desire to change the glasses in the photo (line 02, Excerpt 5.9). After spending

40 minutes searching for an image, Niko proposed the idea of drawing a picture themselves to resolve the issue (Section 5.3.2).

To design their poster, it was found that the students borrowed the design of a fan-art movie poster they found online (Figure 5.7). Zane perceived the design of the poster, particularly the part where various elements emerge from the glasses, could effectively represent the multi-functionality of their product (lines 01 and 03, Excerpt 5.10). Thus, the students decided to use the movie poster as a model when drawing their own poster and adjusted the elements to represent their product.

5.7.1.2 *Design Decisions Borrowed from other Resources*

The instances of semiotic awareness in related to the design decisions borrowed from other resources were divided into three sub-categories (Table 3.9). However, the instances observed in the case of Pungpuriyé solely involved borrowing the designs with subsequent modifications.

5.7.1.2.1 *Taken with modifications*

In Pungpuriyé's multimodal composing, the students occasionally noticed existing designs from other resources, borrowed them, and made modifications to suit their representational needs.

The first instance related to the group and the company names, i.e. the word 'Pungpuriyé' [pʌŋpurije']. The term was taken from Thai slang, 'ปังๆริเอ่', a word newly coined around August 2020 and now used widely across the country. Its popularity was such that it became the title of a song by a Thai pop band, i.e. ปังๆริเอ่ by the Glass Girls x Cm Café (The Glass Girls Official, 2021). The term 'ปังๆริเอ่' means 'awesome', 'amazing', 'the most popular', and 'the most gorgeous' (Natchaphon, 2021). However, the word was only represented in Thai. Therefore, to use the term as their group and company names, the students designed how to represent it in writing in a different language. They created a sign that represents the speech sounds [pʌŋpurije'] using both the English and Latin alphabets (é), i.e. 'Pungpuriyé'. Although the students did not explicitly state their reason for mixing the English and Latin alphabets, the analysis suggests that they recognised the Thai word as apt for their group and company name. Furthermore, doing this demonstrated their

creativity in modifying and creating a sign to represent the speech sounds of their borrowed design within this context.

The next instance of awareness relates to the product names. After discussing several potential product names, the students opted for ‘Puriyé glasses’, inspired by Google Glasses. Excerpt 5.2 in Section 5.3.1 not only shows that the students drew on their out-of-class experiences to design their product name, but also provides evidence for Niko’s semiotic awareness. The transcript below is taken from Excerpt 5.2 showing that Niko proposed the idea of naming their product in a similar way to how Google named their glasses. By doing so, he expressed awareness of the name ‘Google Glass’ and its associated meanings. For Niko, ‘Google Glass’ represents the product name and also indicates the relationship between the product and the company. The design of the name ‘Google Glass’ was perceived as an apt resource to adapt. Thus, the students borrowed the design and configured it to represent both their product name and the connection to their company.

“Ah. I know. X-ray Glasses is just a description, but we need to think of the product name. Like Google Glass. It’s a company name, right? So, for us. Our group’s name. Pungpuriyé, right? The ((name of)) glasses would be”

(Niko, line 05, Excerpt 5.2, Section 5.3.1).

The last instance is when Pungpuriyé borrowed the introductory sentence of the example provided in the handout (Section 5.3.1). In the same vein as the first case, the students recognised the example as a useful resource for creating their written signs in English. Excerpt 5.3 in Section 5.3.1 illustrates Ava and Niko’s attempt to identify parts of the example’s introductory sentence. After Ava identified the two proper nouns and their locations in the sentence which were used to represent the company and product name, she made modifications and replaced the proper nouns with the names of their product and company. The excerpt shows that the students engaged with and became aware of the form and meaning made in the example’s sentence. They borrowed its design and subsequently adjusted it to fit their semiotic purpose. This transformation of the example introduction to the students’ introductory sentence Ava’s knowledge of some semiotic principles of English, such as proper noun identification, vocabulary meaning, and sentence structure.

5.7.1.3 *Recognitions of How Modes and Semiotic Resources Can Be Used to Make Signs*

In addition of an awareness of semiotic problems, solutions, and borrowing designs, the students also demonstrated their awareness of how modes and semiotic resources can be used and configured to make signs that represent certain meaning or semiotic effects. This category of awareness was the one the students most frequently displayed during their multimodal composing.

During the poster composing, the students demonstrated their existing awareness of how colours can be used to increase the salience of the sign. When designing the product name, Niko suggested using many colours to make the sign outstanding (line 01, Excerpt 5.6, Section 5.3.1), and Zane further enhanced the colour vibrancy to ensure that the product name stands out from the other elements and remains clearly noticeable against the background (line 02, Excerpt 5.6, Section 5.3.1). In the recordings of the students' composing process, Niko and Zane articulated their semiotic awareness of how colour can be manipulated to achieve their representation needs. In particular, how Zane adjusted the colour vibrancy suggests that he was not only aware of an affordance of colour but was also able to make use of it effectively in practice.

Excerpt 5.15. Niko shows his awareness (2:21:55-2:22:02, Zoom recording 2)

01 **Niko:** ประมาณว่าเวลาอ่านอะ ต้องอ่านตามขนาด puriyé GLASS ses (หัวเราะ)

It's like. When reading out loud, we need to read according to the size. puriyé GLASS! ses (laugh).

In Excerpt 5.15, Niko displays his awareness of how size can affect the salience of the written sign. In the product name, the word 'Glass' is highlighted and emphasised by its larger size. Niko reads the product name word by word, emphasising the word 'Glass' through increased volume and a rising tone. This indicates that Niko views size as a semiotic resource of writing, capable of making certain words prominent. Moreover, the excerpt illustrates how Niko replicated the same semiotic effect using a different mode. This implies his awareness of how changes in loudness and tone of voice can be used to mimic the saliency of certain words in the mode of speech.

Furthermore, during the drawing process, the students expressed multiple instances of semiotic awareness when brainstorming what they should draw to represent different

aspects of the product. The analysis in Section 5.4.2 not only revealed the students' intention to represent the multi-functionality of their product by drawing many different elements, but also provided evidence for their semiotic awareness. For example, Niko perceived numerous planets as signs that represent greatness and universality (Excerpt 5.12, Section 5.4.2). He also suggested drawing different things, such as satellites, human bodies and organs, and building structures to represent the product functions for different careers. The students further explained the signs they drew and their meanings in the interview. For instance, the students drew the UFO and aliens to signify how advanced the product is, drew the book to represent limited knowledge (Niko, interview, Section 5.4.2), and drew the skull for aesthetic purposes (Zane, interview, Section 5.4.2).

Excerpt 5.16. Zane shows his lack of awareness (1:12:22-1:12:34, Zoom recording 2)

- 01 **Niko:** แล้วก็ต้องมีดาวเสาร์
Then we need the Saturn.
- 02 **Zane:** ใช่ (หัวเราะ) นี่ก็ดาวเสาร์ ทำไปทำไม (หัวเราะ) ไม่มีใครมานั่งดูหรอกมั้งว่ามันมีอะไรบ้าง (หัวเราะ)
Right. (laugh). Here's the Saturn. After keep drawing ((a lot of mixed items)) (laugh). Maybe no one is going to look at each item in detail. (laugh)
- 03 **Niko:** อันนี้โลก
This one is the Earth.

However, while the students demonstrated their semiotic awareness of how different items can be used to represent particular meanings, an instance of their lack of awareness was also found. Excerpt 5.16 happened when Zane was sketching various items on the poster. In line 01, Niko suggests drawing different planets and mentions Saturn. Zane responds by laughing and saying, "Right. Here's the Saturn. After keep drawing ((a lot of mixed items)). Maybe no one is going to look at each item in detail" (line 02, Excerpt 5.16). As the other students do not further respond, Zane's statement implies that they paid little attention to the audience when making signs. They made signs according to their interest and aptness in their perspectives but showed little concern for whether others could comprehend the intended meaning expressed in the signs or not.

In addition, during the presentation planning, there was one instance where the students expressed their semiotic awareness. This instance also provides evidence of a lack of awareness which appeared to have influenced their modal choice for the presentation. In contrast to the first case, Pungpuriyé relied heavily on speech alone to express meanings in the presentation despite having the option to be creative and utilise various modes. The

recording of the presentation planning session reveals that the students rarely discussed other modal choices than speech (Section 5.5).

Excerpt 5.17. The students discuss bringing glasses to the presentation (00:00:19-00:01:17, presentation planning)

- 01 **Niko:** แพลนเรื่องพรีเซนต์กัน ใครจะพูดอะไรบ้าง จะมีใช้อุปกรณ์อะไรเพิ่มเติมไหม
We plan the presentation. Deciding the content for each person. Should we bring any additional tools ((to the presentation))?
- 02 **Zane:** ของเราอุปกรณ์ก็น่าจะมีแว่นปะ เอาแว่นไปอันนึง
Our tool may be glasses. Bring one pair of glasses.
- 03 **Oliver:** แว่น ไม่ต้องเอาแว่นไปหรอก เคียวก็มีโปสเตอร์ไหม เหมือนอาจารย์จะปรี้นให้รีปเล่า
Glasses? We don't have to bring it. We'll have the poster. Will the lecturer print it for us?
- 04 **Zane:** ก็ถือผลิตภัณฑ์ไปก็ได้ เอาแว่นไปก็ได้ จะได้แบบ
We can bring the product. Bring the glasses. It's like.
- 05 **Oliver:** แว่นตาอะไร แว่นตาอันห้าบาท
What glasses? 5 Baht glasses? ((5 baht = 0.12 GBP))
- 06 **Zane:** แว่นตาอะไรก็ได้ แว่นตาธรรมดาเนี่ยแหละ เอาไปโลด
Whatever glasses. normal glasses. Just bring it.
- 07 **Niko:** แว่นตาพลาสติกอะ ตามร้านขายของชำ โชว์ห่วย
Plastic glasses. Like those selling in some general stores.
- 08 **Niko:** จะไลน์ถามอาจารย์เรื่องโปสเตอร์ปะ เคียวถามให้
Do you want to ask the lecturer about the poster? I'll do it.

At the beginning of the planning session, Niko reviews the task instructions. He asks the other group members if they should bring any tools to the presentation (line 01, Excerpt 5.17). Zane suggests the idea of bringing a pair of glasses (line 02). As their product is eyeglasses, Zane's idea to bring glasses suggests an awareness of using a 3D object to represent their product in the presentation.

Yet in line 03, Oliver objects, suggesting the poster would be enough. Nevertheless, Zane reiterates his idea of bringing the glasses in line 04. This indicates that Zane sees a pair of glasses as an apt signifier to represent their product. Despite Zane's attempts, Oliver takes a stand against the idea by asking, "What glasses? 5 Baht glasses?" in line 04. In Thailand, it is not possible to buy a pair of glasses for five 5 Baht (0.12 GBP). It is therefore possible to interpret Oliver's question as rhetorical as he is stating something that could not be true to display strong disagreement (Rees-Miller, 2000) with the idea of bringing glasses to the presentation. For Oliver, glasses are potentially not a suitable signifier for their high-tech

product. From Excerpt 5.17, it can be implied that Oliver was likely to be unaware of how other modes, i.e. a 3D object, can be used for making meanings. In line 03, Oliver suggests that having a poster with the product image would be enough and queries whether the lecturer would print the poster for them or not. Niko responds in line 08 by saying he will ask the lecturer. The students do not discuss any other modal choices or display evidence of semiotic awareness. It seems that they agreed on using speech, writing, and image (poster) as the modes to be used as the rest of the planning time was spent negotiating speaking turns and exchanging ideas for the presentation content.

5.7.2 *Developing Semiotic Awareness*

In addition to existing semiotic awareness, Pungpuriyé also displayed several instances of developing semiotic awareness, implying progress towards heightened awareness. These instances included: 1) gaining new semiotic knowledge from other participants, and 2) perception of developing semiotic awareness.

Excerpt 5.14. The students discuss the word GPS (37:32-38:00)

- 01 **Zane:** แล้วก็ ระบบ GPS
And then the GPS system.
- 02 **Ava:** GPS system ใช้ไหม (2.5) เพื่อบ้าน แต่ฉันก็ GPS ((inaudible))
GPS system, right? (2.5) Eh. But. But. It's GPS ((inaudible)).
- 03 **Zane:** ที่จริงเราใช้แค่ GPS system ก็ได้นะ
Actually, we can just use ((the term)) GPS system.
- 04 **Ava:** อ้อ! GPS เองๆ เองก็ได้ ตรงนี้มัน มันก็ system อยู่แล้ว. Global positioning system.
Eh! ((we can use)) GPS alone. Here. It is. S already refers to system. Global positioning system.
- 05 **Zane:** อ้อ โอเค งั้น GPS
I see. Okay. Then, GPS.

Regarding the first category, the analysis of the students' existing semiotic awareness in Section 5.7.1.1 suggested developing awareness. When Niko pointed out a typo in the design of their product name ('Glass') on the poster, Zane did not initially realise it. Zane then became aware from Niko's question of the typo and he expressed awareness of how the typo affected the word meaning, i.e. how a lack of '-es' changed the whole meaning of the sign from an object that is worn in front of the eyes (glasses) to a hard, transparent material (glass) or a small container for drinks made of glass (line 07, Excerpt 5.6).

In the second instance, Ava shared her knowledge of the full form of the acronym ‘GPS’, contributing to Zane’s developing semiotic awareness. In Excerpt 5.14, Zane and Ava talked about one feature of the product, namely the GPS. Zane was about to write it down in the draft, but he was uncertain whether to use the term ‘GPS’ or ‘GPS system’. Zane initially suggested using the latter term (line 03), a suggestion likely to have been influenced by the literal translation of his speech in line 01 – ‘ໂຮງໝໍ້ GPS’. The word ‘ໂຮງໝໍ້’ is translated to ‘system’ in English; therefore, ‘ໂຮງໝໍ້ GPS’ can be translated as ‘GPS system’. Although Ava mentioned ‘GPS system’ in line 02, she then suggested ‘GPS’ instead because “S already refers to system” (line 04). Zane displayed his developing awareness through his response “I see” (line 05) and wrote down the word ‘GPS’ in the draft. However, although the students were aware and decided to use the term ‘GPS’ (without system) in the draft, they used ‘GPS system’ in the poster. Although the students did not explicitly state the reason for their word choice, this implies that awareness in one context does not necessarily translate to awareness in another, or consistent practice.

“Like. We learned new vocabularies.” (Oliver, interview, 1st December 2020)

“It’s like, during the presentation, there were some words that I did know the meaning. So, I looked up to understand the meanings and their pronunciation.” (Niko, interview, 1st December 2020)

“It’s like. About connections. The connections between images and meanings. Like I imagined what each picture can represent. Like how the glasses ((their product)) should be represented. We then used imaginations. Trying to image what could be represented with which pictures.” (Oliver, interview, 1st December 2020)

Regarding the second category, the students expressed their perceived developing awareness during the interview when they were asked about the skills they believed they had developed from engaging with the multimodal composing project. Similar to the analysis of case 1 (Section 4.7.2), the students reported obtaining new English vocabularies (Oliver, interview). Furthermore, for the presentation, there were some vocabularies Niko had not known and had to look up for both meanings and pronunciation (Niko, interview). However, different from the first case, one student in this group expressed his awareness in relation to the use of other modes. Besides vocabularies, Zane mentioned that he

developed his awareness in terms of how certain visuals could be used to represent some meanings (Zane, interview).

In summary, the analysis in Section 5.7 demonstrated that although the students relied heavily on writing and speech, they still demonstrated their existing and developing semiotic awareness in their multimodal composing. However, when compared to the first case, which used a wider range of modes in their multimodal composing, this group displayed fewer instances. The most frequent instances observed involved the recognition of how specific images could represent particular meanings. Additionally, the students demonstrated a few instances of a lack of awareness that hindered their ability to effectively make signs to express intended meanings.

5.8 Chapter Summary

The analysis of the second case, Pungpuriyé, has illustrated that the students did not always use and combine other modes with speech or writing although they were allowed to be creative and utilise multiple modes in their multimodal composing. For this case, they chose a mode in which their expression was limited, and did not consider how other modes could be used to support their weak spoken language skills. This was especially evident in the analysis Section 5.5 for their use of modes in the presentation. Moreover, the analysis showed that although they used the same mode as the first case, the students configured it differently to suit their sign-making purposes (e.g. listing the ideas in the draft instead of writing a paragraph). Moreover, the analysis provided evidence of how the combination of modes allowed the students to express greater product details than using one mode in isolation. In addition, it demonstrated how the transduction and transformation of signs affected the meaning being expressed, leading to gains and losses in signs' salience and certain aspects of the product details. It also revealed factors that shaped gains and losses. Finally, it was found that when the students used multiple modes, they engaged in and displayed instances of semiotic awareness during the composing process.

Chapter 6. Discussion

6.1 Introduction

This chapter discusses the key findings of the study and their alignment with existing literature. Section 6.2 provides a summary of the key findings arising from the answers to the three research questions. Sections 6.3 to 6.5 respectively, provide in-depth discussion of three relevant themes: 1) modes in L2 multimodal composing and factors shaping EFL learners' modal and semiotic choices, 2) remaking and refining signs through transductions and transformations in multimodal composing, and 3) semiotic awareness as insights from the composing process. Section 6.6 presents a conceptualisation of Thai EFL learners' multimodal composing, demonstrating the complexity of multimodal composing and related factors that influence their semiotic choices, designs, and meanings in their multimodal texts. The chapter ends with Section 6.7 providing a summary of the chapter.

6.2 Summary of the Key Findings

This study was conducted in Thai context, where EFL curricula have primarily prioritised the development of linguistic modes. Although multimodal composing is not entirely new in this context, they have largely used as tools to enhance students' speaking and writing skills, rather than to foster multimodal meaning-making. In contrast to this conventional perspective, this study moved beyond a narrow focus on linguistic modes to examine the diverse representational modes and the multimodal design of language learners' produced texts. The findings reveal that Thai EFL students can produce expressive multimodal texts which foster their semiotic awareness even without any training on multimodal meaning-making. While existing research has recognised multimodal composing as multimodal meaning-making practices, this study extends these discussions by highlighting how Thai EFL students' semiotic choices and practices in an instructional setting and the extent of their semiotic awareness are crucially shaped by diverse material, contextual, and social factors.

Informed by a social semiotic approach to multimodality (Bezemer and Kress, 2016) and multiliteracies (Cope and Kalantzis, 2009), the study investigated 1) the use of modes in the students' multimodal texts, 2) the remaking of signs across the texts, and 3) semiotic awareness during the composing process. To achieve this, the study drew upon the students' produced texts, recordings of planning and composing processes, background

questionnaires, interviews, and teaching-related materials. The students were not specifically trained to focus on their multiliteracies or semiotic awareness, but rather engaged with the multimodal composing project independently. The following paragraphs provide a summary of key findings for each research question, followed by the main question and the central argument of the thesis.

The first research question focused on the design choices in multimodal composing, asking, “*How do Thai EFL students use modes and semiotic resources while composing multimodally?*” It consisted of two sub-questions:

RQ1a) What modes and semiotic resources are used in the students’ outputs of multimodal composing of an innovative product, i.e. a) handwritten drafts, b) digital posters, and c) in-class presentations? How?

RQ1b) What are the potential reasons underlying the students’ semiotic choices?

From the in-depth analysis of two focal cases (Chapter 4 and Chapter 5), the key findings of RQ1 were presented as follows:

- Thai EFL students not only relied on writing, speech, and image individually as primary modes to represent the main product details, but also concurrently and complementarily combined multiple modes, e.g. writing, image, speech, and gesture, which facilitated them in expressing fuller quality and more precise details of the product.
- However, the students’ reliance predominantly on speech and writing, especially in the second case, constrained their meaning potential in the third text: the presentation.
- The analysis revealed potential reasons and factors that shaped the student’s semiotic choices. These included learners’ familiarisation with alphabetic-based academic writing norms, the pedagogical context, in-class and out-of-class resources, personal interests and experiences, a lack of metalanguage, and peer collaboration.

The second research question focused on the remaking of signs across the three texts, aiming to investigate gains and losses in meaning. It asked, “*What signs and meanings do*

Thai EFL students re-make in the different products created during the multimodal composing activity, and how? What are gains and losses in meanings during this transformation process?''. The key findings were:

- Transduction and transformation allowed Thai EFL students to refine the key signs to express their intended meanings more clearly and accurately through different arrangements, modes, and semiotic resources.
- There were always gains and losses in meanings, such as specificities of the product and salience of the signs, from different affordances and logics of modes (time and space), composing space, material differences, proficiency of a mode, especially of English speech, and opportunities to access other surrounding signs through the use of modes.

The final research question focused on emerging semiotic awareness, asking, “What specific instances of semiotic awareness do they display while engaging with the multimodal composing task, and how do these instances manifest? The key findings were:

- The multimodal composing project provided opportunities for Thai EFL students to demonstrate their existing and developing semiotic awareness, with Case 1 that using more varieties of modes showing more frequent instances, especially those involving borrowing design decisions from external sources either with or without modifications.
- Collaborative multimodal composing offered opportunities for group discussion, which enabled the students to display their developing semiotic awareness.
- However, there were instances which indicated a lack of semiotic awareness, which affected the students’ ability to express meaning.

The three research questions were investigated as a means of seeking answers to a single overarching research question: “How do Thai EFL students use modes and semiotic resources, remake signs, and materialise their semiotic awareness while composing multimodally?” The summary of the key findings from addressing the overarching question is:

- While speech and writing were used as the main modes in L2 multimodal composing, combining multiple modes helped Thai EFL students express additional and more precise meanings than using one mode in isolation.
- Their semiotic choices and practices were crucially shaped by diverse factors such as available modes, academic writing norms, metalanguage knowledge, and their out-of-class interests.
- Thai EFL students engaged with the signs they made and refined the signs for better expression of meaning through transformation and transduction, which also entailed changes in meanings due to various factors, e.g. different modal affordances, proficiency of a mode, and sizes of composing space.
- Multimodal composing enabled Thai EFL students to engage with and develop their semiotic awareness, especially if they relied on more varieties of modes in their composing.

From these findings, the study argues that Thai EFL students can produce expressive multimodal texts, and that multimodal composing fosters semiotic awareness even without training in multimodal meaning-making. However, the students' ability to make appropriate semiotic choices and produce signs that clearly express their intended meanings, as well as the extent of semiotic awareness, are deeply influenced by material, contextual, and social factors. The findings expand the existing and nascent research on L2 multimodal composing (Blecher, 2017; Hafner, 2014; Li and Akoto, 2021; Smith, 2017; Yi *et al.*, 2020) and contribute to a deeper understanding of the role of multimodality for L2 learners, highlighting the need for a pedagogical approach to effectively scaffold multimodal literacy and semiotic awareness in EFL contexts (see Chapter 7).

6.3 Modes and Factors Shaping Semiotic Choices in L2 Multimodal Composing

This section discusses how language learners used modes and semiotic resources in their L2 multimodal composing (RQ1). While the findings revealed that Thai EFL students can produce expressive multimodal compositions, it was also found that their ability to make appropriate semiotic choices depends on available modes, personal interest, culture-specific writing norms, pedagogical contexts, in- and out-of-class experiences, limited metalanguage knowledge, and peer collaboration.

The findings highlights the importance of various modes and the combined use of them, as well as related factors, for better expressiveness in their multimodal texts. They are consistent with a *strong* view of multimodality that supports language learners to make the fullest use of their semiotic repertoire in communication (Grapin, 2019). Section 6.3.1 discusses the primary modes used to represent the main functional loads while Section 6.3.2 discusses how the modes were used in combination. Figure 6.1 depicts a visualisation of L2 multimodal composing, showing the students' use of modes in the specific context of this study.

6.3.1 *Writing, Speech, and Image as the Primary Modes*

In examining the modes used by Thai EFL students (RQ1a), the findings reveal that writing, speech, and image were employed as the primary modes to represent the main ideas in each multimodal text. In terms of writing and speech, there was a consistent reliance on both modes. Particularly for the draft, the participants relied predominantly on writing and did not include any non-linguistic modes in their text despite being allowed. Although they relied on writing, the draft is still considered a multimodal text since meaning is not only expressed with words, but also through semiotic resources such as font, size, colour, position, as well as their juxtaposition with other elements (Kress and van Leeuwen, 2021; Lim and Tan-chia, 2022).

Reliance on writing and speech may not be surprising since English language learning has a longstanding convention of logocentrism that views speech and writing as “the standard of precision in meaning” (Lemke, 2002, p. 321). This perspective is deeply embedded in Thai EFL curricula, as reflected in national standardised tests (O-NET) required for all Grade 6, 9, and 12 students and used for university admissions (NIETS, n.d.). In the English subject, the O-NET assesses students' ability to use language for communication through multiple-choice formats, such as cloze tests, dialogue completions, error corrections, and reading comprehension. The test is dominantly text-based with a strong emphasis on grammar and vocabulary. Likewise, multimodal composing activities in Thailand are typically used to develop speaking and writing skills (e.g. Kongsuebchart and Suppasetsee, 2016; Tarin and Yawiloeng, 2022). This reflects the ongoing influence of speech and writing as primary modes in EFL education in Thailand.

The reliance on linguistic modes is consistent with Shin and Cimasko (2008), who found that most of their students placed priority on linguistic modes and avoided including non-

linguistic elements in their written essays. For instance, in their study, one student decided to remove an image from their final text despite receiving positive feedback on its inclusion. This decision is influenced by their long academic experience with “traditional, language-only essays and reports” (ibid, p.383), which shaped their perception of the use of linguistic modes without other non-linguistic elements as the norm of academic discourse. Chen’s (2021) study further underscores the perceived indispensability of speech and writing in multimodal composing. Chen’s students believed that speech and writing could not be substituted by other modes and they helped them to “explain the meaning” although they stated a preference for multimodal composing (ibid, p.30). Similarly, one student in Kang’s (2021) study expressed their strong belief that argumentation would be better to expressed through linguistic modes. Kim and Kang (2023) also found that some student preferred traditional writing as they multimodal composing required attentions to all modes.

Thus, the reliance on linguistic modes can be attributed to 1) students’ previous academic experiences, 2) pedagogical contexts, and 3) their perceptions of the linguistic modes as normative in academic discourse. This explanation is supported by the results of the background questionnaire in the current study. The participants were familiar with traditional, language-based essays as part of their English writing activities. Some of them, especially those in Case 2, perceived writing as the preferred mode to provide meaning clarity and as an easy means for communication. Moreover, this study was conducted in an ordinary EFL classroom in Thailand, which focuses on improving linguistic modes (writing and speech) rather than encouraging language learners to make use of their full semiotic repertoire for communication. As such, the pedagogical context may also influence how the students perceive speech and writing and limit their exposure to other modes. The factors affecting their semiotic choices will be further discussed in Section 6.3.3.

While speech and writing were used as primary modes, the analysis found that relying on these two modes alone can restrict language learners’ ability to express meanings. In terms of speech, the analysis, especially in Section 5.5.1, revealed that the students chose to rely on speech as the main mode in their presentation, but their low proficiency in L2 speaking skills greatly constrained their expression. Although the task allowed them to integrate various modes, the students chose a mode which limited their expression, and they did not consider how other modes might be used to compensate for their weak speaking skills. This could be seen as a lack of semiotic awareness and multimodal literacy as the students did not recognise the meaning-making potential of different for effective communication (Lim

and Tan-Chia, 2022; van Leeuwen, 2017). Considering that they were not trained to specifically focus on multimodal meaning-making, the findings suggested that these skills are not naturally developed and require explicit instructions. This is in line with an increasing number of pedagogical frameworks and metalanguage designed to develop students' awareness of using and combining modes and semiotic resources (e.g. Cope and Kalantzis, 2021; Kern, 2015; Lim and Tan-Chia, 2022). Semiotic awareness will be further discussed in Section 6.5.

In terms of writing in English, the analysis reveals that Thai EFL students relied on a translation website to translate their ideas from Thai to English in written sentences. It demonstrated how translation tools and L1 shaped the signs and meanings being translated. The practice of using translation websites in completing writing assignments is common among Thai EFL students (Chompurach, 2021; Rangsarittikun, 2023). While they are useful for enhancing the quality of students' writing work, these websites can also produce incomprehensible outputs in terms of Thai idioms, phrases, and paragraphs (Chompurach, 2021). Such findings were observed in Excerpt 4.3, showing that when translating words literally, the website altered the meanings the students intended to convey, resulting in a loss of the concept of 'for all genders' in the original Thai phrase. Moreover, Excerpt 4.13 demonstrated the students' awareness of the limitations of these translation tool, i.e. they understood that typing lengthy Thai sentences might result in inaccurate English translations.

These findings suggest that being aware of how modes and semiotic resources are used in different cultures is important. Despite using the same mode, each culture has different uses, resulting in distinct semiotic principles that influence how meaning is made. In this context, the differences in script systems and specific conventions between Thai and English, such as omission of subjects and pronouns in Thai, and the use of space as a framing device, influence the meaning being translated. This supports Punksirkul's (2018) argument that different cultural specific notions such as different grammatical structures and meaning potentials of modes like colours must be considered in meaning-making. It also aligns with earlier observations by Bennui (2008), which showed that Thai students' English written outputs were influenced by their L1 syntactic, lexical, and discourse interference. He argued that Thai students "carry over the habits of Thai language into English, such as the habit of Thai forms, meaning and culture, into English sentences"

(p.73). This suggests that failing to recognise these cross-cultural semiotic differences can result in meaning that does not align with the communicators' intentions.

In addition to speech and writing, in both cases image was also utilised as the primary mode to represent the main product details in the poster. Table 4.2 and Table 5.2 illustrated the sequence of elements the students placed on their poster, showing how they started from image and arranged written texts to prevent overlap. The analysis underscored the significance of visuals, indicating that the students did not prioritise writing over image. This concurs with a study by Shin, Cimasko and Yi (2020), who examined the use of modes in two multimodal texts and found that the student used image to represent the main idea in PowerPoint Slides while combining it with writing in their poster. Similarly, Normann (2011) explored students' reflections on their digital story creation processes and found that the participants valued image as the most prominent element to carry the main functional load in their multimodal texts. The increasing importance of image aligns with Kress's (2010) perspective, which positions image as one primary mode in everyday contemporary communication.

While speech, writing, and image were used as the primary modes, the analysis demonstrates that Thai EFL students configured them differently and uniquely to make signs to fit their interests and representational needs. For instance, in case 1's poster, an existing image found from the Internet was used while Case 2 decided to draw the picture themselves to represent their product. These observations can be contrasted with Shin and Cimasko (2008), who found that the students preferred to use concrete images, usually photographs, in their multimodal texts to represent "a supposedly objective and unfiltered reality" (p.384). However, Normann (2011) had similar findings to those of the current study, reporting that some participants decided to create their own image as it was "easier to just draw it the way [they] had pictured it in [their] heads" (p.195). The participants in Case 2 also decided to draw since they could not find existing images on the Internet that matched their needs (Section 5.4.2). Clearly, despite using the same mode, the students used and configured that mode uniquely to match their needs. This points to the important roles of the sign-makers' intent in designing meanings, echoing Kress's (2010) argument that the sign-makers' interest is central to the production of signs. Thus, every sign is unique and meaningful, and can be examined to understand the makers' intent and interest (Bezemer and Jewitt, 2009; Jewitt *et al.*, 2016).

6.3.2 *Combining Modes for Better Expressiveness*

In addition to the use of writing, speech, and image as the primary modes to represent the main information in the students' multimodal texts, the findings show that the participants not only utilised other modes, for example gesture, but also combined multiple modes which facilitated their self-expression in many ways.

First and foremost, using different modes in combination are found to complementarily contribute to richer quality and more precise details of the product than is offered by a single mode. For instance, the analysis in Section 4.3 demonstrates that writing was used to represent certain aspects of the product, such as product name and price, while images visually depicted the ideal product and its appearance. Combining these modes together complement each other, providing more comprehensive expression of meanings. This result matches those observed in earlier studies. Nelson's (2008) study demonstrated the effective combination of modes to represent the concept of difficulties and independence. One participant used both speech and the modified image of a mountain with one person sitting on the edge to signify the abstract concepts of 'overcoming difficulty' and 'independence', allowing him to successfully express "a nuanced idea in a richly metaphorical, textually synthetic way" (p.76). Similarly, in Shin, Cimasko, and Yi's (2020) study, the students distributed meanings and effectively represented them in different modes. They used writing to ask questions about greenhouse gas effects and effectively combined them with images using to represent answers to the questions. How the students combined modes suggests a heightened intermodal awareness. Likewise, Zhang *et al.* (2021) also showed how the combination of modes help students to express insights in meaningful and powerful ways. The findings also provide evidence to support the argument by Bezemer and Kress (2016) that meaning is made in all modes, highlighting the different affordances of modes and the significance of combining modes to increase language learners' potential to express meanings (Cope and Kalantzis, 2000).

Secondly, the analysis identifies an additional form of concurrent modal relationship—*reinforcing*—in which multiple modes were combined to emphasise and increase the salience of specific signs and meanings being made. This extends Daly and Unsworth's (2011) framework, which outlines four forms of concurrent relationships, i.e. when different modes were used to represent similar meanings and elaborate on other meanings without introducing new elements: exemplification, where one mode provides an example

for the other; exposition and equivalence, where two modes represent the same and different levels of generality; and homospatiality, where the meaning of two modes is in one spatially bonded homogenous entity (p.63). For example, in Case 2's poster (Section 5.3.2), writing was used to signify the multifunctionality of the product and, similarly, image was also used to represent the same concept. Their combination further highlights the multifunctionality of the product, making it more salient as a key meaning when compared to the others in the poster. These findings add to Shin *et al.* (2020), who found that the participants concurrently combined image and writing, which highlighted certain concepts. In their work, the student used writing to represent 'the greenhouse effect' and an image of the earth within a greenhouse to represent the same concept. Thus, both modes reinforced each other, underscoring 'the greenhouse effect' as the key meaning in the slide. Similarly, In Hafner's (2014) study, the concurrent use of scientific drawings and a script that adopted a scientific register (relying on passive voice and technical terms) reinforced each other and highlighted the portrayal of the self as an 'expert scientist' (Section 4.5.2). The findings of this study and the previous literature clearly indicate that modes can be concurrently combined to foreground certain meanings for greater expressiveness, underscoring the importance of expanding and integrating a range of modes in language learning contexts to make meanings more powerful and successful (Nelson, 2008).

In addition to combining modes for greater expressiveness, the analysis shows that Thai EFL students combined modes to attract and engage the audience, such as the use of music and gesture to draw the audience's attention towards themselves (Section 4.5.1) and the camera angle and POV in the review video (Figure 4.21). In line with this, Hafner (2014) and Nita and Nugroho's (2023) also found their participants combined modes to attract the audience. Hafner, when observing students' documentaries, found that a moving image of one student gazing and throwing a ball straight towards the viewers was combined with written narrations using imperatives (e.g. imagine, welcome) and a second singular pronoun - 'you' - to heighten audience engagement. In addition, his participants perceived non-linguistic modes as useful resources to draw audience attention creatively. Likewise, the students in Nita and Nugroho's (2023) study combined visuals and colours to attract the audience. This also supports Luzón's (2019) study, which found that orchestrating different modes is one strategy to engage the viewers in online science videos. The findings highlight that audience engagement is not merely a byproduct of multimodal composing but can be strategically and intentionally achieved through students' design choices.

Moreover, the analysis in this study found that combining modes provided access to additional signs and meanings, which scoped down the potential meaning being expressed. For instance, while Oliver's speech introducing the product caused confusion in terms of the product name, his gesture and gaze signalled his direction of attention towards the poster shown on the screen (Section 5.5.1). This, at the same time, drew the audience's attention to the poster and provided opportunities for them to engage with the signs on the poster, especially the product name. Similarly, Bezemer and Kress (2016) provided an example when gesture and speech were combined to draw the students' attention to a patient's bodily organ. While speech 'that's the liver' was used to name the organ, the mode of gesture was used to point and draw medical students' attention to the specific patient and organ in question. This underscores how the combination of modes can be useful not only for clarifying clarify meaning but also guiding audience interpretation by reducing ambiguity in a sign's potential meaning.

The current study's findings demonstrate the usefulness of combining modes in multimodal texts in various aspects, i.e. for expressing fuller meaning, attracting the audience, providing access to additional signs, and scoping down the potential meaning being expressed. However, it also reveals that the students did not always effectively use and combine modes for greater expressiveness. The analysis of Case 2, for instance, showed that the students decided to draw many elements, such as various planets, a UFO, a lorry, a skull, etc, to represent different aspects of their product in the poster (Section 5.4.2). On the one hand, the drawings were apt signifiers for them. On the other hand, it might be challenging for some audiences to associate the signs with the students' intended meaning since their product was eyeglasses. One crucial factor observed was a lack of audience awareness during the design process as the students expressed minimal concern about whether others could comprehend the intended meaning of the signs or not (Excerpt 5.16). Other studies have also demonstrated ineffective use of modes in multimodal texts. For instance, Nelson (2008) observed a student's unsuccessful attempt at combining modes to create suspense and stimulate audience engagement. However, in Nelson's (2008) study, a different underlying reason was identified. The student did not have issues with writing, as his sentences were well formed, no with image. Instead, the issue was the student's lack of awareness of the interrelation of modes, which undermined his authorial voice. Similarly, Park (2011) found that the students did not combine the chosen modes effectively. Although Park did not investigate the possible reasons behind this, her study revealed how

the modes were used ineffectively, such as using mismatched images with the meanings expressed in speech or writing and choosing music with lyrics or melodies that did not suit the context. The findings in the current study indicate that the ability to use and combine modes effectively is not inherent but requires audience design and semiotic awareness for effective multimodal composing, especially the interrelation of modes. Audience design and semiotic awareness will be discussed in sections 6.3.4 and 6.5.

In summary, this study aligns with a strong view of multimodality, affirming that non-linguistic modes are not just support for speech or writing development, but equally functional modes that can be used to represent meaning (Grapin, 2019; Kress, 2010). It sheds light on the potentials of modes - and the combination of them - for helping language learners express more nuanced meanings regardless of their English proficiency level. Figure 6.1 visualises how Thai EFL students used modes in their L2 multimodal composing, illustrating 1) the primary modes employed to represent the main functional loads, and 2) the combination of modes that were used for various purposes (Sections 6.3.1 and 6.3.2). The implications of the study, especially for language teachers, are detailed in Section 7.4. The findings also revealed a number of different factors which influenced the learners' semiotic choices. This will be discussed next.

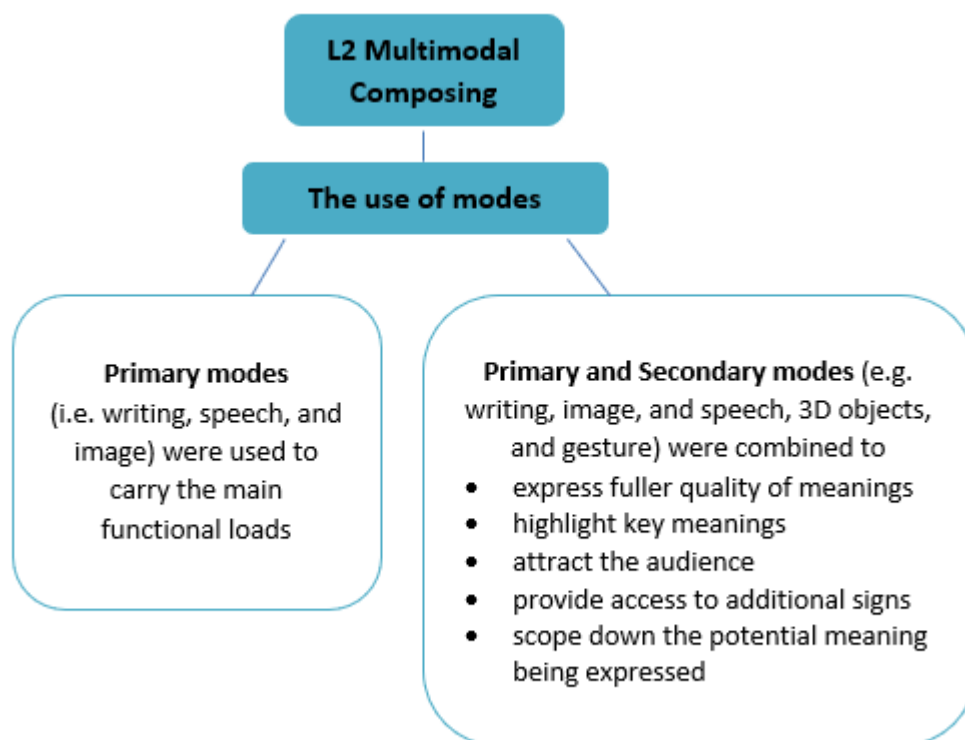


Figure 6.1 The use of modes in L2 multimodal composing of Thai EFL students

6.3.3 Factors Shaping EFL Learners' Modal and Semiotic Choices

The two previous sections discuss the use of modes in Thai EFL students' multimodal texts (RQ1a). This section focuses on potential factors that shaped their semiotic choices and text design (RQ1b). From a social semiotic perspective, students' sign-making when composing multimodal texts is influenced by three main factors: 1) modes available in a particular context, 2) their aptness to the meaning they desire to express, and 3) the sign-makers' interest (Kress, 2010; van Leeuwen, 2022). Extending this perspective, this study reveals additional factors that influenced Thai EFL students' semiotic choices. These factors include the learners' familiarity with common academic writing norms, their in-class and out-of-class resources, their personal interests and experiences, a lack of metalanguage, and peer collaboration in multimodal composing. Figure 6.2, shown at the end of Section 6.3.4, summarises a list of factors that influenced the students' semiotic choices and designs.

Firstly, the study found that one factor shaping Thai EFL students' semiotic choices is their previous experiences with common academic writing norms. As discussed in Section 6.3.1, both Case 1 and 2 primarily relied on writing, speech, and image to represent the main ideas in each multimodal text, with a consistent reliance on linguistic modes (writing and speech)

despite the opportunity to integrate other modes. This reliance is perhaps unsurprising, as Thai EFL education has long been influenced by a logocentric view of language, prioritising speech and writing in both classroom practices and assessments rather than fostering a broader semiotic repertoire. This is reflected in the questionnaire responses that the participants were familiar with text-based assignments and some of them preferred writing as the main mode of communication. This aligns with Shin and Cimasko's (2008) and Chen's (2021) study which argue that language learners' familiarisation with traditional language-based assignments significantly influences their perceptions of the value of linguistic and non-linguistic modes.

Moreover, the reliance on linguistic modes can also be understood as influenced by the pedagogical context, e.g. task instructions and text genres. In this study, the students composed multimodal texts in different genres: a handwritten draft, a poster, and a live presentation. Each genre influenced their semiotic choices by shaping their perceptions of "the way things are supposed to be ... and as such the way ideas, thoughts, and even actual experiences are supposed to be represented, according to convention" (Nelson, 2006, p.67). For instance, posters typically combine both visual and writing; therefore, it may not be surprising that students would naturally consider integrating these two modes in their poster. In line with this, Shin *et al.* (2020) found that their participant selected modes based on his perceptions of what texts typically look like within that genre. Moreover, task instructions also played a role in shaping the students' semiotic choices during the multimodal composing tasks. For example, "using comparative and superlative adjectives" implicitly guided the students to use either writing or speech. Instructions, therefore, are important, as they can enable or limit students' ability to fully engage in multimodal composing activities. This supports Satar and Wigham's (2017) study, which underlines the importance of multimodal resources and argues that the ability to effectively harness the affordances of available modes and resources for giving task instructions is a crucial competency for language teachers.

In addition, in-class resources provided by teachers were found to facilitate and shape Thai EFL students' semiotic choices. The analysis in sections 4.3.2 and 5.3.2 demonstrated how the students relied on an example in the handout provided. It shows the students engaged with the sentence, identified parts of the sentence, and then made modifications to suit their representational needs. The finding is consistent with Shin and Cimasko (2008) who found that one student excluded audio mode from her web page to make her work align with

samples from previous semesters. The samples were traditional, printed-based essays which shaped the student's perception of what was appropriate and what not to include in the text. Also, Hafner (2014) demonstrated how sample documentaries introduced in class shaped how the students selected and used modes and resources to design their documentaries. Considering the context of this study, this could also be true for the participants here, especially when they composed their draft, as the example provided was written as a paragraph and did not consist of other modes. This finding, on the one hand, provides evidence that the students were still engaged with linguistic aspects, which is a primary concern for language educators and scholars who adopt a weak view of multimodality (e.g. Manchon, 2017; Qu, 2017). On the other hand, it underlines the significant role of materials in shaping students' semiotic choices, suggesting the importance of selecting proper instructional materials to promote the use of multiple modes.

Next, the analysis reveals that Thai EFL students' semiotic choices were significantly influenced by their out-of-class interests and experiences, as well as out-of-class resources. For instance, the students relied on external resources such as translation and fancy font design websites to facilitate their text creations. Moreover, Case 1's designs of multimodal texts were strongly shaped by personal interests in a particular Korean pop band and Thai media, such as their review video which followed the discourse structure of TV Direct ads (Figure 4.22). These findings are consistent with Hafner (2015) and Ho (2024). Hafner (2015) demonstrated how students relied on resources from global popular culture (e.g. the theme tunes and some scenes from the Mission Impossible films) to enhance their expressive voices. His study underscores how multimodal composing engages language learners with a range of literacy practices that align with those found in out-of-class environments. Similarly, Ho (2024) found that L2 learners relied on both teacher-provided resources and their out-of-class experiences with digital media, for example YouTube and podcasts, to design their multimodal texts. Such findings highlight that multimodal composing allows learners to bring out-of-class composing tools and practices into classroom contexts, blurring the boundary between 'in-class' and 'out-of-class' practices, leading to 'connected learnings' (Teo, 2008) that can increase students' engagement and develop transferable skills that can be applicable beyond the classroom walls (Hafner, 2018; Lim, Towndrow and Min Tan, 2021)

Furthermore, the study found that Thai EFL students lacked a metalanguage to discuss their semiotic choices effectively. For instance, when the students in Case 1 discussed which

font to use with the company name, their reasons were vague, for example “to see if it works” (Excerpt 4.6) and “the fonts were not right” (Chloe’s interview in Section 4.6.1.2). At the end, they selected one font based on aesthetic appeal, i.e. “it’s cute” (Excerpt 4.6). Although guided questions were provided to improve team collaboration on their design decisions, the students were not taught a language to describe their design. Thus, it is unsurprising that they could not specifically explain or identify issues with their design. The importance of metalanguage in designing successful multimodal texts was illustrated by previous studies like Shin *et al.* (2020) and Lim *et al.* (2022). If the students in this study had learned the appropriate metalanguage, they might have been able to address these issues, potentially enhancing their ability to convey intended meanings beyond mere aesthetics. This finding underscores the necessity of developing metalanguage as a shared vocabulary for teachers and students to effectively describe and discuss multimodal meanings made (e.g. Lim and Tan-Chia 2022; Shin *et al.*, 2020). The pedagogical implication will be further discussed in Section 7.4.

The analysis also shows that peer collaboration was one factor that shaped the design of the students’ multimodal texts. The multimodal composing project in this study was group work and it was found that discussing design choices with their peers facilitated the students’ sign-making, helping them to make signs that expressed meaning more accurately. For instance, the students in Case 2 discussed the design of their product name and decided to make changes to the name from ‘glass’ to ‘glasses’, which also changed the meaning being expressed (Section 5.6.1.1). This collaboration accords with Wikan *et al.* (2010) and Hafner (2018), who argued that group-based multimodal composing engages students in cooperative learning, offers rich opportunities for students’ collaborations and interactions when creating and explaining the nuances of their multimodal texts, and also facilitates peer teaching of both language and project-related skills. Multimodal composing, especially when it is done in groups, allows learners to learn through social interactions and their negotiation of meanings (Vygotsky, 1978).

However, it is also evident that sometimes peer collaboration limited the modal choices and students’ creativity in multimodal composing, especially when the students had different opinions. For example, Excerpt 5.17 demonstrates Oliver’s strong rejection of the idea of using other modes, i.e. bringing a 3D object to represent their product in the presentation. After his rejection, his classmates did not raise further issues regarding modal choices. While Jocius (2018) found that the design and content of multimodal texts are

controlled by those students familiar with and in control of the digital tools, this did not appear to be the case in the current study. Conversely, it is possible that the students did not realise the affordances of modes for making meanings as they focused only on negotiating speaking turns and the presentation content. As Bezemer (2023) argued, modes have different meaning potentials, but “the degree to which affordances are ‘picked up’ depends on the capability of the perceiver/sign maker” (p.7). On the other hand, this may be linked with Thai culture, which prioritises harmony and tends to avoid confrontation (Deveney, 2005; Redmond, 1998). “Thai children are discouraged from bringing up contrasting views or challenging others” (Boonsathorn, 2007, p. 202); this may be an underlying reason for why the other students did not further show their disagreement with Oliver’s strenuous rejection. The findings suggest that while peer collaboration can be beneficial for negotiation and shared decision-making, it can also restrict modal exploration and creativity, particularly in contexts where cultural norms discourage conflict and when students have limited awareness of modal affordances.

To summarise, multimodal composing is a complex process which is not only about choosing, using, and combining modes and semiotic resources to represent intended meaning, but also involves different material, contextual, and social factors that can influence learners’ choices in designing effective multimodal texts. These factors need to be considered by language teachers to improve the learners’ communication skills in the digital age. The next section will discuss another crucial factor - audience design.

6.3.4 *Effective Multimodal Composing for Communication: Audience Design*

Multimodal composing involves sign-making for representation and communication. According to Kress (2010), representation and communication are different social practices:

Representation focuses on my interest in my engagement with the world and on my wish to give material realisation to my meanings about that world. Communication focuses on my wishes or need to make that representation available to others, in my interaction with them (p.49).

The key difference between the two lies in whether the creators consider the intended audience and whether the audience would be able to interpret the signs made.

One significant finding of this study is that Thai EFL students often made signs in their multimodal texts for self-representation according to their intent, rather than for effective

communication with others. For instance, the students in Case 1 intentionally chose a picture of a cartoonish banana to signify a high technology company without considering how the audience might interpret this choice (Section 4.4.2.2). This echoes Kress's (2010) emphasis on the importance of designer's interest and intent, highlighting the agentive roles of designers in sign-making. However, for the audience, it appears to be challenging to derive the same meaning from the sign as the students' choice of image and the meaning are not associated. Similarly, one Case 2 student said, "Maybe no one is going to look at each item in detail" while drawing various elements on the poster to represent product functions and features (Excerpt 5.16). This highlights his lack of audience awareness and, consequently, most of the drawn items were not clearly associated with the product, making it challenging for the audience to interpret the intended meaning (Figure 5.9). This demonstrates a critical gap in the students' ability to consider audience interpretation when producing multimodal texts for effective communication.

This finding is contrary to previous studies which have looked at the importance of audience awareness in designing multimodal texts (e.g. Yang, 2012; Hafner, 2014; Wang, 2022). Yang (2012) highlighted that the agentive role in designing meaning cannot be categorised as individual authorship whereby the authors freely represent their ideas and intentions without considering how their audience will interpret and understand these signs. Hafner (2014) also emphasised that the students' aim to attract their audience's attention influenced how they selected and combined modes for multimodal expression. Similarly, Cimasko and Shin (2017) found that the students' semiotic choices were shaped by their consideration of the assumed audience, for example choosing a dialogue format for a video to make it more engaging and lively for the audience. Wang (2022) also found that all the participants designed their texts in a way that facilitated the audience's comprehension. Additionally, previous studies have stressed the importance of audience, arguing that it is the primary factor that shapes multimodal design, rather than the designer's authorial intention (Cimasko and Shin, 2017; Fraiberg, 2010; Nelson, 2006). A possible explanation for this contrast can be understood in light of the Thai EFL context, where writing has been conventionally taught through a product-oriented approach, which prioritising accuracy, forms, and teacher-centred assessments, rather than authentic communication with diverse audiences (Puengpipattrakul, 2014). As Thai students are rarely encouraged to think of readers beyond their teachers, it may be natural for them to prioritise self-representation over audience interpretation when designing multimodal texts.

While audience awareness is important for composing multimodal texts that effectively express learners' intended meaning, it is important to recognise that hyper-awareness of the audience can affect the authors' voice (e.g. Nelson, 2006; Wang, 2022). One student in Nelson's (2006) study realised that her chosen image did not accurately represent her experience in Taiwan since she prioritised the audience expectations over an accurate representation of what she knew to be true from her own experiences. Moreover, audience awareness can cause students to struggle with deciding what modes and resources to include in their texts (e.g. Hafner, 2014; Wang, 2022). For instance, some students in Wang's (2022) study decided to abandon their original designs out of concern that the audience might not interpret the same meaning. Hafner (2014) reported that while students were aware of using alternative modes as an effective means to engage audience attention, they also cautioned that excessive use of modes could irritate the audience. He highlights that one crucial challenge in designing multimodal texts is for students to think carefully about how to strategically and effectively combine multiple modes to achieve the desired semiotic effect, i.e. getting the audience's attention.

In social semiotic theory, communication is not about coding and decoding meaning by applying pre-given rules, but is always an active interpretation (Kress, 2010). Interpreting meaning of signs involves:

[making] hypotheses on what those signs mean on the basis of the materiality of the resources used and (my knowledge and experience of) the past uses of these resources and the situation at hand, including my knowledge and assumption of the sign-maker's own interest and positionality (Adami, 2023, p. 21).

This means that when considering the audience, students need to think of not just considering who they are, but also including their expected interest, context, and semiotic repertoire to be used in interpreting the signs they have made. For instance, in Case 1, the students, following the Apple brand, chose a picture of a banana without a bite mark to represent a high-tech company; however, the meaning of the sign might have been interpreted differently with the bite mark as for many Thais such an image is a relatively well-known signifier for Apple Inc.

Clearly, for effective multimodal composing, the audience is a crucial factor that needs to be considered. Audience awareness has been included as one important aspect in a number of recent frameworks designed to improve multimodal literacy and teach multimodal composing (e.g. Kern, 2015; Lim and Tan-chia, 2022). The findings suggests that learners

should also the semiotic repertoire of the audience to ensure that their semiotic choices can be interpreted accurately. In addition, it reveals multiple factors involved in Thai EFL students' multimodal composing: learners' familiarisation with alphabetic-based academic writing norms, pedagogical contexts, in-class and out-of-class resources, their interests and experiences, a lack of metalanguage, and peer collaboration; all of which can influence their semiotic choices and multimodal designs. Figure 6.2 provides a summary of the different factors that need to be considered for effective multimodal composing.

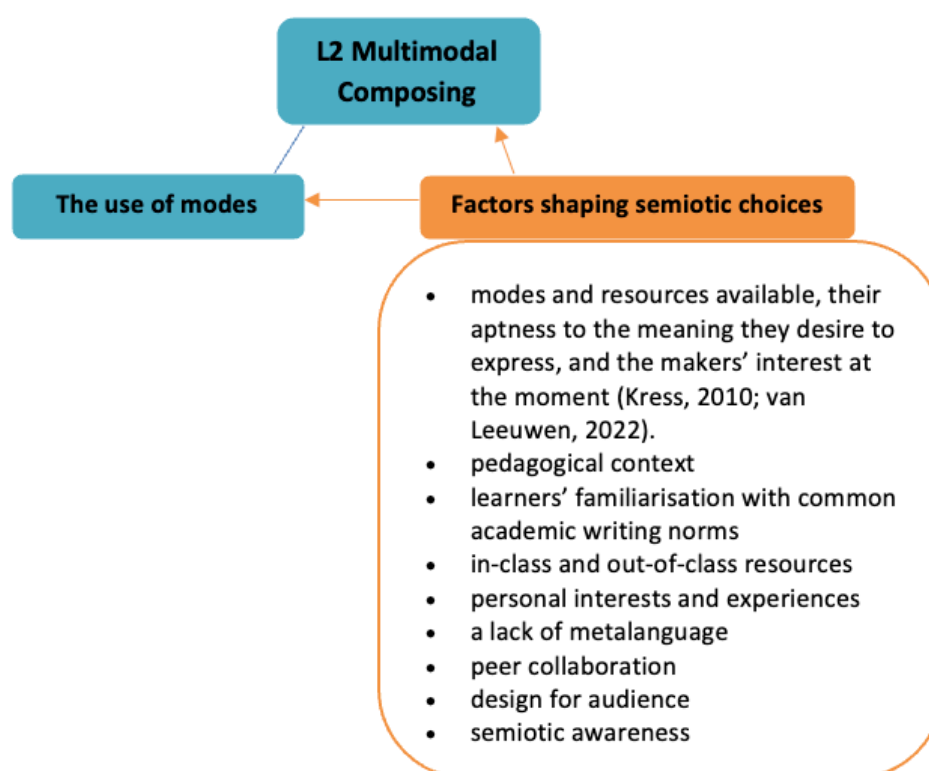


Figure 6.2 Shaping factors in L2 multimodal composing of Thai EFL students

6.4 Remaking and Refining Signs through Transductions and Transformations in Multimodal Composing

This section discusses the findings garnered in answering RQ 2, focusing on the remaking of signs as well as gains and losses in meaning from transduction and transformation across three different text types. The findings revealed that engagement with transduction and transformation processes can refine and enhance Thai EFL students' expressiveness. However, expanding on previous studies, this study contributes to a more nuanced understanding of how the accuracy of meanings remade through these processes is intricately shaped by multiple contextual and semiotic factors: different affordances of

modes, material differences, composing space, access to other surrounding signs, and students' varying proficiency in a mode, particularly in speech.

Firstly, it was found that transduction and transformation enabled Thai EFL students to evaluate and identify the key signs and meanings to be remade into the subsequent texts. Across both cases, the students consistently remade the same basic product information (e.g. the product name and functions) while also selectively remade different aspects (e.g. selling pitch in Case 1 and some of the product functions in Case 2). The findings suggest that their semiotic decision-making of remaking signs was purposeful, even in the Thai EFL context where learners are not specifically taught to focus on multimodal meaning-making. This aligns with previous studies that examined students' perspective and their produced texts, indicating that when transforming and transducing across the texts, such as from the narrative into the voice-over script, the students focused on identifying and maintaining the most important ideas from their initial text (e.g. Cimasko and Shin, 2017; Maqueda, 2022). The findings reaffirm a key social semiotic assumption that every sign is always unique and reflects the sign-makers' interest and understanding of the world (Jewitt *et al.*, 2016), and underscores the value of examining the signs or texts that language learners produce, as they offer valuable insights into what they consider significant within the learning context.

Moreover, the findings demonstrate that transduction and transformation enabled Thai EFL students to refine the signs to express meanings more clearly and precisely through different arrangements, modes, and semiotic resources. For instance, transducing the written and visual signs that represent the product as a 'high-tech one' in GOT4's poster into video allowed them to be more specific about this feature (i.e. show the rectangular screen with automatic eyesight adjustment and digital scanning sound effect) and also engage the audience through their POV (Section 4.6.2.2). This not only shows that, for the students, the high-tech concept was an essential aspect of their product in need of re-representation, but also provided evidence showing how they made use of modal affordances of video; that is, making signs that express the concept of high-tech more clearly and accurately through a combination of moving image, speech, and sound. This concurs with Jiang (2017), who found that remaking signs into a different medium offers opportunities for students to "customise meaning-making beyond the limits of language" (p.417). Moreover, it supports Nelson's (2006) argument that transduction enables students to create signs representing "a deeper, fuller quality of meaning" (p.65). Nelson illustrated this with the example of a

student searching for apt images as the transduction of the written sign ‘two-faced’ to represent her experience of living in two cultures. However, she became aware from the images that she wanted to represent herself as the one who “bridges two cultures and shares equally in both” (p.67); thus, she remade her written sign from ‘two-faced’ to ‘culture broker’ for better accuracy. Likewise, the participants in Yang (2012) also transduced and transformed signs that effectively demonstrate different emotions and sentiments of the character in their texts. The findings resonate with Bezemer and Kress’s (2016) argument that different modes have different meaning potentials and offer different route to learning, but also further highlight that transduction and transformation can empower students’ meaning-making potentials.

As transduction and transformation provide opportunities to reshape signs for better expressiveness, the processes also inevitably bring about changes in meaning due to various factors. In addition to different logics and affordances of modes (Kress, 2010), this study identified various factors influencing gains and losses in meanings. These factors included composing space, proficiency in a mode (particularly speech), opportunities to access other signs and the material differences (e.g. the actual poster and the poster shown through the projector).

When the students in Case 1 transduced the product type (i.e. the word ‘contact lenses’) in the draft into an image in the poster, the words ‘contact lenses’ represent what the product is while the image visually represents further details about the product, for example the colour and shape of the product (Section 4.5.1). Writing *names* the product; image *shows* it. This confirms that different affordances of modes contribute to varying potentials and limitations for representing meaning (Kress, 2010); thus, remade sign represents different meanings to the audience (e.g. Adami, 2023; Ho, 2024; Yang, 2012). However, in the context of this study, the pedagogical instruction did not focus on teaching multimodal meaning-making. Although the students demonstrated their ability to transduce and transform signs using different modes, there is little evidence that they were fully aware of the decision they made during the process (see Section 6.5 for semiotic awareness). Thus, the students may not have fully exploited or understood the different affordances of modes. For instance, they may not be aware that the spatial logic of images allows for the representation of meaning through size, appearance, and positioning of elements while the temporal logic of writing and speech affords a sequential depiction of unfolding actions in succession (Adami, 2023; Kress, 2010). Moreover, as modes are socially and contextually

shaped, the differences of cultural context and its effects are also important for the remade meanings. This is highlighted in Chueasuia's (2013) study which examined the transformation of writing in English to Thai and found the changes in the meaning representing sexual strength in the original version. Likewise, Seajang (2023) studied the transduction of Thai translated lyrics and choreography of a Chilean song and found the changes in meaning represented by different semiotic resources and cultural norms. This underscores the need for explicit instruction to enhance understanding of how modes contextually afford different ways of seeing the world to achieve comprehensive and accurate representations in multimodal compositions.

Moreover, it was found that proficiency in a mode can greatly affect the meaning being remade, especially for speech when used in isolation. The analysis in Section 5.6.2 shows that the multifunctionality was clearly represented and made salient through writing and drawing in the poster, but when it was transduced in the presentation, the clarity of meaning was constrained and lost by how the student used speech (e.g. the frequent number and the location of pauses, self-repetitions, and mispronunciation of words). On the one hand, the finding indicates the importance of being fluent in using one mode when relying on it alone to represent meaning more effectively. This aligns with the current Thai EFL education which uses multimodal composing to improve linguistic proficiency (e.g. Kongsuebchart and Suppasetserree, 2016; Tarin and Yawiloeng, 2022). If the student had been more proficient in L2 speaking skills, he would have been able to express his intended meaning more effectively through his modal choice. However, the findings point to a critical gap and underscores that an over-reliance on one mode may limit the depth and clarity of conveyed meanings. This echoes Bezemer and Kress's (2016) argument that combining modes can enhance learners' meaning-making potential and points to the necessity of strategically practicing using multiple modes in multimodal composing to enhance their proficiency for more effective communication (Blecher, 2017; Nelson, 2008).

Furthermore, when students remake signs using multiple modes, they invite the audience to access additional signs that are co-presented, leading to gains in meanings available for interpretation. For instance, when Oliver verbally introduced the product type, he also used a gesture which directed the audience's attention to the poster, thereby providing opportunities to access the product's appearance visually represented on the poster (Section 5.5.1). Although the gesture itself was not used to convey meaning, it functioned as a mediational tool that can help students to express meanings more effectively. This accords

with numerous studies demonstrating the usefulness of gesture, particularly when combined with speech (e.g. Morell, Beltrán-Palanques and Norte, 2022; Vilà-Giménez, Igualada and Prieto, 2019; Wang, Gao and Cui, 2023). For example, the beat gesture can enhance speakers' potential to communicate by visually highlighting specific words or phrases (Vila-Gimenez *et al.*, 2019) and by marking key information and regulating speakers when giving presentations (Wang *et al.*, 2023). Critically, this underlines a pedagogical gap in Thai EFL classrooms where such non-linguistic modes, such as gesture, are often undervalued. The use of gestures is spontaneous, rather than strategically aimed at enhancing communicative potential. These findings support the central tenet of multimodality— that each mode offers distinct affordances (Jewitt *et al.*, 2016); gesture can be employed not only to represent meanings, but can also aid in more effective expression. It suggests a need to foster students' semiotic awareness for effective meaning-making in their multimodal composing.

Moreover, the findings show that composing space influenced gains and losses in meanings by shaping Thai EFL students' modal choices. The multimodal composing project in this study required the students to compose a handwritten draft on A4 paper, design a poster using Google Slides, and perform an in-class presentation, each offering distinct available modes and resources for meaning-making. It was found that the students relied on similar modes in the draft (i.e. writing) and the poster (i.e. image and writing) while employing various modes in the presentation. This corroborates with Smith (2017), who found less variation in modal traversals in discrete and confined composing spaces (i.e. an audio letter task) than in open and flexible composing spaces (e.g. web page). Additionally, the students mentioned that limited composing space, especially in the poster, forced them to select only a few outstanding product functions to re-represent, resulting in the loss of other important functions. This constraint hindered their ability to fully convey what their product could do (Section 5.5.2). The findings suggests that the physical affordances of the composing medium play a crucial role in meaning-making, underscoring the importance of choosing appropriate medium for composing. As different mediums offer different modal resources for making signs, they can both constrain and enable action (Wertsch, 1998), and “one medium might offer a more appropriate representation than another” (Bolter and Grusin, 1999, p. 44). For Thai EFL learners, who are likely more familiar with alphabetic composing activities, understanding what the medium offers, as well as the potentials and constraints it creates is especially critical, as this allows them to make more informed

design decisions that support their communication goals instead of resorting to familiar forms (Cimasko and Shin 2017; Ho, 2024). While changes in composing space can result in meaning loss, they also promote transduction and transformation, which compels students to rethink and re-evaluate key signs and meanings and reshape them for more effective expression, as discussed earlier in this section (e.g. Shin and Cimasko, 2008; Oskoz and Elola, 2016; Yang, 2012). The findings here critically highlight that composing space as an active agent that not only shapes the students' modal choices but also transduction and transformation.

However, it was also found that material differences can impact the signs and meanings being remade. While Oliver's gesture led to additional signs representing more detail about their product, the poster itself did not clearly communicate all the same signs, resulting in a loss in specific details of the product. This occurred as a result of the differing qualities between the poster shown on the screen and the actual poster. If signs are not clearly visible, they cannot be interpreted; thus, they cannot effectively convey meanings. While social semiotics emphasises that different modes have distinct potentials for making meanings (Kress, 2010), the findings underscore the critical, overlooked role of materiality in the meaning-making process. This finding is particularly salient in contexts like Thai EFL classrooms, where students may not yet be accustomed to considering the influence of materials. It reinforces Kern (2021), who emphasised the necessity of recognising the influence of different media because "students and teachers may think they are looking at the 'same' text, and yet they may in fact be seeing something different on their respective screens" (p.134). Therefore, to accurately and effectively re-represent signs and meanings through different media requires raising Thai EFL students' awareness of how material variations influence audience interpretation.

In summary, this study has demonstrated that transduction and transformation of signs are common semiotic practices in L2 multimodal composing. It underscores that while these processes can help students identify key ideas and refine the signs used to express them better, they unavoidably bring about changes in meanings due to various factors. As highlighted by Cope and Kalantzis (2020), signs and meanings can be "re-represented and re-communicated across the different forms, though never in the same way" (p.14). Figure 6.3 presents the potential factors that influence gains and losses in meanings from the transduction and transformation of signs of Thai EFL students in this study. These factors

need to be considered to increase the effectiveness and the accuracy of the signs and meaning being remade.

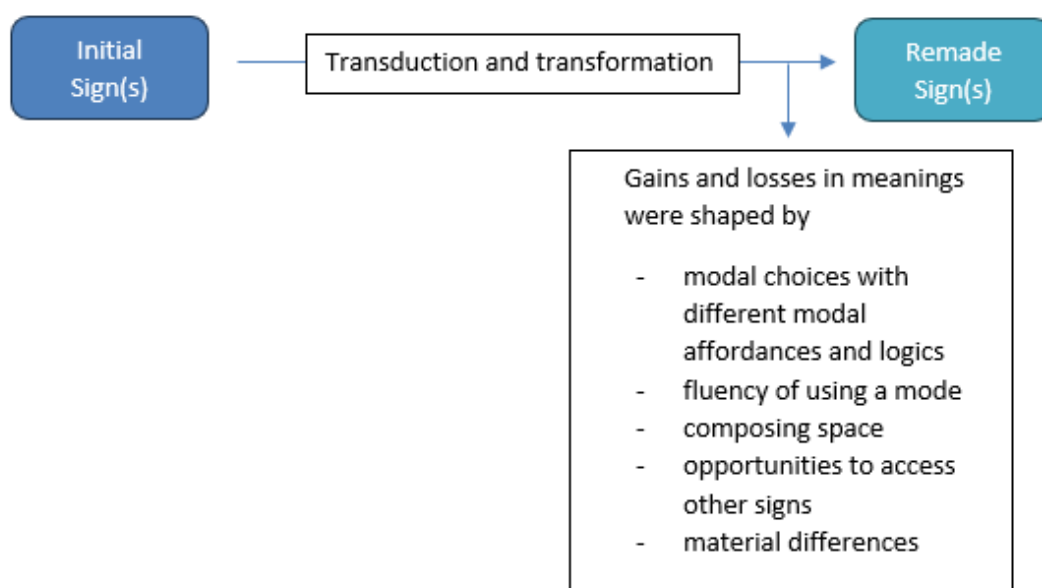


Figure 6.3 The process of transduction and transformation and the factors shaping gains and losses in meanings of Thai EFL students’ multimodal composing.

6.5 Semiotic Awareness: Insights from the Composing Process

In the previous sections, the findings from the research into RQ1 and RQ2 contribute to an understanding of complexity of Thai EFL students’ multimodal composing. In this section, I discuss the findings related to RQ 3, i.e. opportunities for students to display and develop their semiotic awareness in L2 multimodal composing. To recall, this study is an examination of multimodal composing activities of Thai EFL students, which has not yet prioritised the development of multimodal literacy. Despite not receiving any specific training on multimodal meaning-making, the findings demonstrate that multimodal composing provided natural opportunities for the students to display and develop semiotic awareness. However, the extent of their awareness is shaped by the collaborative dynamics within group work and the diversity of modes employed.

The study employed a revised version of Nelson’s (2008) taxonomy to identify instances of semiotic awareness (Section 3.6.5.2). Throughout the multimodal composing project, the most frequent occurrences of semiotic awareness found in both cases were displays of existing semiotic awareness, rather than developing awareness. This might be unsurprising as the students did not receive any training to focus on improving their multimodal literacy

and semiotic awareness. The most frequent instance of existing semiotic awareness found was the use of borrowed designs from external sources for their sign-making. Both cases recognised existing signs from various media from different countries (e.g. slogans from Thai ads, names from a Korean band and an existing gadget, and a discourse structure from Thai TV ads) (see sections 4.7.1.2 and 5.7.1.2). They sometimes took the signs as they were and recontextualised them, made some modifications, and took them as symbols. This finding is in line with Hafner (2015) and Smith, Pacheco and Khorosheva (2021), whose research found that language learners use and appropriate existing works of others in innovative ways to create their multimodal texts. Such remix practices have become commonplace with digital media that allows new ways of expressing meanings and project one's voice (Jones and Hafner, 2021; Manovich, 2007). However, Hafner (2015) pointed out that "if students cannot make the remixed material cohere with the rest of the composition, then their own voice may be overpowered by that of the original material" (p.504). While the findings demonstrated the students' ability recognise existing signs, suggesting their foundation level of semiotic awareness, it emphasises to develop students more nuanced skills to effectively employ and remix resources in ways that enhance rather than overshadow their communicative intentions.

One important finding is that employing more varieties of modes provided more opportunities for Thai EFL students to engage with, display, and develop their semiotic awareness during the multimodal composing process. The Case 1 students displayed most instances of semiotic awareness during the poster and presentation tasks, where they employed multiple modes. Similarly, the Case 2 students displayed most instances of semiotic awareness in the poster creation task. This finding resonates with previous studies arguing for the importance of encouraging students to engage with multimodal representation activities as a means of developing their semiotic awareness (e.g. Cope and Kalantzis, 2020; Lim and Nguyen, 2022; Lim *et al*, 2021). As modes have distinct potentials for representing meanings, students are naturally required to make apt modal and semiotic choices in the representation of their multimodal texts. In the Thai EFL context, where language-based instruction remains the norm, multimodal composing tasks crucially provide a departure from the monomodal norm, allowing students to recognise the semiotic potentials of non-linguistic modes. Moreover, multimodal composing in this study was group work, and is thus a demonstration of collaborative multimodal composing (CMC), which refers to writing performed in collaboration with two or more writers (Storch, 2011).

CMC encourages students to express their thoughts and promotes group discussions (Smith, 2019). For Thai students, these collaborative dynamics not only provide more opportunities to negotiate their semiotic choices, but also scaffold the development of their semiotic awareness.

Despite not explicitly focusing on displays of developing semiotic awareness, the study shows that the students demonstrated instances of developing awareness through peer interaction. For instance, Chloe became aware of the sign ‘\$’ and its meaning from her discussion with the other group members (Excerpt 4.8, Section 4.3.1). Similarly, Zane recognised the impact of a typo on the word meaning (Glass and Glasses) after discussing it with Niko during the poster composing process (Excerpt 5.6, Section 5.6.1.1). As previously discussed, CMC invites students to discuss and negotiate their design choices (Smith, 2019) and provides opportunities for developing semiotic awareness. This is in line with Lave and Wenger (1991), who argued that learners can support and scaffold one another through ‘communities of practice’. Moreover, the finding is consistent with previous studies on CMC which highlight how it allows learners to gain new creative and technical skills from their peers (e.g. Dalton, 2014; Gilje, 2010), fosters peer scaffolding to accomplish task goals (Hafner and Miller, 2011), and facilitates them in noticing, negotiating, and resolving any linguistic and rhetorical aspects as well as other semiotic modes related to their composing issues while completing their tasks (Kim and Kang, 2020; Storch, 2013; Tseng, 2021). The findings underscore the critical role of peer interaction in developing semiotic awareness, demonstrating how CMC fosters a deeper understanding of linguistic, rhetorical, and semiotic elements through the design process.

However, the findings here revealed some instances of students displaying a lack of semiotic awareness which impeded their potential to make signs that express their intended meanings effectively. In Case 2, Oliver’s refusal to bring actual glasses (a 3D object) to represent their product, along with the implicit agreement of the group members to use speech alone in the presentation suggests a lack of semiotic awareness. Physical glasses can represent different aspects such as the materiality, colour, and size of the glasses, which is not available in speech. The students’ lack of awareness in these cases led to a critical oversight in recognising and utilising diverse modes and semiotic resources that could enhance their communicative ability. This issue was highlighted by Bezemer (2023), who underlined that the potentials of modes “may or may not be utilised by individual sign makers or groups of sign maker. The degree to which affordances are picked up depends

on the capability of the perceiver/sign maker” (p.7). Likewise, Nelson (2006) recognised the importance of understanding the tools and their affordances to engage in design process in its truly creative sense, arguing that “power tools do not necessarily a carpenter make” (p.72). In the Thai EFL context, where students are not trained to recognise the distinct meaning potentials of modes, this study argues that students require guidance and awareness to harness potentials of these various resources to enhance their semiotic awareness and communicative effectiveness.

Although the study found that students engage with semiotic awareness during multimodal composing, it does not imply that they always composed consciously with their semiotic choices in mind. However, it demonstrates that, with semiotic awareness, the students could make signs to represent their meaning more creatively and effectively. For example, the students in Case 1 wore lab coats to take on the persona of researcher (Section 4.5.2). Similarly, the students in Case 2 discussed the word choices of ‘GPS’ and ‘GPS system’ and decided to use the former in the draft since ‘S’ already stands for ‘system’. This aligns with Towndrow *et al.* (2013), who argued that good design can emerge accidentally or unconsciously, but creating consistent successful design requires the composers to “approach any design task deliberately, always judging the utility of a range of available resources (e.g. words, pictures, concepts, processes) in view of changing communicational, practical, and aesthetic needs” (p.347). To do so, many studies have emphasised the importance of raising semiotic awareness for effective multimodal communication, arguing that such ability requires an in-dept understanding of modal affordances, their complex interactions, and the impacts of their presence or absence on the composition as a whole (e.g. Hyland, 2009; Shin *et al.*, 2021). Moreover, Towndrow *et al.* (2013) and Lim and Tan-Chia (2022) highlighted how semiotic awareness can be gained through experiences and guidance, and argued for an urgent need for language teachers to help learners focus on communication needs in this wider digitally supported world.

To summarise, this study highlights how multimodal composing activities naturally allow language learners to engage with semiotic awareness, even in a pedagogical context that did not train students to focus on multimodal aspects. It demonstrates that when students engage with more varieties of modes and group discussion, there are more opportunities for them to engage and enhance semiotic awareness. It also shows how a lack of awareness can hinder their communicative ability. As Early, Kendrick and Potts (2015) claimed, “it would be a mistake to think of multimodal practices as something ‘out there,’ beyond the

normative pressures that shape our more traditional understandings of the accepted text” (p.453). Thus, this study underscores the critical role of semiotic awareness in enabling language learners to creatively and appropriately make use of their full semiotic repertoire for effective meaning-making.

6.6 A Conceptualisation of Thai EFL Learners’ Multimodal Composing

Figures 6.1–6.3 present the findings on individual aspects of Thai EFL students’ multimodal composing practices: the use of modes, factors influencing their semiotic choices and text design, and factors shaping meaning through transduction and transformation. Based on these findings, I synthesised these aspects into a conceptual model (Figure 6.4), which illustrates the complexity of Thai EFL students’ multimodal composing and the dynamic interplay of various factors influencing their semiotic choices, signs, and meaning-making in multimodal texts.

As illustrated in Figure 6.4, to create a multimodal text, the students make and remake signs to represent their intended meanings as multimodal ensembles. In terms of making signs in their multimodal composing, the students selected modes and semiotic resources for representation. It was found that the students used modes in two main ways. Firstly, writing, speech, and image were used as the primary modes to represent the main information of their product. Secondly, the students combined modes in ways that helped them express more nuanced meanings, highlight key information, attract the audience, provide access to additional signs, and narrow down the potential meaning being expressed beyond what a single mode could offer. This suggests a preference for and consistent use of writing, speech, and image as primary modes, while also highlighting the benefits of combining modes for better expressiveness.

Moreover, Figure 6.4 illustrates that the students’ semiotic choices were not made in isolation but were significantly shaped by the interplay of various contextual and social factors, including the availability of modes, familiarity with alphabetic-based writing norms, in-class and out-of-class resources, pedagogical contexts, personal interests, prior experiences, lack of metalanguage, peer collaboration, audience awareness, and semiotic awareness. This complexity highlights how multimodal composing in the Thai EFL context is deeply embedded in both instructional influences and students’ lived experiences. It suggests that a critical pedagogical approach must account for these intersecting factors to more effectively foster students’ multimodal meaning-making potential.

Furthermore, when composing multimodally, the students also remade signs through transduction and transformation, which inevitably involved changes in the meanings of the original signs. The figure further highlights potential factors influencing these gains and losses in meaning, including the different affordances and logics of modes, proficiency in a mode, composing space, opportunities to access other signs, and material differences. These factors play a crucial role in enhancing the effectiveness and accuracy of the signs and meanings conveyed in multimodal texts.

Overall, the figure demonstrates that multimodal composing is not a straightforward process; it involves various material, contextual, and social factors that influence both the meaning expressed and the effectiveness of communication. This challenges traditional views of language learning that prioritize writing and speech, instead positioning language as a dynamic, multimodal process rather than a static set of verbal or written skills. It underscores the need for pedagogical approaches that account for these factors and aim to expand language learners' full semiotic repertoires for more effective communication in today's digitally mediated world.

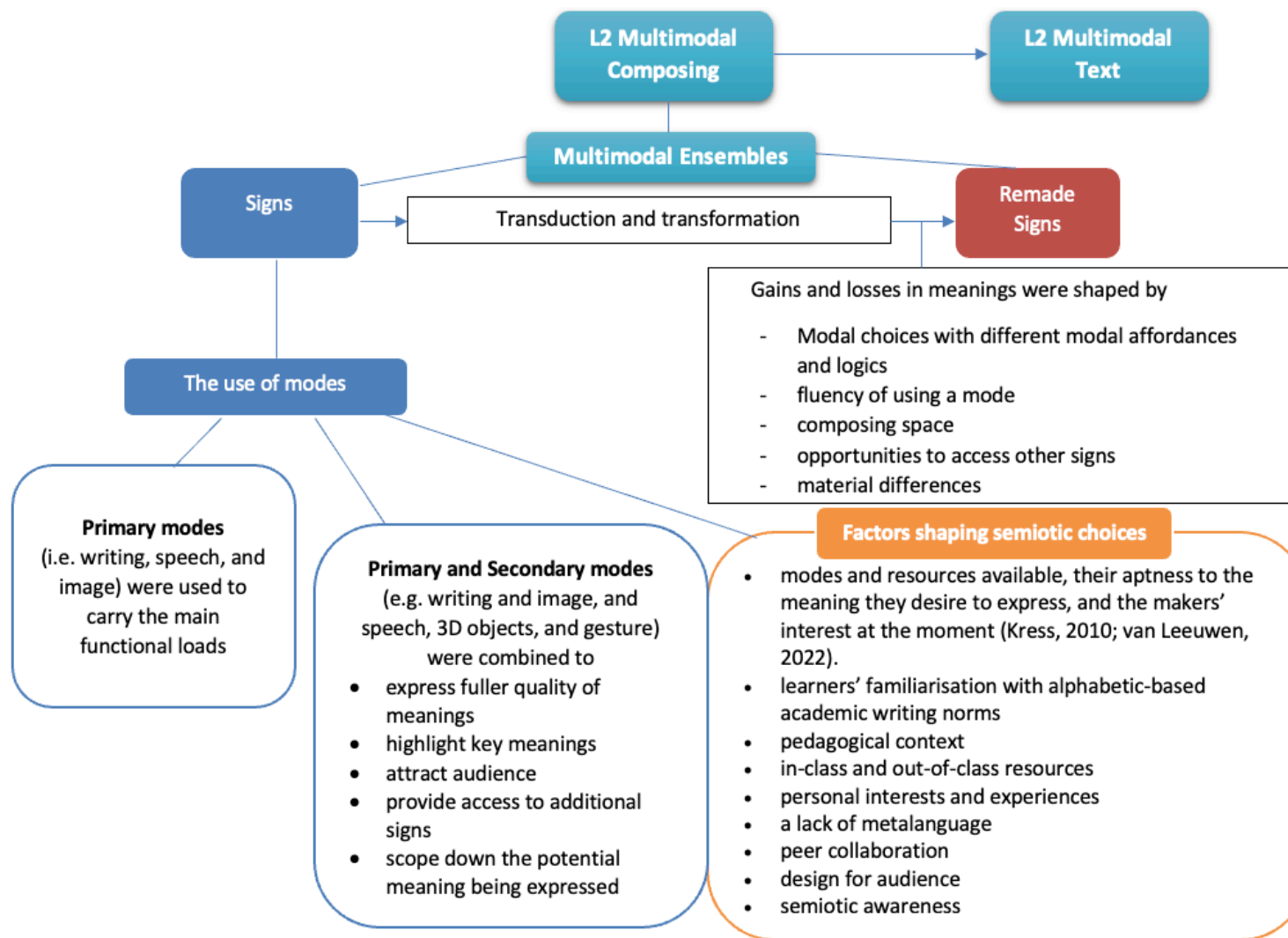


Figure 6.4 Conceptualisation of Thai EFL students' multimodal composing and factors influencing their semiotic choices, designs, and meanings in their multimodal text

6.7 Chapter Summary

The study highlights multimodal composing as a sophisticated design process whereby EFL learners draw upon their full semiotic repertoire, shaped by multiple material, contextual, and social factors. It demonstrates the potential of combining modes to support more effective self-expression than using one mode in isolation. Importantly, it further identifies different critical factors that shape the students' semiotic choices and meaning-making accuracy, offering insights for enhancing language learners' ability to make signs that better convey their intended meanings. As Early *et al.* (2015) argued, "while we learn languages to communicate, language is not the only or even (at times) the primary mode of communication" (p.447). This research provides compelling empirical evidence and argues for a broadened view of language teaching beyond a sole focus on developing speech and writing skills. The pedagogical implication is discussed in the next chapter.

However, the findings of this study are rooted in the Thai EFL context, where students are not commonly familiar with multimodal literacy instruction. The students' semiotic choices and the way they approached the task were shaped by strong exam-oriented cultures, traditional focus on speech and writing in the pedagogical context, and limited training in multimodal literacy. These contextual factors help explain why students often relied on writing and speech as primary modes and their limited awareness of modal affordances. Although these insights are particularly significant within Thai EFL education, they may also be relevant in other EFL contexts where multimodal composing is emerging, and learners have comparable educational environments. However, the transferability of these findings should be considered with caution as cultural norms and contextual factors vary across contexts. The conclusion, implications of the study, and recommendations for further research will be presented in the next chapter.

Chapter 7. Conclusion

This final chapter revisits the aim of the study and its main outcomes. The chapter then discusses the study's theoretical and methodological contributions to the field. This is followed by the pedagogical implications and personal reflections on the research process. It concludes with the limitations and suggestions for future research directions.

7.1 Revisiting the research questions and key findings

When I began this study in 2018, the field of multimodal composing was an emerging area of inquiry, with only a handful of articles and chapters dedicated to it. Since then, a rapidly growing body of literature in the field has underscored its increasing significance and relevance in contemporary educational and communicative practices (e.g. Lim, Towndrow and Min Tan, 2021; Lim and Kessler, 2023). Responding to ongoing developments in this nascent, still-evolving field (Blecher, 2017; Hafner, 2014; Li and Akoto, 2021; Smith, 2017; Yi *et al.*, 2020), this study critically examines how Thai EFL students composed multimodally drawing on social semiotics (Bezemer and Kress, 2016) and multiliteracies (Cope and Kalantzis, 2009). Moreover, as discussed in Chapter 2, there is a lack of studies examining students' actual multimodal composing experience, and different types of multimodal texts beyond digital stories, especially in Thai EFL contexts. This study, thus, addressed these gaps through the investigation of multiple types of texts and data produced in multimodal composing activities that students engaged with in their everyday classroom. The focus is on students' multimodal production, rather than the pedagogical strategies employed in the classroom.

This study drew on multiple types of data, such as the students' produced multimodal texts, recordings of planning and composing processes, and interviews to address the research questions (see Section 3.6.3). It examined the multimodal texts students produced without receiving specific training in multimodal literacy (see Section 3.4), with the aim of understanding their semiotic choices, the process of remaking signs, and the factors shaping these choices. The study also investigated the students' composing processes to identify emerging semiotic awareness. Although pedagogical implications have emerged, they were not the primary focus or objective of this study.

This study addressed the following overarching question:

How do Thai EFL students use modes and semiotic resources, remake signs, and materialise their semiotic awareness while composing multimodally?

To answer this question, three sub-questions have been formulated:

- **RQ1:** How do Thai EFL students use modes and semiotic resources while composing multimodally? This sub-question is further divided into:
 - RQ1a) What modes and semiotic resources are used in the students' a) handwritten drafts, b) digital posters, and c) in-class presentations of an innovative product, and how?
 - RQ1b) What are the potential reasons underlying the students' semiotic choices?
- **RQ2:** What signs and meanings do Thai EFL students re-make in the different products created during the multimodal composing activity, and how? What gains and losses in meanings are there during this transformation process?
- **RQ3:** What specific instances of semiotic awareness do Thai EFL students display while engaging with their multimodal composing task, and how do these instances manifest?

A detailed summary of the key findings was presented in Section 6.2. This section provides a brief overview of those findings. As stated in Chapter 1, the primary aim of this study was to gain insights into the complexity of L2 multimodal composing of Thai EFL students and investigate different aspects of it through a distinctive multimodal lens. RQ1 aimed to understand the students' meaning-making, their semiotic choices, and factors involved in the design decisions. It was found that while Thai EFL students used writing, speech, and image as the primary modes, the combination of modes facilitated their expression in many aspects. Extending previous research, the study identified various factors that influenced the students' ability to make appropriate semiotic choices. These factors included available modes, personal interests, culturally specific writing norms, in- and out-of-class experiences, limited metalanguage knowledge, and peer collaboration. Figures 6.1 and 6.2 present 1) how modes were used, and 2) the factors shaping their choices.

For RQ2, I examined transduction and transformation of signs across the multimodal texts, aiming to understand how modes shape students' potentials for representing meanings and how this affects the signs and meanings being remade. The findings revealed that the

students refined and enhanced their expressiveness through transduction and transformation processes. The findings further demonstrate that the accuracy of meanings remade is intricately shaped by multiple contextual and semiotic factors, including different affordances of modes, material differences, composing space, access to other surrounding signs, and students' varying proficiency in a mode—particularly in speech. Figure 6.3 presents the factors influencing gains and losses in meaning from transduction and transformation. RQ3 explored instances of emerging semiotic awareness that the students demonstrated during the task. The findings reveal that while multimodal composing enables students to display and develop semiotic awareness, the extent of their awareness is shaped by the diversity of modes employed and the collaborative dynamics within group work.

From these findings, a novel conceptualisation of Thai EFL learners' multimodal composing is presented in Figure 6.4, highlighting the need to consider diverse modes and influencing factors for effective communication. Overall, the findings demonstrate that, even without explicit training in multimodal meaning-making, Thai EFL students are capable of producing expressive multimodal texts that foster their semiotic awareness. While multimodal composing has been acknowledged as a meaning-making practice in previous research, this study goes further by revealing how various material, contextual, and social factors influence Thai EFL students' semiotic choices, practices, and the extent of their semiotic awareness within an instructional setting. It underscores the importance of appropriate instruction to expand language learners' semiotic repertoires and enhance their ability to express themselves effectively in today's digitally mediated world.

This is especially timely as we are in a “postlinguistic era” (Nelson and Kern, 2012, p. 47) where “phonetic, morphological, syntactic, semantic, and pragmatic dimensions of the English language are not absolute”, and nonlinguistic modes made available via multimedia technologies are increasingly employed (ibid, p.47). It is, thus, necessary for speech and writing to be taught as part of a broader constellation of semiotic resources (Nelson and Kern, 2012; Kress, 2015). This extended approach to literacy is essential to prepare students for the complex communicative demands of today's digital and multimodal world.

The next section will discuss the theoretical and methodological contributions to the field of social semiotics and applied linguistics.

7.2 Theoretical Contributions

Despite growing interest in L2 multimodal composing (see Chapter 2), the field of L2 multimodal composing is still in its infancy and further research from a strong multimodal view is needed (Blecher, 2017; Li and Akoto, 2021; Smith, 2017; Yi *et al.*, 2020). Moreover, it remains the case that scant research in education has applied multimodal social semiotics, especially to understand the complexity of L2 multimodal composing. This thesis contributes to existing work by using social semiotics with multiliteracies to gain insights into Thai EFL students' texts as multimodal ensembles consisting of signs, and into multimodal composing as the process of designing meanings. The study provides unique findings that emerged from the theoretical framework connecting social semiotics and multiliteracies, highlighting the importance of expanding semiotic repertoire and awareness for language learners, who are often taught the spoken and written forms of English aside from other semiotic resources.

Moreover, this study critically reexamined and extended the definition of multimodal composing. Existing studies on L2 multimodal composing predominantly focus on different types of artefacts such as digital storytelling (Jiang, 2018; Nelson, 2006), videos (Hafner, 2014; Yeh, 2018), and posters (Archer, 2010; Dzekoe, 2017; Shin and Cimasko, 2020), but do not explore live presentations or other interactions. According to Hafner (2018), multimodal composing is the process of creating multimodal texts by combining multiple modes to express meanings. Kress (2011a) emphasised texts as semiotic entities of any kind whether in two, three, or four dimensions. The current study, therefore, proposes that multimodal composing should not be confined merely to the production of digital artefacts, but should also encompass performative expression, involving bodily conduct, 3D objects, and the physical environment. In this study, in-class presentation is one example of a performative text as multimodal composing whereby students draw upon diverse semiotic modes to represent their intended meanings. It still requires students to use speech to express meaning, which can enhance proficiency in both speech and also writing, as they potentially need to write a script for their presentations. This benefit goes in line with language classrooms that adopt a weak multimodal perspective aiming to improve speech and writing by engaging students with sign making using diverse modes (Grapin, 2019). However, this study also posits that in-class presentations can significantly enhance learners' semiotic awareness, thus supporting a strong view of multimodality in language learning (Grapin, 2019). As the analysis in Chapter 4 showed, the participants of this study

discussed different types of clothes and wore them to make the role they played more explicit to the audience. This example underscores the necessity of language classrooms that aim to foster multimodal literacy to expand the scope of multimodal composing to include all activities that enable and encourage learners to leverage their diverse semiotic resources and full semiotic repertoire to powerfully express themselves in communication.

The study also provided a conceptualisation presenting the complexity of L2 multimodal composing of Thai EFL students (Figure 6.4), and in doing so contributes to the literature on multimodal social semiotics and multiliteracies by demonstrating that L2 multimodal composing involves language learners in the selection, employment, and combination of diverse modes which were shaped by diverse factors, e.g. the availability of modes, personal interests and experiences, and familiarisation with common academic writing norms. The model presented in Figure 6.4 is applicable to multimodal composing activities or other activities that aim to enhance the effectiveness of communication. It further expands Stage 3 and Stage 4 in Lim and Tan-Chia's (2022) model (Section 2.4.1) by providing in-depth details for making signs that more effectively communicate students' intended meanings. After students decide on the message they wish to convey, they need to discuss the design of the text to represent their message. This involves making and remaking signs using different modes. The model in this study reports different ways to utilise modes for more effective communication. For instance, the students might combine modes to highlight key messages. The model also emphasises different factors to consider when making and remaking signs to represent their intended meanings more accurately. For example, limited composing space requires students to think carefully about the layout and the key signs to be represented. These factors are essential for students to consider for more effective communication in their multimodal composing process.

In addition, this study has adapted and extended Nelson's (2008) taxonomy of semiotic awareness. Nelson initially proposed five instances of semiotic awareness (see Section 3.6.5.2). Based on the findings in this study, I have re-categorised and added new instances of semiotic awareness, proposing two main instances: 1) existing semiotic awareness where the students demonstrated their emerging awareness, and, 2) developing awareness where they expressed their emerging understanding of sign-making issues, implying progress towards greater awareness (Table 3.9). Moreover, I also added sub-categories. For instance, for design decisions borrowed from other sources, I identified three methods of borrowing: *taken as is*, *taken with modifications*, and *taken as symbols*. This revised taxonomy provides

a more nuanced framework that can be applicable to other activities where learners utilise multiple modes and resources, offering a more comprehensive understanding of semiotic awareness which is manifested and developed.

Lastly, regarding the interrelationship of modes, the study introduced a new subcategory to the four subcategories of the concurrent relationships of modes (Daly and Unsworth, 2011, p.62). According to Daly and Unsworth, when modes are used in combination, a meaning in each mode can elaborate on another, forming a concurrent relationship, through exemplification (providing an example for the other), exposition and equivalence (representing the same or different levels of generality), and homospatiality (co-occurring in one spatially bonded homogenous entity). This study identified a new relationship where modes are used to represent similar meanings, for example writing and image used concurrently to represent the product multifunctionality (as discussed in Chapter 5). In this case, the combination of modes not only forms an expositional relationship but also emphasises the salience of the signs, highlighting and making the represented meanings more explicit. This newly identified relationship is called a *reinforcing relation*, referring to a combination of modes used to represent similar meanings, whether at the same or at a different level of generality, which serves to strengthen and clarify the intended meaning.

All in all, this study theoretically contributes to the field of L2 multimodal composing and applied linguistics through two theoretical perspectives, i.e. multimodal social semiotics and multiliteracies. It proposes an extended definition of multimodal composing to include any kinds of semiotic work that requires learners to draw upon a wide range of modes for representation. Moreover, the study presented a model showing the complexity of Thai EFL students' multimodal composing with various factors that influence their sign-making when producing multimodal texts. The model can be useful for researchers who investigate student produced multimodal texts and for educators who design multimodal composing activities to assist language learners in effectively communicating their intended meanings. In addition, the study proposed a revised taxonomy to identify instances of semiotic awareness in multimodal composing based on Nelson's (2008) framework, and introduced a newly identified relationship of modes, i.e. reinforcing relation, expanding the work of Daly and Unsworth (2011). The next section will discuss the methodological contributions of the study.

7.3 Methodological Contributions

This study makes a methodological contribution by foregrounding a multimodal social semiotic approach to language learning research. As researchers like Adami (2017), Kress (2010), Jewitt *et al.* (2016) argue, understanding the complexity of modern communication requires a multimodal approach. In linguistic studies, multimodality has been somewhat addressed, but “the potential of a social semiotic multimodal approach for understanding communication in superdiversity has not been adequately explored and developed yet” (Adami, 2017, p.1). In response, this study is novel in its application of multimodal social semiotics both as a theory and an analytical method to understand language learners’ multimodal composing. Taking a social semiotic approach is particularly vital with the expanding range of modes and semiotic resources made available by digital technologies, which empower language learners to select, employ, combine and reuse various modes and resources to produce expressive multimodal texts. By applying social semiotics, this study not only contributes to a broader understanding of multimodal communication but also advocates for more insights into how multimodal practices intersect with the realities of superdiversity in contemporary communication. Moreover, while international research in language learning has increasingly adopted a multimodal approach to understanding students’ multimodal composing (e.g. Cimasko and Shin, 2017; Hafner, 2014), no existing studies have employed this approach in the Thai context. This study thus provides a unique contribution to bringing a multimodal perspective to language learning research in Thailand.

The second methodological contribution relates to a lack of combining social semiotics with other methods or theories. The study combined social semiotics with multiliteracies, allowing for a more nuanced understanding of multimodal composing as transformative sign-making processes and revealing instances of semiotic awareness involved in the students’ multimodal work. Moreover, the study responded to a significant criticism of social semiotics, i.e. its predominant focus on artefacts without sufficient attention to the context in which they are made (Prior, 2005; Jewitt *et al.*, 2016) is also addressed. Recognising that signs are socially and contextually shaped, this study further employed ethnographic tools to obtain holistic insights into the social context. The data obtained from ethnographic tools - recordings of students’ planning and composing processes, results of a background information questionnaire, and interview data, enriched the findings and strengthen our interpretation of social semiotic analysis. This methodological approach

allows for a deeper understanding of socially situated multimodal sign-making practices, addressing the limitations of social semiotics and advancing the study of multimodal composing in a more contextually informed manner.

Furthermore, the study contributes to social semiotic research by offering a detailed analytical framework that outlines the steps of social semiotic analysis (Figure 3.9). Although social semiotics has been widely used as a theoretical lens, its use as an analytical tool is less common. Notably, little work has been done on explaining the steps in social semiotic analysis. This lack of guidance presents critical challenges for researchers new to the field. By adapting and synthesising several existing guidelines for social semiotic analysis (Bezemer and Jewitt, 2010; Bezemer and Kress, 2016; Jewitt *et al.*, 2016; Jewitt and Henrikson, 2016), this study offers a comprehensive analytical framework designed to examine the complexity of multimodal composing. It also provides a detailed explanation of the process of combining social semiotic analysis of multimodal texts with ethnographic data. This process could serve as a practical tool for anyone interested in using social semiotics to understand communication and applying it to the analysis of other multimodal texts, such as videos and digital storytelling. Thus, it enhances the accessibility of social semiotic analysis, contributing to the methodological rigor of research in this area.

7.4 Pedagogical Implications for EFL Teaching and Learning

While speech and writing have been the two dominant modes valued in the field of language teaching and learning, this study has demonstrated that multimodal composing requires more than the mastery of written and spoken form of language. It has thus underscored the importance of expanding the focus of language learning to incorporate the multimodality of communication, highlighting the need to broaden our understanding of literacy and attend to language learners' full semiotic repertoire for powerful expression.

Firstly, to effectively support language learners in expanding their semiotic repertoire, it is crucial for language teachers to recognise the potentials of all forms of representation and engage students with multimodal composing. As shown in this study, multimodal composing provides opportunities for learners to employ and combine various modes and semiotic resources and engage with their semiotic awareness. It offers what Lim and Tan-Chia (2022, p.74) refer to as “opportunities to learn in the process of making as [students] explore ways of expressing their ideas”, suggesting that their semiotic repertoire can be expanded through such activities. However, if teachers only focus on speech and writing,

they risk overlooking the value of other modes and thereby limiting students' opportunities to enhance their semiotic awareness and multimodal meaning-making skills essential for contemporary communication. As emphasised by Towndrow *et al.* (2013), "teachers cannot be expected to engage or assess these critical new-media literacy capacities if they do not know what they comprise or how to recognise and interpret their realizations in instances of practices" (p.346).

Secondly, multimodal composing activities should be designed to promote language learners' semiotic awareness and enhance their multimodal literacy to help them express their intended meanings more effectively and accurately. Despite existing efforts to introduce pedagogies to enhance students' multimodal literacy and semiotic awareness (e.g. 'Pedagogy of Multiliteracies', by the New London Group (1996), and Kern's (2015) 'relational pedagogy'), teachers still face challenges in designing multimodal composing activities with adequate guidance to develop students' multimodal literacy (Lim and Unsworth, 2023). The conceptualisation presented in Figure 6.4 can be integrated into existing instructional models to more effectively guide students in multimodal composing. For instance, it can expand Lim and Tan-Chia's (2022) model of five stages of multimodal composing (Section 2.4.1) by highlighting that understanding the audience is not just about their interests and needs, but also about their semiotic repertoire within a specific context to ensure more accurate interpretation of students' signs. To illustrate, when designing an advertisement for children, using a simplified form of written language with colourful, unsophisticated images may draw attention and aid their comprehension more effectively. Additionally, while the brainstorming stage in Lim and Tan-Chia's model fosters creativity through activities like mind-mapping, teachers can further support this by asking students to explore other resources, e.g. different examples and out-of-class resources. Moreover, making semiotic choices in contextually appropriate ways requires a solid understanding of the affordances of modes and how they interweave, along with a grasp of semiotic awareness (Kress, 2010; Lim, 2018). This can be achieved by promoting group work and discussions about semiotic choices and multimodal aspects of the meanings being designed (Kern, 2015; Lim and Tan-Chia, 2022).

Thirdly, discussing multimodal design requires metalanguage. This study showed that without metalanguage the students could not specify what was wrong with their semiotic, even with guiding questions (Section 6.2.3). This highlights the importance of teaching metalanguage so that students can clearly articulate their justifications, which can enhance

the effectiveness of their multimodal composing. Some studies have provided pedagogical frameworks of metalanguage for different kinds of texts, such as print advertisement (Lim and Yin, 2017) and videos (Lim and Tan-Chia, 2022). Moreover, the study underscores the role of teachers in fostering multimodal literacy. In this study, the teacher provided guided questions to improve team collaboration on the students' design decisions. However, the students were not scaffolded to focus on the multimodal designs of the product nor taught a metalanguage. The study reveals that providing guided questions is not enough. Teachers also need to provide ample opportunities for students to practice reflecting on their design decisions. Teachers, for example, might ask students to consider other modal choices and compare the differences in the meanings represented. They could also provide examples of texts and invite students to discuss how modes interact and contribute to meaning as a whole. Both fostering discussion and teaching metalanguage can raise students' semiotic awareness, which is crucial for effective multimodal composing (Kern, 2015; Towndrow *et al.*, 2013).

The final implication relates to the role of assessment. Although assessment was not the focus of this study, the findings suggest that clearer assessment guidelines might support students in making informed semiotic choices and expanding their use of available modes for better expressiveness. In this study, the assessment criteria prioritised the accuracy of linguistic modes, resulting in a predominant reliance on speech and writing across their multimodal texts (Sections 4.4, 4.5, 5.4, and 5.5). Moreover, as evidenced in the interview data, the students' perceived developing semiotic awareness was related solely to linguistic aspects like improved English vocabulary and grammatical knowledge (Sections 4.7.2 and 5.7.2). On the one hand, this study shows that linguistically focused assessment criteria direct students' attention away from multimodal meaning-making practices. On the other hand, focusing on speech and writing is insufficient to capture the students' full range of skills demonstrated in multimodal composing (Jewitt, 2003); thus, it also limits teachers' capacity to fully assess students' semiotic capabilities. Therefore, the findings suggest that assessment practices need to evolve to recognise and evaluate the complexities of multimodal texts. It must consider the interplay of modes, the effectiveness of semiotic choices, and the overall coherence of the multimodal texts. This is to ensure that students' multimodal literacy is both encouraged and accurately evaluated, preparing them for the complexities of contemporary communication.

7.5 Personal Reflections on the Research Process

Throughout this study, I have developed a deeper understanding of the research process and valuable insights related to my project. A significant development has been becoming an independent researcher. This journey has been challenging, as I was among the first in my school using multimodal social semiotics, a field that was new to language learning and to me at the time. Also, the student-centred UK research culture posed a real challenge for me as it differed greatly from my previous studies in Thailand. I have attended several workshops such as ‘Managing a PhD by HASS’ and training on Endnote, and participated in conferences and reading groups on multimodality and social semiotics, including The Visual and Multimodal Forum and the Bremen-Groningen Online Workshops. These experiences have been immensely beneficial, helping me deepen my expertise in multimodality and expand my academic and professional network. I have also learned critical thinking skills, time management, and self-motivation, and developed skills in designing and implementing research projects. These experiences have immensely benefited, equipping me with the ability to critically evaluate sources, synthesise information, work autonomously, and ultimately enable me to contribute meaningfully to my field.

I have expanded my perspective on language teaching and learned more about the complexity of communication, in which speech and writing provides partial meaning to the whole texts. By exploring the students’ multimodal composing through a social semiotic lens, I realised the importance of the interrelationship of modes and the diverse factors that can influence the effectiveness of signs and meaning being represented. For example, designing a poster requires learners to consider all the signs they made as a whole and the audience’s possible interpretations. I have also become more critical in reading in all types of texts. I now read multimodal texts differently, focusing on the overall design and interpreting the meaning as a cohesive whole. I have come to understand that language teaching in the digital age should encourage learners to expand their semiotic repertoire for effective communication, and this requires a proper guidance and instruction. The study has raised my awareness to recognise the signs made in all modes and foster multimodal literacy in EFL classroom. Moving forward, I plan to continue exploring new studies in social semiotics, multiliteracies, and language learning and further developing my English teaching expertise.

7.6 Limitations of the Study and Suggestions for Further Research

The limitations of this study primarily involve methodological issues and the regulations of my scholarship (detailed in Section 3.10). Despite its contributions, there is still much to learn about L2 multimodal composing. This study was conducted with a small group of EFL students in a single context. All of them had a low intermediate level of English proficiency. Future research can be conducted with different participants to gain a more comprehensive understanding of L2 multimodal composing across different contexts. Also, exploring whether the level of English proficiency relates to the effectiveness of multimodal composing would be a valuable endeavour. Moreover, the multimodal texts in this study were the product of group work. However, collaborative patterns were not the focus of the study. In the future, it would be useful to explore how each individual member in the group influences the signs and semiotic choices made during collaborative multimodal composing. Additionally, while the data revealed interesting instances of translanguaging, it is not the focus of the current study. A detailed examination of translanguaging is beyond the scope but presents a valuable direction for future studies.

This study employed recordings of the students' discussions as the main tool to explore instances of semiotic awareness. However, these discussions yielded limited evidence although the students were provided with guided questions to foster their discussion on design choices. One potential reason for this may be that the students did not receive training in metalanguage, which hindered their ability to articulate their design choices. Future research could employ other methodological tools to investigate instances of semiotic awareness such as reflective journals or interview questions designed to illicit instances of semiotic awareness. Providing students with metalanguage training beforehand would likely enhance their ability to discuss their design decisions more effectively. These alternative methods could provide different insights into the issue. As such, they might be helpful for exploring how multimodal composing activities provide opportunities for students to express and develop their semiotic awareness.

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Appendix A. Abstract of summer project

Modes and Semiotic Resources Used in Multimodal Composition and Oral Presentation of EFL Students in Thailand

Pattaramas Jantasin

Abstract

In recent decades, digital technology has opened up new opportunities to employ a wide range of communicative modes and resources for representing meaning. Using multiple modes for making meaning has become prominent, especially in this digital environment, and such practices profoundly affect contemporary communication as well as educational landscapes. The current study aims to investigate how students make use of modes and resources for making meaning in multimodal posters and oral presentations. It also explores how meanings are remade within/across modes and how this affects potentials for meaning representation and learning. Based on multimodal social semiotics (Bezemer and Kress, 2016) and the notion of ‘writing as Design’ (The New London Group, 2000), multimodal posters and recordings of oral presentations from EFL university students in Thailand were qualitatively analyzed.

The findings revealed that students utilized linguistic, visual mode, and spatial modes in a similar way; however, they configured and combined these resources differently to draw attention to salient aspects of their posters/presentations that they wished to highlight. Furthermore, the results indicated that the remaking of meanings, either within the same mode or across modes, entails differences in gains and losses in meaning representation and the potential for providing grounds for learning. The findings also suggested possible factors (the students’ interest, input they received, and genre of assignments) that might shape the students’ decisions to select and utilize modes and resources. Understanding how the selection and use of resources may be shaped and how modes open up opportunities for learning can practically benefit teachers, especially in designing assignments and their teaching in a way that facilitates students’ comprehension in learning as well as their multimodal meaning-making abilities.

Appendix B. Background Questionnaire for Pilot Study

This survey to elicit some background information related to your English proficiency, and your experiences with English writing, technologies for writing, and multimodal texts. There are 11 questions in total. The questions are written in both Thai and English.

Name: _____

TU-GET score:

Rate your level of English ระดับภาษาอังกฤษ

- Excellent. I can read, write, or communicate in English as I wish.
ดีมาก ใช้อ่าน เขียน หรือสื่อสารสิ่งที่ต้องการได้คล่อง
- Good. I can read, write, or communicate in English using compound and complex sentences.
ดี ใช้อ่าน เขียน หรือสื่อสารสิ่งที่ต้องการได้ในรูปแบบประโยคซับซ้อนขึ้น (ประโยคความรวม ความซ้อน)
- Fair. I can read, write, or communicate in English using words in daily life and simple sentences.
พอใช้ ใช้อ่าน เขียน หรือสื่อสารสิ่งที่ต้องการได้ในรูปแบบวลีสั้นๆ ประโยคง่ายๆในชีวิตประจำวันได้

Experiences with multimodal texts and technologies for communication

ประสบการณ์กับสื่อที่มีการสื่อสารแบบผสม และการใช้เทคโนโลยีเพื่อการสื่อสาร

1. What types of media or multimodal texts do you often encounter, read, or play at home or at university? สื่ออะไรบ้างที่คุณอ่าน เขียน ดู หรือเล่นเป็นประจำ เมื่ออยู่บ้านหรือในมหาวิทยาลัย

Tick all that apply.

- Magazines
- Textbooks หนังสือเรียน
- Computer games
- Facebook
- Instagram
- Twitter
- Comics
- Other: _____

2. Do you prefer to read...? คุณชอบอ่านสื่อที่...

- Language-based texts มีแต่ตัวอักษร

- Multimodal texts both words and pictures มีการสื่อสารแบบผสม เช่น มีตัวอักษรด้วย ใช้รูปภาพ วาดภาพ ขีดเขียนหรืออื่นๆประกอบไปด้วย

2.1. Please specify your reasons. โปรดระบุเหตุผล _____

3. Do you prefer to write or communicate using...? คุณชอบเขียนหรือสื่อสารโดย ...

- language only ใช้แต่ตัวอักษร
- multiple resources such as images, drawings, emojis and others ใช้สิ่งอื่นๆประกอบด้วย

3.1 Please specify your reasons. โปรดระบุเหตุผล _____

4. When do you integrate other things with your writing? คุณจะสื่อสารโดยใช้สิ่งอื่นๆ ร่วมกับการเขียน เมื่อใด/ในโอกาสใดบ้าง _____

5. When do you not integrate other things with your writing? คุณจะสื่อสารโดยใช้การเขียนเพียงอย่างเดียว เมื่อใดบ้าง _____

6. What technologies have you used for writing and communication? คุณเคยใช้เทคโนโลยีอะไรบ้าง ในการเขียนและสื่อสาร

Tick all that apply.

- PowerPoint
- Zoom
- Google Slides
- Social media
- Other: _____

Experiences with English Writing ประสบการณ์การเขียนภาษาอังกฤษ

7. Have you ever communicated using only English writing? If so, for what occasions? In your opinion, do you happy with your communication that using writing only? Please explain.

คุณเคยสื่อสาร โดยการเขียนภาษาอังกฤษเพียงอย่างเดียวไหม ตอนนั้นคุณเขียนเพื่ออะไร/ในโอกาสใด และคุณคิดว่าคุณสื่อสารได้ตามที่คิดหรือไม่ โปรดอธิบาย _____

8. Have you ever communicated using English writing and other resources such as images, emojis, or videos? If so, for what occasions? In your opinion, do you happy with your communication that using multiple resources? Please explain.

คุณเคยสื่อสาร โดยการเขียนภาษาอังกฤษและใช้สิ่งอื่นๆผสมไหม ตอนนั้นคุณเขียนเพื่ออะไร/ในโอกาสใด และคุณคิดว่าคุณสื่อสารได้ตามที่คิดหรือไม่

โปรดอธิบาย

9. Have you ever learned English writing? คุณเคยเรียนการเขียนภาษาอังกฤษไหม

Tick all that apply.

- Yes, I have learned it in school. เคยเรียนในโรงเรียน
- Yes, I have learned it by myself. เคยเรียนด้วยตัวเอง
- Yes, I have learned it with English tutors. เคยเรียนกับติวเตอร์
- No, I haven't. ไม่เคย
- Other: _____

10. While learning English writing, what types of exercise did you do for practicing writing? E.g. grammatical exercises, writing a paragraph, producing a poster, designing a PowerPoint slides, or others. ตอนที่คุณเรียน คุณได้ฝึกเขียนภาษาอังกฤษอย่างไรบ้าง (เช่น ทำแบบฝึกหัดแกรมม่า เขียนเรียงความ เขียนพารากราฟ ทำโปสเตอร์ PowerPoint slides หรืออื่นๆ)

11. What will you focus when you need to communicate in English either by writing only or using multiple modes? เวลาคุณสื่อสารโดยการเขียนภาษาอังกฤษหรือสื่อสารแบบผสม คุณจะเน้นอะไร

- communicative purposes สื่อสารได้เป็นหลัก
- the accuracy of grammar ถูกไวยากรณ์เป็นหลัก
- both the accuracy of grammar and communicative purposes สื่อสารได้และถูกไวยากรณ์ด้วย
- other: _____

Thank you for completing the survey.

Appendix C. Semi-Structured Interview Questions for Pilot Study

Interview Questions

1. What do you like most about your work? Why?
2. How did you decide what to cut out and what to leave in?
3. Do you think you were successful in using these modes to represent your topic/idea for audiences? Why or why not?
4. If you had more time to work on your poster, what would you add or change? Why?
5. Did you develop some design or technological skills or language skills?
6. What are the challenges or barriers in composing multimodal texts / completing this project? How can you cope with the challenges or barriers?
7. Do you prefer face-to-face or online group work?
8. Do you have any comments or questions about multimodal composing? Anything you'd like to add?

Appendix D. Participant Informed Consent for Pilot Study



Newcastle University
School of Education, Communication & Language Sciences
Declaration of Informed Consent

- I agree to participate in this study, the purpose of which is to investigate how modes and semiotic resources are used to make meaning in the brainstorming draft, multimodal poster, and oral presentation by first-year university students at Thammasat University in Thailand and to examine the implications of remaking meaning processes for learning and meaning representation.
- I have read the participant information sheet and understand the information provided.
- I have been informed that I may decline to answer any questions or withdraw from the study at any point without penalty of any kind.
- I have been informed about the types of data, including personal data, that the researcher will elicit from me and for which purposes these data will be used. The lawful basis for processing my personal data is consent.
- I have been informed that data collection will involve the use of recording devices.
- I have been informed that all of my responses will be kept confidential and secure, and that I will not be identified in any report or other publication resulting from this research.
- I have been informed that the investigator will answer any questions regarding the study and its procedures. **The investigator's email is p.jantasin2@ncl.ac.uk and they can be contacted via email or by telephone on 084-942-6551.** The supervisor of the investigator can be contacted via email at muge.satar@ncl.ac.uk or by telephone on +44 1912087797.
- I will be provided with a copy of this form for my records.
- Please complete the following (Circle Yes or No for each question):

1) I give permission for my brainstorming draft, multimodal poster, and video recordings of my oral presentation and my discussion and interactions during the composing processes, as well as the results from the survey and interview to be used in research project, academic presentations, and publications.

Yes

No

2) In the data where I physically appear, I give permission for still or moving images of me

to be used in research project, academic presentations and publications

With my face in clear

Yes

No

With my face blurred

Yes

No

Any concerns should be addressed to the School of Education, Communication & Language Sciences Ethics Committee, Newcastle University via email to ecls.researchteam@newcastle.ac.uk

Date

Participant Name (please print)

Participant Signature

I certify that I have presented the above information to the participant and secured his or her consent.

29/06/2020

Pattaramas Jantasin

Date

Signature of Investigator

Appendix E. Participant Information Sheet for Pilot Study



Newcastle University School of Education, Communication & Language Sciences Participant Information Sheet

1. You are invited to take part in a pilot study for a research study entitled: **A Social Semiotic Study of Thai EFL University Students' Writing as Multimodal Composing**
2. Please read this document carefully and ask any questions you may have before agreeing to take part in the study.
3. The study is conducted by **Ms. Pattaramas Jantasin**, an IPhD student in Educational and Applied Linguistics program from the School of Education, Communication & Language Sciences at Newcastle University as part of their studies at Newcastle University.
4. This research project is supervised by **Dr. Müge Satar Coen**.
5. The purpose of this study is to investigate how modes and semiotic resources are used to make meaning in multimodal texts produced by first-year university students at Thammasat University in Thailand and to examine the implications of remaking meaning processes for learning and meaning representation.
6. You have been invited to take part in this study because you are a student who enrolled in TU050 - English Skill Development, and able to participate in the online activity on the fixed date and time.
7. If you agree to take part in this study, you will be asked to **complete a background survey, share the screenshot of draft created on Awwapp and the multimodal poster you produced. I will also video record your discussion during the composing processes and your oral presentation of your poster.**
8. Your participation in this study will take approximately three hours. In these three hours, you will work in groups to brainstorm ideas about an innovative product and draft it on a web whiteboard called Awwapp; then design a poster, perform a 10-minute group presentation and **you will be interview in groups primarily about your experiences of composing multimodal texts in the task.**
9. If you would like to receive information about the project findings, please contact the researcher by email or telephone number provided below (no.13) and the information will be sent to you by email. A copy of your email will be stored in the researchers' institutional email inbox and will be deleted once your request is completed.
10. **You are free to decide whether or not to participate.** If you decide to participate, you are free to withdraw at any time without any negative consequences for you.
11. Data collected from you will be used for the purposes of research and education only. All responses you give or other data collected will be kept **anonymous and confidential**. The records

of this study will be kept secure and private. All files containing any information you give will be password protected and/or locked at Newcastle University servers and on my personal PC. In any research report that may be published, no information will be included that will make it possible to identify you individually without your consent. There will be no way to connect your name to your responses at any time during or after the study. The data will be kept anonymously. All the data may be used for my Doctoral thesis, but it will be deleted a year after the research has been submitted.

12. If you have any questions, requests or concerns regarding this research, please contact me via email at **p.jantasin2@ncl.ac.uk** or by telephone at **+66 849426551** or contact my supervisor at **muge.satar@ncl.ac.uk** or **+44 1912087797**

This study has been reviewed and approved by the School of Education, Communication & Language Sciences Ethics Committee at Newcastle University (date of approval: 18/06/2020)

Faithfully yours,

Pattaramas Jantasin

Appendix F. Excerpts in Pilot Study

Excerpt 3.1– the participants discussed how to remove the background colour (45:23 – 50:00, Zoom recording)

- 01 **PL:** มัน remove background ยังไงวะ
Do you know how to remove the background?
- 02 **PL:** EF เอา background ออกได้ยัง
EF, have you removed the background yet?
- 03 **EF:** สีแดงอะนะ ไม่ชอบหรือ [(unintelligible)]
The red one? Don't you like it? [(unintelligible)]
- 04 **PL:** [(unintelligible)] เอาออกได้ยัง ไม่ๆ ถามว่ามันเอาออกได้ไหม
[(unintelligible)] ...remove it yet? No. No. I asked
if the background can be removed.
- 05 **EF:** ได้ เอาออกได้ เป็นสีขาวใช่ไหม
Yes, it can. Do you want white?
- 06 **PL:** ไม่ๆ เอาแบบนี้แหละ
No. This is fine

Excerpt 3.2 – the participants were interviewed about challenges they encountered.

- 01 **ME:** ตอนที่ทำกิจกรรมนี้ พวกเราเจอปัญหาหรืออุปสรรคอะไรบ้างไหม และได้มีการแก้ไขอย่างไรบ้าง
What are the challenges or barriers that you encountered in this project? How can you cope with the challenges or barriers?
- 02 **PL:** มันไม่ได้คุยต่อหน้ากัน แล้ว process มันช้ากว่าทำงานจริง เพราะดูเหมือนต่างคนต่างทำ รู้สึกว่ามันไม่ค่อยได้พูดคุยกันมากเท่าไร หรือแบบบางที่เราอาจจะไม่รู้ว่าจะควรต้องคุยกันเรื่องอะไรด้วยหรือเปล่า
There is no direct confrontation. The work process went slower than a face-to-face meeting because each person seemed to work on their own. I feel we didn't talk to each other that much. Maybe it's because we didn't know what we should talk about.
- 03 **EF:** มันจะมีช่วงหนึ่งที่แบบอยู่ดี ๆ ทุกคนก็เงียบไปสักพัก แล้วหนูก็แบบไม่รู้ว่าจะคิดอะไรกันอยู่หรือทำอะไรกันอยู่ วิธีแก้ปัญหาก็คือออกไปเลยว่าทำอะไรกันอยู่ ทักเพื่ออัปเดตงาน ทุกคนจะได้รู้กันเข้าหากันง่ายขึ้นสะดวกขึ้น
There is one moment when everybody remained silent for a while and I don't know what the others were thinking or doing. My solution is talking. I asked other members what they were doing in order to update the work progress. When everybody knows the

- 04 **TK:** *current work progress, we can work together easier and more smoothly.*
 เสริมจากน้องเมื่อกี้ เหมือนยังขาดตัวกลางในการรวบรวมองค์ความคิดแต่ละคนหรือเปล่า อารมณ์ประชุมอยู่มันต้องมีใครสักคนควบคุมการประชุม ต่อไปวาระอะไร วันนี้เลยมีจังหวะแคดแอร์
- 05 **MM:** *In addition to what she just said, we lacked a person who can gather ideas from the members. It's like in the meeting where there needs to be someone who monitor the meeting and arrange the agenda. That's why we had dead air today.*
 การที่ใช้ออนไลน์รู้สึกวาระบบไม่ค่อยเสถียร ถ้าอินเทอร์เน็ตไม่ดีบางคนที่หลุด เสียงก็มีเสียงก้องด้วย รู้สึกว่าการทำงานอย่างที่เพื่อนบอกคือแคดแอร์ ทุกคนก็คงคิดว่าเอ๊ะ เงียบกันคือยังงี้ ก็ไม่รู้ว่าจะทำยังไง ต่อ ควรมีคนกลางแบบถามดูว่าตอนนี้อยู่ตรงส่วนไหนแล้ว มีใครยังไม่เสร็จบ้าง มี check point
- In online meeting, I found that the system and internet connection is not very stable. We heard an echo. In terms of the work progress, it's similar to what the other said– dead air. Everybody must think that what the silent meant and did not know what to do next. We need a mediator who kept monitoring the work progress and asking who were working on what. It's like a check point.*

Excerpt 3.3 – the participants described their choices in designing the poster (interview).

- 01 **ME:** พวกเรามีวิธีในการเลือกว่าจะเอาหรือไม่เอาเนื้อหาหรือรูปภาพมาใส่อย่างไร
- 02 **TK:** *How did you decide what content, image, or other elements to cut out and what to leave?*
 รู้สึกว่าอันไหนที่มันชัดแล้วมองแล้ววุ่นอะ คือเรื่องสีก็มีส่วน สีส่วนอะไร ตัวหนังสือหนาๆ เรามองแล้ววุ่น เออเขาขายอะไรเขา present อะไร คือน่าจะเป็นเกณฑ์หนึ่งที่ว่าเรื่องทำยังไงให้คนอยากอ่าน อีกอย่างคือมันเป็นประโยชน์ที่ไม่ควรจะยาวเกินไป สั้นกระชับ เนื้อๆไปเลย ถ้าเขาอยากอ่านต่อก็แค่มี QR code แปะไว้เป็นทางเลือกไป
- 03 **PL:** *Something that strikes the eyes. Colour also plays a part, as well as thick and heavy fonts. When taking a glance [at posters], we know what they sell and present. This seems to be one criterion for attracting readers. The other thing is sentences should not be too long. They should be clear and concise. If readers want to know more, we can just put QR code as a choice for them.*
 เลือกจากลักษณะพิเศษของ product ว่ามัน eco-friendly นะอะไรแบบนี้
- 04 **EF:** *Choosing from the unique features of the product. For example, it's eco- friendly.*
 คล้ายๆเพื่อนกับพี่ที่พูด คือเราก็ดูถึงกระบวนการผลิต และราคาสินค้า วัสดุ เราทำสิ่งที่เหมาะสมที่สุดที่เป็นไปได้ในโลกความเป็นจริงแล้วเราก็หยิบออกมาเอามานำเสนอ
- Similar to what they've just said. We think about the processes of the production, price, and materials. Then we choose what is possible to be produced in the real world and present it.*

05 **MM:** ใน poster ที่เลือกมาเป็นส่วนที่คนส่วนใหญ่ส่วนมากเขาจะดูกันประมาณนี้ เพราะการ transportation หรือ cost เขาจะไม่ค่อยดู เขาจะดูว่ามันทำอะไรได้บ้าง ราคาเท่าไร วิธีการใช้ แต่เนี่ยคือสิ่งที่ poster คนส่วนใหญ่โฟกัสกัน

We chose what to present in the poster because these elements are common features that most people look for. They don't often look for details about transportation or cost, but they look for details about what the product can do, the price, and how it can be used. This is what most people focus when looking at posters.

Appendix G. Multimodal Composing Project Handout

Final Project: Our product is the best! (20 points)

This assignment is a small group activity aiming to help you practise working in groups and using a range of available modes such as the target language (i.e.

comparative and superlative adjectives), images, layout, colours, or gestures, to best serve communicative purposes and intended audiences in real-world contexts.

Scenario: Each group needs to create an advertisement to promote your newest company product and present it to customers in World Tech Expo— **the world's leading event which will introduce and explore the latest innovations.**

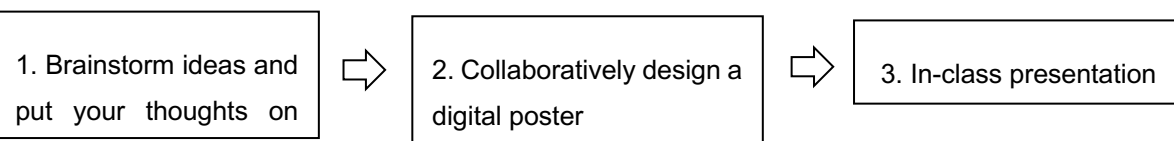
Instruction: In groups, choose a product, perhaps something that you have bought recently or imagine a new one. Brainstorm possible adjectives for promoting your product. Name the product and create an advertisement. Then be ready to present to the class and vote for the best ad!

Use comparative and superlative adjectives to compare your product with the others in the market in order to show how your product is better or has been improved.

(Page 62 in your textbook)

Students who taking TU050 **are required** to complete the final project (the multimodal composing project) as part of their course content. This project will equip you with the skills and experience needed to be able to fully participate in the modern social and working life in the 21st century. You are invited to share your data for **RESEARCH** purposes. Sharing your data is completely **VOLUNTARY** and there will be NO negative consequences for you if you decide not to do so. I will ask you to give your **consent** for your data. Please see the information sheet and consent form for further details.

What will you do?



NOTE 1: The students will vote for the best advertisement at the end of the project and the winner group will receive a prize from the lecturer.

NOTE 2: Your poster and presentation will be assessed. **Any other data being collected** which are the questionnaire, video recording of your presentation, audio and Zoom recordings of your discussion and planning processes, and the interview **will not impact your assessment and will be used for research purposes only.**

STAGE 1: WRITE A PRODUCT SUMMARY (22 October)

PREPARATION (15 – 22 October): Prepare some ideas to discuss with your group members in class on 22 October.

- **Think about the product that you want to introduce and promote in World Tech Expo.**
 - **E.g. what kind of product it is, what it is used for, and think of some reasons why such product is a good choice for your group.**
 - You can choose to design a new product or an improved version of an existing product in the market. You are encouraged to research on the current trends and be creative.
 - Prepare to discuss your ideas with your group members on 22 October.
- **Complete a short background information questionnaire by 22 October**
<https://forms.ncl.ac.uk/view.php?id=9178901>
- **This is collected for research and will not impact your assessment.**



IN-CLASS PROCEDURES (22 October):

TOOLS: A4 paper, pens, pencils, colour pencils or other writing instruments, a phone to record your discussion

1. **In groups, brainstorm ideas about what your group product should be. Talk about your own ideas, listen to your friends' ideas, and make a group decision on the product you will design and promote.**
2. **Discuss the product details:**
 - a) Product description, i.e. the name of your product, target customer and price.
 - b) The features and benefits, i.e. product functions, the explanation of how your product is better than the others in the market or why it's worth purchasing.
3. **Write a short product summary about 200-250 words** in the handout provided.
 - a. **Decide how much detail** you will put in the summary
 - b. **While doing this, discuss your decisions, explain your reasons and ask for your group members' thoughts. Feel free to discuss either in Thai or English.**
 - c. Assign one person in the group to **audio record the discussion** and send it to me at the end of the class. **This is collected for research and will not impact your assessment.**
 - i. To record the discussion through your mobile device, install **Voice Memos on your iPhone** or **Voice Recorder app on your Android device**. Open the app and click the red button to start recording.
 - ii. After you finish your discussion, share your recording to me via email p.jantasin2@ncl.ac.uk or my LINE account.
 - iii. How to share a recording in Voice Memos on iPhone:
<https://support.apple.com/th-th/guide/iphone/iph3d6dc359/ios>
 - iv. How to share a recording in Voice Recorder on Android:
<https://www.samsung.com/au/support/mobile-devices/using-voice-recorder/>



NOTE : **This stage** aims to help you prepare and organise your ideas for designing the poster and presentation. You can still add, revise, or delete some details of your product later.

STAGE 2: COLLABORATIVELY DESIGN A POSTER (29 October – 11 November)

PREPARATION:

TOOLS: your work from stage 1, a device to use Zoom and Google Slides such as your computer, laptop, or a tablet, and stable internet connection.

- **For stage 2**, you need to arrange a date and time for online work.
 - You will work together online using Zoom and Google slides for designing the poster. For this task, you will meet online once.
 - **Choose the date and time that you will be able to work together for 3 hours, from Fri 30th Oct- Wed 11th November 2020.**
 - Put the date and time on the Google document here:
<https://tinyurl.com/y5fqd39y> or scan the QR code
- It is recommended to work on a large screen such as your computer, laptop, and maybe a tablet. Your mobile phone's screen will be too small for designing the poster.
- You will use Google Slides and Zoom. Please familiarise yourself with both tools.
 - This link provides basic knowledge of Google slides:
<https://support.google.com/docs/answer/2763168?hl=en>
 - Zoom required you to install a small package on your computer. Find more details on the links below.
 - Join a meeting: <https://support.zoom.us/hc/en-us/articles/201362193-How-Do-I-Join-A-Meeting->
 - Meeting controls: <https://support.zoom.us/hc/en-us/articles/201362603-What-Are-the-Host-Controls->



NOTE: I will join the Zoom meeting at the beginning only to answer questions you may have about the task and any technical problems at the beginning, and to start recording the meeting. However, I will not be there to monitor the meeting or your discussion. The Zoom meeting will be automatically recorded on the cloud. Please do NOT stop the recording until you complete your task. **The recording is collected for research and will not impact your assessment.**

PROCEDURES:

1. You will **receive an email from me inviting you to Zoom meeting on the arranged date and time. The email will be sent to you one day before the meeting.**
2. **Be prepared for your Zoom meeting. Make sure that you test your microphone and speakers (and webcam if you prefer) before the meeting.**
3. **Open your group's Google Slides document:** <https://tinyurl.com/y5fqd39y>
4. Collaboratively create your poster to represent the product using the blank slide. Feel free to be creative and use text, images, colours, emojis, links, videos, etc. in your poster.
5. **While co-creating the poster, talk to each other to discuss reasons behind your design decisions and ask for your group members' thoughts. Feel free to discuss either in Thai or English. For example,**
 - **I think I will add this image, video, colour, etc, in our work because ...(reason)... What do you think?**
 - **How do you feel about this image, video, colour, etc,?**
 - **Should we place this picture on the right corner/on this position? I think it's ...(reason)...**
 - **This font looks ...(reason)... Should we use this font for our product name?**
 - **What colour should our product/this text/the background be? Why?**
 - **I think this text/image should be a bit bigger/smaller so that it can be ...(reason)...**
 - **Should we keep this text/image/ etc or delete it? I think it's ...(reason)... What do you think about this?**
6. When you finish designing the poster, send a message to me through Line and feel free to leave the Zoom meeting.

NOTE: As you will work together online, the following are useful tips to help you work more effectively with your group members:

- Choose a group leader who is comfortable to take this role to monitor the progress or you can take turns contributing the ideas.
- **Communication is key to success.** It is extremely important to talk with your group members so everybody knows what the others are doing or why they are doing that.

STAGE 3: IN-CLASS PRESENTATION (26 November)

PREPARATION (13 - 25 November): The last stage of the final project is presenting your product in class for about 10 minutes. To make a successful presentation, the preparation stage is crucial.

- **From 13-18 November**, every group member **meets up once for planning the presentation**. It is better to start planning at the earliest so that you will have time for rehearsals before the presentation day on 26th November.
- **The meeting can happen online or physically with social distancing restriction.**
 - **If you meet physically, assign one person to audio record the meeting** and send it to me after the meeting via email p.jantasin2@ncl.ac.uk or my LINE account.
 - **If you want to meet online**, I will send a link to your email for joining a Zoom meeting at your convenient date and time. Your discussion will be automatically recorded on the Zoom cloud.
 - **The recording is collected for research and will not impact your assessment.**
- In the meeting, **design how to orally present the product and the presentation format, divide your team responsibilities, decide on audio/visual aids or others for the presentation.**
- **While planning the presentation, discuss reasons behind your plans or decisions and ask for your group members' thoughts.**
- The presentation content should include
 - Background and rationale
 - **How your product is better than the others in the market.** You can compare your product to the others in the market.
 - Product name, description, function, target customer and price
- Feel free to be creative for designing the presentation of your product. For example, you can incorporate role plays, sing, do a mini demonstration or etc. as part of your presentation.



IN-CLASS PROCEDURES (26 November):

TOOLS: your digital poster, and any other optional materials such as a **3D object**.

1. **On the presentation day, each group come to class with their materials, i.e.** your digital poster, and any other optional materials such as a **3D object**.
2. **Each group take turns presenting their product ideas for approximately 10 minutes.**
3. **After all groups have presented, each student votes for the best presentation and poster using Menti.com. I will provide the link in class. The winner will receive a prize from the lecturer. You cannot vote for your own group.**
4. **Then the lecturer will provide holistic feedback to the class.**

NOTE: Your presentation will be video recorded for research.

WHAT'S NEXT?: I will invite you to **attend one group interview** via Zoom. You can use any device you feel convenient including your mobile phone to attend the interview. **This is only for research purpose and will not impact your assessment.**

- a. Each group **choose the date and time** to attend the interview for 30 minutes.
- b. You can choose **any date and time from today (26th Nov) - Mon 30th Nov 2020.**
- c. Put the date and time on the Google document here: <https://tinyurl.com/y2rbgylq> or scan the QR code.

NOTE: Thank you very much for your participation in this study. I hope that we have all achieved our aims. If there is anything you would like to discuss in relation to this study, please feel free to do so by contacting me via email at p.jantasin2@ncl.ac.uk or by telephone at 084-942-6551.



Appendix H. Multimodal Composing Project Rubric

Final Project Rubric (20 points)

Poster (8 points)	Very good (3)	Good (2)	Fair (1)	Poor (0)
1. Success of communication (3 points) <i>*the poster effectively communicated the message.</i>				
2. Language accuracy (3 points)				
3. Creativity and attractiveness (2 points)				
Total score for advertisement	/8			
Presentation (12 points)	Very good (3)	Good (2)	Fair (1)	Poor (0)
1. Intelligibility (3 points) <i>*With the use of language, visual materials, gestures, and other resources together, the presentation can be understood with no/little effort.</i>				
2. Content (3 points) <i>*organization, cohesiveness, comprehensive product's details</i>				
3. Language accuracy (3 points)				
4. Group participation (2 points)				
5. Time management (1 points)				
Total score for presentation	/12			
Total score for both	/20			

Appendix I. Semi-Structure Interview Questions for Main Study

Introduction: Your group have done a great job composing different types of multimodal texts. While producing each text, you shared your thoughts on your design decisions and also asked for your group members' thoughts. This interview will be a little bit like that. I want to interview you to learn about your opinions on your produced multimodal texts, the multimodal composing project, challenges, or any suggestions about multimodal composing, the tools, or the task.

I want to remember what you say, so I'm going to audio record you and also take some notes. I am interested in your thoughts and ideas, so there are no right or wrong answers. I will ask the questions in both Thai and English, and you can answer either in English or Thai.

Let's look at your work. Tell me a little bit about what we are seeing here....

1. What do you like most about your *draft, poster, and presentation*? (the design of your work) Why?
 - Interviewer question, free choice – focus on some aspects of their work that you find interesting, e.g. any specific semiotic modes (e.g. a particular image or colour) they used and didn't talk about during the composing processes.
2. What is the idea that you want to express in your *draft, poster, and presentation*?
 - Do you think your *draft, poster, and presentation* expresses your ideas well? In what way?
3. I can see you delete/ add some image/texts/etc (The interviewer chooses a specific example and ask about that for each stage: draft, poster and presentation by selecting a few examples that students have not mentioned the reasons behind their choices during the process). How did you decide what to cut out and what to leave in?
4. By working with your friends to write a draft, transform it to a poster, and then a presentation,
 - What *technological skills* have you developed? Can you give me an example of what you learned?
 - What *design skills* have you developed? Can you give me an example of what you learned?
 - What *language skills* have you developed? Can you give me an example of what you learned?
5. If you had more time to work on your *draft, poster, and presentation*, what would you add or change? Why?
6. Have you experienced any challenges or difficulties in composing multimodal texts (while creating your draft, poster, and presentation) in this project?
7. Have you experienced any challenges or difficulties in using Zoom and Google Slides to complete this project?
8. Did you need any help from your teacher or friends while working on this project? When? For what?
9. Do you have any comments or questions about the task or the tools? Anything you'd like to add?

Appendix J. Participant Informed Consent for Main Study



Newcastle University

School of Education, Communication & Language Sciences

Declaration of Informed Consent

- I agree to participate in this study, the purpose of which is to investigate multimodal literacy practices of Thai undergraduate students who study English as their foreign language, how modes and semiotic resources are used in the multimodal texts produced by the students in order to illustrate the transformative nature of learning to write multimodally.
- I have read the participant information sheet and understand the information provided.
- I have been informed that I may decline to answer any questions or withdraw from the study at any point without penalty of any kind.
- I have been informed about the types of data, including personal data, that the researcher will elicit from me and for which purposes these data will be used. The lawful basis for processing my personal data is consent.
- I have been informed that data collection will involve the use of recording devices.
- I have been informed that all of my responses will be kept confidential and secure, and that I will not be identified in any report or other publication resulting from this research.
- I have been informed that the investigator will answer any questions regarding the study and its procedures through **p.jantasin2@ncl.ac.uk** or by telephone on **084-942-6551**.
- I understand that if I have any concerns or difficulties or if I wish to complain about any aspect of my participation in this project, I can contact the investigator or Dr. Muge Satar, the supervisor of the investigator, via email at muge.satar@ncl.ac.uk or by telephone on +44 1912087797.
- I understand that there is no financial or any incentives provided for my participation in the study.
- I will be provided with a copy of this form for my records.
- Please complete the following (Circle Yes or No for each question):

1) I give permission for my drafts, posters, and video recordings of my oral presentation and my discussion and interactions during the composing processes, as well as the results from the questionnaire and interview to be used in research project, academic presentations, and publications.

Yes No

2) In the data where I physically appear, I give permission for still or moving images of me to

be used in research project, academic presentations and publications

With my face in clear

Yes No

With my face blurred

Yes No

Any concerns should be addressed to the School of Education, Communication & Language Sciences Ethics Committee, Newcastle University via email to ecls.researchteam@newcastle.ac.uk

Date

Participant Name (please print)

Participant Signature

I certify that I have presented the above information to the participant and secured his or her consent.

10/09/2020

Pattaramas Jantasin

—
Date

Signature of Investigator

Appendix K. Participant Information Sheet for Main Study



Newcastle University
School of Education, Communication & Language Sciences
Participant Information Sheet

You are invited to take part in a pilot study for a research study entitled: **A Social Semiotic Study of Thai EFL University Students' Writing as Multimodal Composing**. Please read this document carefully and ask any questions you may have before agreeing to take part in the study.

1. The study is conducted by **Ms. Pattaramas Jantasini**, an IPhD student in Educational and Applied Linguistics program from the School of Education, Communication & Language Sciences at Newcastle University as part of their studies at Newcastle University.
2. This research project is supervised by **Dr. Müge Satar Coen**.
3. The purpose of this study is to investigate multimodal literacy practices of Thai undergraduate students who study English as their foreign language. It aims to understand the use of modes and semiotic resources in the multimodal texts produced by the students and illustrate learning as transformative engagement with signs
4. You have been invited to take part in this study because you are a student who enroll in TU050 -English Skill Development in semester one 2020, and you will involve in a final project as part of your course.
5. If you agree to take part in this study, you will be asked to **complete a background questionnaire and share the multimodal texts you produced as part of the final project. I will also audio record your discussion during the composing processes and video record the oral presentation in week 15.**
6. Your participation in this study will take approximately 4-5 hours in total. You will work in groups to brainstorm ideas about an innovative product and draft it in class for about 30 minutes, design a poster online (3 hours), perform a 10-minute group presentation and **you will be interview in groups primarily about your thoughts and experiences of your produced texts and the project** (30-40 minutes).
7. If you would like to receive information about the project findings, please contact the researcher by email or telephone number provided below (no.11) and the information will be sent to you by email. A copy of your email will be stored in the researchers' institutional email inbox and will be deleted once your request is completed.
8. **You are free to decide whether or not to participate.** If you decide to participate, you are free to withdraw at any time without any negative consequences for you.
9. Data collected from you will be used for the purposes of research and education only. All responses you give or other data collected will be kept **anonymous and confidential**. The records of this study will be kept secure and private. All files

containing any information you give will be password protected and/or locked at Newcastle University servers and on my personal PC. The data (personal or other) will be kept anonymously. All the data will be kept secure and not released to any third party and they will be deleted two years (2025) after the research has been submitted in December, 2023.

10. In any research report that may be published, **no information will be included that will make it possible to identify you individually without your consent.** There will be no way to connect your name to your responses at any time during or after the study. Your name and personal data will be completely anonymised. Pseudonyms will be used to replace your names, and personal data will not be included without their consent. In the data where your facial images appear, I will blur your face using Adobe Photoshop in accordance with your consent.
11. There is no financial or any incentives provided for your participation in the study.
12. If you have any questions, requests, concerns, or complaints regarding this research, please contact me via email at **p.jantasin2@ncl.ac.uk** or by telephone at **+66 849426551** or contact **my supervisor at muge.satar@ncl.ac.uk or +44 1912087797**

This study has been reviewed and approved by the School of Education, Communication & Language Sciences Ethics Committee at Newcastle University (date of approval: 14/10/2020)

Faithfully yours,
Pattaramas Jantasin

Appendix L. Background Questionnaire for Main Study

You have been invited to take part in this study because you are a student who enrolled in TU050- English Skill Development in semester one 2020, and you will be involved in the multimodal composing activities as part of your course. This questionnaire aims to elicit your background information related to your interest, views and experiences on English writing, technology for communication and multimodal texts. There are 12 questions in total. The questions are written in both Thai and English. Feel free to answer the question in either English or Thai.

Section 1: Personal Information

Name: _____

Group name: _____

Email: _____

Score(s) of English Proficiency Test คะแนนผลการสอบภาษาอังกฤษ

- TU-GET score: _____
- Other English proficiency test such as TOEFL, IELTS, TOEIC, or CU-TEP (please specify the test and your score): _____

Section 2: Personal interest and experiences with multimodal texts and technologies for communication ความสนใจส่วนตัวและประสบการณ์เกี่ยวกับสื่อแบบผสมและเทคโนโลยีสำหรับการสื่อสาร

The questions in the next section will ask you about your personal Interest and your experiences with multimodal texts and technologies for communication. คำถามต่อไปนี้จะถามเกี่ยวกับความสนใจส่วนตัวของคุณและประสบการณ์เกี่ยวกับสื่อแบบผสมและเทคโนโลยีสำหรับการสื่อสาร

1. When you read something in your general life, you prefer to read (choose at least three choices) ในชีวิตปกติของคุณ เวลาที่คุณอ่านอะไรสักอย่าง คุณชอบที่จะอ่าน ... (เลือกอย่างน้อย 3 ข้อ)

- Novels (นิยาย)
- Textbooks (หนังสือเรียน)
- Non-graphic books (หนังสือที่ไม่มีรูปภาพ)
- Newspapers (หนังสือพิมพ์)
- Comic books (หนังสือการ์ตูน)
- Magazines (วารสาร)
- Instagram posts (โพสต์อินสตาแกรม)
- Twitter posts (โพสต์ทวิตเตอร์)
- Facebook posts (โพสต์เฟซบุ๊ก)
- Other things you like to read (สิ่งอื่นๆ ที่คุณชอบอ่าน): _____

1.1. Why do you enjoy reading in this (these) specific format(s)? ทำไมคุณถึงชอบอ่านสื่อในรูปแบบเหล่านั้น

2. In your general life, when you want to express yourself in writing to someone, you prefer to ... ในชีวิตปกติของคุณ เวลาที่คุณเขียนเพื่อที่จะแสดงความคิดหรือความรู้สึกของคุณให้ผู้อื่นรับรู้ คุณชอบที่จะ ...

- Use Thai language only such as write a few words, a paragraph, or a story. (ใช้ภาษาไทย เป็นสื่อเพียงอย่างเดียว เช่น เขียนเป็นคำหรือวลี พารากราฟ หรือเขียนเรื่องราว)
- Use Thai language with other modes (e.g. images, drawings, or emojis) such as create memes, write a Facebook status with emojis, post images with captions, doodle or draw. (ใช้ทั้งภาษาและสิ่งอื่นๆ (เช่น รูปภาพ วาดภาพ หรืออีโมจิ) ประกอบไปด้วย เช่น สร้างมีม เขียนสเตตัสเฟสบุ๊คพร้อมใส่ อีโมจิ การโพสต์รูปพร้อมแคปชั่น การวาดรูป)
- Others (อื่นๆ): _____

2.1 Why do you enjoy express yourself in writing in this (these) specific format(s)? ทำไมคุณถึงชอบที่จะแสดงความคิดหรือความรู้สึกของคุณออกมาผ่านการเขียนในรูปแบบเหล่านั้น

3. In your general life, in which contexts or situations do you communicate in writing by using only Thai written text? ในชีวิตปกติของคุณ คุณจะสื่อสารผ่านการเขียนโดยการใช้ภาษาไทยเป็นสื่อเพียงอย่างเดียวในบริบทหรือสถานการณ์ใดบ้าง

4. In your general life, in which contexts or situations do you communicate in writing by using Thai written text and other modes (e.g. images, drawings, or emojis) in your writing? ในชีวิตปกติของคุณ คุณจะสื่อสารผ่านการเขียนโดยการใช้ทั้งภาษาไทยและสิ่งอื่นๆ ประกอบด้วย (เช่น รูปภาพ วาดภาพ หรืออีโมจิ) ในบริบทหรือสถานการณ์ใดบ้าง

5. What kinds of technology activities do you took part in your general life? ในชีวิตปกติของคุณ คุณได้ทำกิจกรรมด้านเทคโนโลยีอะไรบ้าง

- Texting using Line or other text messenger apps (ส่งข้อความผ่าน Line หรือแอปอื่นๆ)
- Studying online through Zoom, Microsoft Team or other online meeting platforms. (เรียนออนไลน์ผ่าน Zoom, Microsoft Team หรือโปรแกรมอื่นๆ)
- Producing video clips (สร้างวีดีโอคลิป)
- Watching video clips online (ดูวีดีโอคลิปออนไลน์)
- Creating PowerPoint slides (สร้างสไลด์ PowerPoint)
- Reading something on social media such as Facebook, Twitter, or Instagram (อ่านโพสต์ต่างๆในโซเชียลมีเดีย เช่น Facebook Twitter Instagram)
- Sharing other people's posts on social media such as Facebook, Twitter, or Instagram (แชร์โพสต์ของคนอื่นตามโซเชียลมีเดีย เช่น Facebook Twitter Instagram)
- Creating my own posts on social media such as Facebook, Twitter, or Instagram (สร้างโพสต์ตัวเองในโซเชียลมีเดีย เช่น Facebook Twitter Instagram)
- Using photo editing applications or software (ใช้แอปหรือโปรแกรมแต่งรูป)

- Other activities (กิจกรรมอื่นๆ):
-

6. In your general life, what technologies do you prefer to use for communication? ในชีวิตปกติของคุณ คุณชอบที่จะใช้เทคโนโลยีอะไรบ้างในการเขียนและสื่อสาร

- Messaging applications such as Line and Facebook Messenger (แอปส่งข้อความต่างๆ เช่น Line และ Facebook Messenger)
- Social media such as Facebook, Twitter, and Instagram (โซเชียลมีเดียต่างๆ)
- Video conferencing platform such as Skype, Zoom and Microsoft Team (โปรแกรมวิดีโอคอนเฟอเรนซ์)
- Presentation programs such as Google Slides and Microsoft PowerPoint (โปรแกรมสร้างสื่อนำเสนอ)
- Word processors programs such as Google Docs and Microsoft Word (โปรแกรมจัดการเอกสารต่างๆ)
- Pens and papers (ปากกาและกระดาษ)
- Others (อื่นๆ): _____

7. I describe my ability to use technology for communication (e.g. texting on messaging applications, sharing files or images through Line, or making video calls) as ... ฉันขออธิบายความสามารถในการใช้เทคโนโลยีเพื่อการสื่อสารของฉัน (เช่น การส่งข้อความผ่านแอปส่งข้อความต่างๆ การแชร์ไฟล์หรือรูปภาพผ่านไลน์ หรือการวิดีโอคอล) ว่า....

- Capable of teaching others (สามารถสอนผู้อื่นใช้เทคโนโลยีเหล่านั้นได้)
- Confident on my own (มั่นใจว่าสามารถใช้เทคโนโลยีเหล่านั้นได้ด้วยตัวเอง)
- Beginner and need support (มือใหม่และต้องการการสนับสนุน)
- Not very comfortable using technology (ไม่ค่อยสะดวกใจกับการใช้เทคโนโลยีสักมากนัก)

8. I describe my ability to use technology for graphic design (e.g. editing images, creating posters or creating presentation slides) as ... ฉันขออธิบายความสามารถในการใช้เทคโนโลยีเพื่อออกแบบกราฟิก (เช่น แต่งภาพ สร้างโปสเตอร์หรือสไลด์นำเสนอ) ว่า....

- Capable of teaching others (สามารถสอนผู้อื่นใช้เทคโนโลยีเหล่านั้นได้)
- Confident on my own (มั่นใจว่าสามารถใช้เทคโนโลยีเหล่านั้นได้ด้วยตัวเอง)
- Beginner and need support (มือใหม่และต้องการการสนับสนุน)
- Not very comfortable using technology (ไม่ค่อยสะดวกใจกับการใช้เทคโนโลยีสักมากนัก)

Section 3. Views and Experiences on Writing in English มุมมองและประสบการณ์เกี่ยวกับการเขียนภาษาอังกฤษ

The questions in the next section will ask you about your personal views and Experiences on English Writing คำถามต่อไปนี้เป็นคำถามเกี่ยวกับมุมมองและประสบการณ์เกี่ยวกับการเขียนภาษาอังกฤษของคุณ

9. In which contexts or situations do you write in English? คุณเขียนภาษาอังกฤษในบริบทหรือสถานการณ์ใดบ้าง _____

9.1 Why do you prefer to write in English in these contexts? ทำไมคุณจึงเลือกที่จะเขียนเป็นภาษาอังกฤษในบริบทเหล่านั้น _____

10. In which contexts or situations do you use other modes (e.g. images, drawings, or emojis) when you write in English? คุณใช้สิ่งอื่นๆ เช่น รูปภาพ สี วิดีโอ อีโมจิหรืออื่นๆ ประกอบการเขียนภาษาอังกฤษ ในบริบทหรือสถานการณ์ใดบ้าง _____

10.1 Why do you prefer to do so in these contexts? ทำไมคุณจึงเลือกใช้ทั้งการเขียนภาษาอังกฤษและสิ่งอื่นๆ ประกอบด้วยในบริบทเหล่านั้น _____

11. In your English classes at your high school and university, what kinds of writing activities have you done? ในคลาสเรียนภาษาอังกฤษของคุณสมัยมัธยมปลายและมหาวิทยาลัย คุณได้ทำกิจกรรมการเขียนอะไรบ้าง

- Grammar exercises (แบบฝึกหัดไวยากรณ์)
- Fill in the missing vocabulary (เติมคำศัพท์ในช่องว่าง)
- Write short sentences (เขียนประโยคสั้นๆ)
- Write a paragraph (เขียนพารากราฟ)
- Write an essay (เขียนเรียงความ)
- Create PowerPoint slides (สร้างสไลด์นำเสนอ)
- Create a poster (สร้างโปสเตอร์)
- Create social media posts (สร้างข้อความบนโซเชียลมีเดีย)
- Write a magazine column (เขียนคอลัมน์วารสาร)
- Write a newspaper column (เขียนคอลัมน์หนังสือพิมพ์)
- Write a blog (เขียนบล็อก)
- Write your diary (เขียนไดอารี่)
- Other activities (กิจกรรมอื่นๆ): _____

12. What do you focus when you need to complete English writing activities in your study? เมื่อคุณต้องทำกิจกรรมการเขียนภาษาอังกฤษในการเรียน คุณให้ความสำคัญกับสิ่งใดมากกว่ากัน

- Comprehensible communication (เน้นการสื่อความหมายให้เข้าใจได้เป็นหลัก)
- Grammatical accuracy (เน้นความถูกต้องของไวยากรณ์)
- Both equally (เน้นทั้งคู่เท่าๆ กัน)
- Others (อื่นๆ): _____

Appendix M. Foundation English Module's Course Syllabus

Course Outline Semester 1/2020

Course Description:

Practice basic skills for listening, speaking, reading, and writing in English through an integrated method. Students will acquire a basis to continue to study English at a higher level.

Learning Outcomes:

Upon successful completion of the course, students will be able to

- Skim short texts to find main ideas from personal related matters
- Scan short texts to find specific information
- Infer the writer's intention from the reading passages
- Find main ideas and identify specific information from spoken texts
- Write simple sentences on everyday and general topics
- Express themselves and respond to questions regarding general matters

Textbook/Teaching Materials:

TU050 English Skill Development Coursebook by LITU

Note: The coursebooks are available at TU Bookstore.

Supplementary worksheets will be provided in class.

Active Learning Activities:

Task-based activities with an encouragement on student discussions, pair work, group work, and oral presentations, all done with an integration of multimedia and technology.

Course Evaluation:

- Attendance and Participation	20 points
- Assignments	30 points
- Narrative Paragraph Writing (Individual work)	10 points
- Product Advertisement (Group presentation)	20 points
- Midterm Examination	60 points
- Final Examination	60 points
- Listening Test	20 points
- Speaking Test	10 points
Total	200 points

Note: Evaluation for TU050: "S" (Satisfactory) = Pass (60% or 120 points)

"U" (Unsatisfactory) = Fail