

*Promoting the effective use of computers to support
the learning and teaching of literacy and numeracy
in primary education with attention to
pedagogy, teacher reflection and development.*

Volume III

by

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A dissertation submitted as the partial fulfilment for the degree of
Doctor of Philosophy (PhD), Department of Education,
University of Newcastle upon Tyne, October 2001.

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Volume III

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DfEE number: _____



A-1

Front Sheet

Observation Protocol

School: _____

Class teacher (Name / Gender): _____

Year group(s) / Class(es): _____

Code of Practice (nos.): Stage 3 _____ Stage 4 _____ Stage 5 _____

Children with EAL (no.) _____

ICT resources available to class (incl. types of equipment, numbers working and available for use, available access time, location):

Remark: ICT resources

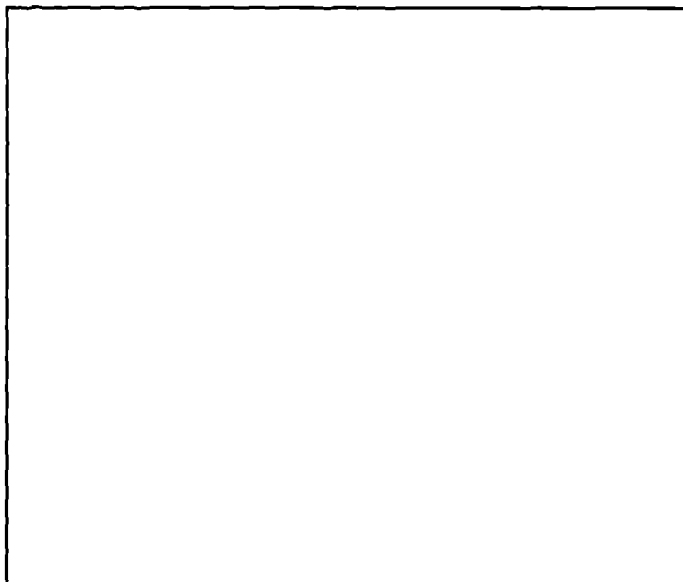
- calculators, video camera, digital camera, electronic keyboard, fax machine, computer, spell-checker, turtle, roamer, ...etc.

DIEE number: _____

A-2

Observation Protocol

Classroom sketch



Abbre. list:

b - board flipchart
d - door

c - carpet
m - computer

ch - teacher's chair
x - visual blockage

Observer: _____

Date: _____

No. children on register: _____

No. children in room: _____

Lesson seen: Number / English / Number & ICT / English & ICT

Helpers present (e.g. parent, LSA, other adults): _____

REFERENCE NOTES

Glossary

EAL

- English as an additional language

LSA

- Learning Support Assistant

DfEE number: _____

D-1

ICT Task Time (Group) Schedule

Time observation started: _____ Number of pupils in the group: _____

Time (min) Scan for n off-task)	Help er T A P	Inter. with Helper √ x √ x P P+ A AD O OD L S	Inter. with group mem(s) A O AD OD L S	Remarks/notes e.g. INTT - pupil initiated talk, the pupil(s) leave computer (IDs), aspects of feedback, praise demonstration & interaction,...etc.
1.				
Scan _____				
2.				
Scan _____				
3.				
Scan _____				
4.				
Scan _____				
5.				
Scan _____				
6.				
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Scan _____				
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Scan _____				
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Scan _____				
18.				
Scan _____				
19.				
Scan _____				
20.				
Scan _____				

DfEE number: _____

D-2

ICT Task Time (Group) Schedule

Time observation started: _____ Number of pupils in the group: _____

Time (min) Scan for n off-task)	Help er T A P	Inter. with Helper √ x √ √ P P+ A AD O OD L S	Inter. with group mem(s) A O AD OD L S	Remarks/notes e.g. DNT - pupil initiated talk, the pupil(s) leave computer (IDs), aspects of feedback, praise demonstration & interaction...etc.
21.				
Scan _____				
22.				
Scan _____				
23.				
Scan _____				
24.				
Scan _____				
25.				
Scan _____				
26.				
Scan _____				
27.				
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28.				
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32.				
Scan _____				
33.				
Scan _____				
34.				
Scan _____				
35.				
Scan _____				
36.				
Scan _____				
37.				
Scan _____				
38.				
Scan _____				
39.				
Scan _____				
40.				
Scan _____				

DfEE number: _____

D-3

ICT Task Time (Group) Schedule

Time observation started: _____ Number of pupils in the group: _____

Time (min) Scan for n off-task)	Help er T A P	Inter. with Helper √ x √ z P P+ A AD O OD L S	Inter. with group mem(s) A O AD OD L S	Remarks/notes e.g. INTT - pupil initiated talk, the pupil(s) leave computer (IDs), aspects of feedback, praise demonstration & interaction,...etc.
41.				
Scan				
42.				
Scan				
43.				
Scan				
44.				
Scan				
45.				
Scan				
46.				
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59.				
Scan				
60.				
Scan				

REFERENCE NOTES

When to use

1. Use only during those parts of lessons when pupils are working with ICT equipment.
2. The class observation schedule is also used when the introduction and/or plenary do not involve an ICT activity.
3. The group size is roughly 1 to 8.
4. Scanning for off-task behaviour among those using ICT is carried out at 1-minute intervals.
5. The focus of the target subject(s) is restricted to the pupil(s) working on one computer. If more than one computer is being used at a time, the observer has to make a judgement about which computer to focus on. If there is a group or pair working at one computer and an individual at another, record the interactions and activities of the group or pair.

Recording off-task behaviour

1. Note and record those who leave the ICT equipment e.g. when finished, or going to the toilet. Also record the length of time that pupils work on the computer or other equipment.
2. Scan every minute for off-task behaviour among those using ICT equipment. Record the number of pupils off-task at the time of scan.

Identifying the helper(s)

- T Teacher
 A Other adults (e.g. teaching assistant, support worker, parents)
 P Pupil (e.g. refers to formal pupil helper, sometimes assigned by the teacher; informal pupil helper activities can be recorded in the remarks/notes section)

Recording interaction with the helper(s)

A) To be recorded as tallies, each time it occurs:

- ✓ Oral feedback to correct pupil contribution (whether or not accompanied by non-verbal feedback)
- ✓ Non-verbal feedback (not spoken) to correct pupil contribution
- x Oral feedback to incorrect pupil contribution (whether or not accompanied by non-verbal feedback)
- x Non-verbal feedback (not spoken) to incorrect pupil contribution
- P Praise, as an general encouragement or positive response to pupil reply, action, observed work: e.g. good boy, well done, excellent,...etc.
- P+ Praise and publicly presented outstanding 'work/activity/thinking' by pupil(s)

B) To be recorded no more than once during each one-minute period:

- A Academic talk (record each turn when teacher or helper talks to a pupil in an ICT group about the topic)
Presumably it will be replaced by one of the symbols above if the talk is evaluative in nature.
- O Operational talk (relating to ICT: e.g. what it does – how it works – how to do it)
- AD Academic demonstration i.e. instructional focus
- OD Operational demonstration i.e. ICT focus
- L ICT functional problem / breakdown
- S Social interaction (positive and negative)

Recording interaction with group member(s)

- to be recorded no more than during each one-minute period

- A Academic (record each turn when a pupil in the group talks to one or any others about the topic)
- O Operational talk (relating to ICT: e.g. what it does – how it works – how to do it)
- AD Academic demonstration e.g. instructional focus
- OD Operational demonstration e.g. IT focus
- L ICT functional problem / breakdown
- S Social interaction (positive and negative)

Recording pupil initiated talk

- INIT 'Pupil initiated talk' refers to work-related information or questions coming without prompt or request by the teacher. This talk may, for example, take the form of the pupil initiating a new topic, offering work-related information, expressing ideas or asking questions to develop understanding.

DfEE number: _____

B-1

DESCRIPTION OF ACTIVITIES	TEACHING ACTIV. (NON ICT)	TEACHING ACTIV. (WITH ICT)	REMARKS e.g. time
A) Introduction			
Teaching area:	Normal class / IT room / special room	Normal class / IT room / special room	
Effective signal to begin teaching:	Y / N	Y / N	
+Briefing about ICT component:	–	Y / N	
Introduction about the aims/purposes:	Y / N	Y / N	
Review of previous related work:	Y / N	Y / N	
Main theme(s) of lesson:			
Use of modelling / demonstrating a procedure:	Teacher: Y / N Pupil: Y N	Teacher: Y / N Pupil: Y / N	
Use of examples:	by teacher / by pupil(s)	by teacher / by pupil(s)	
Use of counter-examples	by teacher / by pupil(s)	by teacher / by pupil(s)	
T. allowed sufficient time for answers to questions:	always usual often / somet occa never	always usual / often / somet / occa / never	
T. requested elaborations to answers:	always usual often / somet occa / never	always usual / often / somet / occa / never	
All pupils were presented with reading at:	word level sentence level / text level / no reading	word level / sentence level / text level / no reading	
Transition routine from class to group orderly for:	all most / many / some few	all / most / many / some / few	
General Comment:			

DfEE number: _____

B-2

DESCRIPTION OF ACTIVITIES	TEACHING ACTIV. (NON-ICT)	TEACHING ACTIV. (WITH ICT)	REMARKS e.g. time
B) Task time /group work			
ICT equipment used: Hardware/Software (type & quantity)			
+Range of ICT activities:	--	same for all / different for each pupil / different for some (e.g. SEN)	
Technical problems with the ICT equipment:	Y/N (If yes, specify the extent, duration)	Y/N (If yes, specify the extent, duration)	
Non-ICT instructional material (please specify):			
Teacher's attention focussed on:	all groups / 1 gp. / 2 gps.	ICT group	
Other adults worked with:	all groups / 1 gp. / 2 gps	ICT group	
Groups receiving little or no help	No groups: _____	ICT group	
Transition routine from group to class orderly for:	all / most / many / some few	all / most / many / some / few	

C) Plenary / Review			
Format	teacher summary Q&A / pupil presentation / instructional content unrelated to earlier tasks / no academic content / no time available / other	teacher summary / Q&A / pupil presentation / instructional content unrelated to earlier tasks / no academic content / no time available / other	
Use of modelling / demonstration.	Teacher: Y / N Pupil: Y / N	Teacher: Y / N Pupil: Y / N	
Use of examples:	by teacher by pupil(s)	by teacher / by pupil(s)	
Use of counter-examples	by teacher by pupil(s)	by teacher / by pupil(s)	
Some reading required at:	word sentence / text level / no reading	word / sentence / text level / no reading	
Learning aims/objs reviewed:	Y / N	Y / N	
Reference made to future work.	Y / N (please specify):	Y / N (please specify):	
Review used to check pupils' understanding:	Y / N	Y / N	
General Comment:			

DfEE number: _____

B-3

DESCRIPTION OF ACTIVITIES	TEACHING ACTIVITIES (NON-ICT)	TEACHING ACTIVITIES (WITH ICT)
D) General summary		
No. of groups:		
Ability groups:		
Number using ICT:		
SEN support (in-class and/or outside) by:	class teacher / other teacher / LSA / other paid worker / other adult / peer	class teacher / other teacher / LSA / other paid worker / other adult / peer
SEN withdrawn:	total number: _____ duration: _____ (mins.)	total number: _____ duration: _____ (mins.)
Different or adapted task/s provided specifically for SEN:	Y / N	Y / N
Pupil/teacher extended talk to develop understanding	introduction: Y / N task time: Y / N plenary: Y / N	introduction: Y / N task time: Y / N plenary: Y / N
Activities:	<p>ORAL WORK</p> <p>reciting / responding to teacher's closed questions / generating and asking questions / discussion / problem-solving activity / reflecting on thinking or learning / other</p> <p>READING ACTIVITIES</p> <p>reading aloud to other(s) / paired or shared reading / guided reading (for comprehension) / silent reading / accessing dictionary or thesaurus / researching from reference material / other</p> <p>WRITTEN WORK</p> <p>English exercise (closed format) / dictation / improving written accuracy / copying / note-taking / authoring / revising content / integrating text and graphics (non-ICT) / e-communication / other</p> <p>PRACTICAL WORK</p> <p>weighing or measuring / designing, arranging or making / data handling / other</p> <p>OTHER WORK</p> <p>numeral recognition / counting / reciting / mental computation / generating and asking maths questions / estimation / other</p> <p>Maths exercise (mechanical) / maths exercise (problem-solving) / writing numerals / recording the results of practical work / integrating text, symbols and graphics (non-ICT) / correcting previous work / other</p>	<p>READING ACTIVITIES</p> <p>reading aloud to other(s) / paired or shared reading / guided reading (for comprehension) / silent reading / accessing dictionary or thesaurus / researching from reference material / other</p> <p>WRITTEN WORK</p> <p>English exercise (closed format) / dictation / improving written accuracy / copying / note-taking / authoring / revising content / combining digital media / e-communication / other</p> <p>PRACTICAL WORK</p> <p>measuring / designing, arranging or making / data handling / other</p> <p>OTHER WORK</p> <p>numeral recognition / counting / mental computation / estimation / other</p> <p>Maths exercise (mechanical) / maths exercise (problem-solving) / writing numerals / estimation / recording the results of practical work / combining digital media / correcting previous work / other</p>
Some pupils read continuously for:	less than 5 mins / 5-10 mins / 10-20 mins / more than 20 mins	less than 5 mins / 5-10 mins / 10-20 mins / more than 20 mins
Some pupils wrote continuously for:	less than 5 mins / 5-10 mins / 10-20 mins / more than 20 mins	less than 5 mins / 5-10 mins / 10-20 mins / more than 20 mins
Task completion:	all / most / many / some / few	all / most / many / some / few

REFERENCE NOTES

Glossary

Review

- Think or talk about aspects of previous learning about the topic e.g. revision on the use of punctuation.

Modelling/Demonstration

- A physical or verbal representation that shows pupils how to do the work. It is being used so that the others might want to copy this to achieve similar results. e.g. someone doing the work while the other explains the procedure.

Note that a modelling or demonstration is focused on how the work should be done, while an example illustrates typical aspects of a class or style.

Examples

- Something that has many of the typical features of a particular type or group, and which clearly represents that type or group.

Counter-examples

- Something that clearly does not fall within a particular type or group.

Elaboration to answers

- This can be done by asking the same pupil for more details or encouraging talk that extends understanding of the previous point made.

Reference made to future work

- Relates what is learnt during this session to teaching and learning content in the future e.g. homework, learning task in the next session.

Number using ICT

- The total number of pupils that used ICT in the session

Descriptors

Always

- Will be used only when there has never been insufficient time for answers

Usually

- Between 80% and 99% of the specific duration of time.

Often

- Between 50% to 79% of the specific duration of time.

Sometimes

- Between 20% to 49% of the specific duration of time.

Occasionally

- Less than 20%, but more than none.

Never

- Not at all.

All (or nearly all)

- Will be used when 95% to 100% of the pupils make an orderly transition.

Most

- 80% to 94% of the total number
e.g. 2 to 6 exceptions in a class of 30

Many

- Between 50% to 79%
e.g. 7 to 15 exceptions in a class of 30

Some

- Between 20% to 49%
e.g. 6 to 14 of them are in a class of 30

Few

- Less than 20%, but more than none.
e.g. 1 to 5 of them are in a class of 30

Appendix 1-B: Observation schedule for lessons without the use of ICT

DfEE number: _____

UNIVERSITY OF
NEWCASTLE



A-1

Front Sheet

Observation Protocol

School: _____

Class teacher (Name / Gender): _____

Year group(s) / Class(es): _____

Code of Practice (nos.): Stage 3 _____ Stage 4 _____ Stage 5 _____

Children with EAL (no.) _____

ICT resources available to class (incl. types of equipment, numbers working and available for use, available access time, location):

Remark: ICT resources

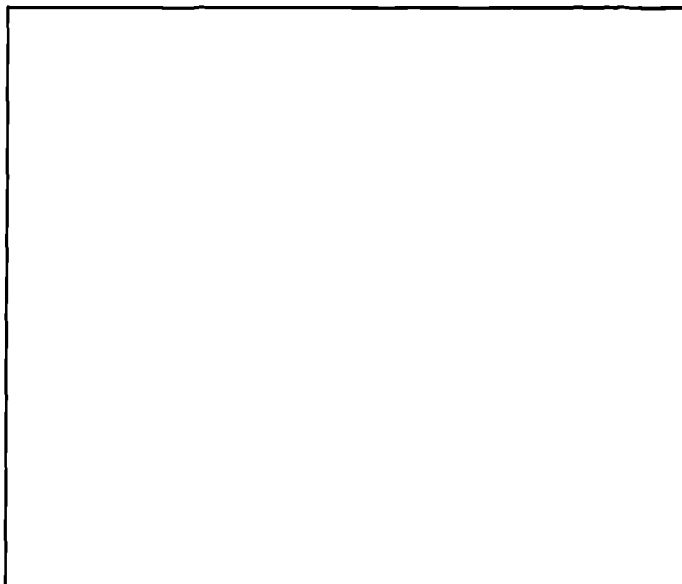
- calculators, video camera, digital camera, electronic keyboard, fax machine, computer, spell-checker, turtle, roamer, ...etc.

DfEE number: _____

A-2

Observation Protocol

Classroom sketch



Abbre. list:

b - board / flipchart
d - door

c - carpet
m - computer

ch - teacher's chair
x - visual blockage

Observer: _____

Date: _____

No. children on register: _____

No. children in room: _____

Lesson seen: Number / English / Number & ICT / English & ICT

Helpers present (e.g. parent, LSA, other adults): _____

REFERENCE NOTES

Glossary

EAL

- English as an additional language

LSA

- Learning Support Assistant

DfEE number: _____

C-1

Class Observation Schedule

Time observation started: _____

Time 1 min periods 5 min scans	No. Off- task	Feedback Oral ✓ x Non-verbal ✓ x Marking by T or P	Praise P (gen. pos.) P+ Praise & Presented	Notes Activities, aspects of feedback, praise and pupil INITIATION
1.				
2.				
3.				
4.				
5.				
Scan				
6.				
7.				
8.				
9.				
10.				
Scan				
11.				
12.				
13.				
14.				
15.				
Scan				
16.				
17.				
18.				
19.				
20.				
Scan				
21.				
22.				
23.				
24.				
25.				
Scan				
26.				
27.				
28.				
29.				
30.				

DfEE number: _____

C-2

Class Observation Schedule

Time observation started: _____

Time 1 min periods 5 min scans	No. Off- task	Feedback	Praise	Notes Activities, aspects of feedback, praise and pupil INITiation
		Oral ✓ x Non-verbal ✓ x Marking by T or P	P (gen. pos.) P+ Praise & Presented	
Scan				
31.				
32.				
33.				
34.				
35.				
Scan				
36.				
37.				
38.				
39.				
40.				
Scan				
41.				
42.				
43.				
44.				
45.				
Scan				
46.				
47.				
48.				
49.				
50.				
Scan				
51.				
52.				
53.				
54.				
55.				
Scan				
56.				
57.				
58.				
59.				
60.				

Class Observation Schedule

Using the schedule

1. The main focus of the lesson observation is on the teacher's use of feedback and on pupil initiation. ICT activity may sometimes take place in the session, but it is not the major focus of this schedule.
2. This schedule will be used throughout the lesson, except when the focus is restricted to the ICT group (ICT Task time / group schedule will be used for that).

Scanning for off-task behaviour

Scanning for off-task behaviour will be carried out throughout the lesson at 5-minute intervals.

Recording feedback and practice

Record each example of work-related (not behavioural management) feedback given by the teacher:

- ✓ Oral feedback to correct pupil contribution (whether or not accompanied by non-verbal feedback)
- ✓ Non-verbal feedback (not spoken) to correct pupil contribution
- x Oral feedback to incorrect pupil contribution (whether or not accompanied by non-verbal feedback)
- x Non-verbal feedback (not spoken) to incorrect pupil contribution
- P Praise, as an general encouragement or positive response to pupil reply, action, observed work. e.g. good boy, well done, excellent,...etc.
- P+ Praise and publicly presented outstanding 'work/activity/thinking' by pupil(s)

If the evaluative feedback involves marking, also record the identity of marker (teacher or pupil).

Notes

Notes on the activities, aspects of feedback, praise and pupil initiation.

INIT 'Pupil initiation' refers to work-related information or questions coming without prompt or request by the teacher. This talk may, for example, take the form of the pupil initiating a new topic, offering work-related information, expressing ideas or asking questions to develop understanding

DfEE number: _____

B-1

DESCRIPTION OF ACTIVITIES	TEACHING ACTIV. (NON ICT)	TEACHING ACTIV. (WITH ICT)	REMARKS e.g. time
A) Introduction			
Teaching area:	Normal class / IT room / special room	Normal class / IT room / special room	
Effective signal to begin teaching:	Y / N	Y / N	
+Briefing about ICT component:	--	Y / N	
Introduction about the aims/purposes:	Y / N	Y / N	
Review of previous related work:	Y / N	Y / N	
Main theme(s) of lesson:			
Use of modelling / demonstrating a procedure:	Teacher: Y / N Pupil: Y / N	Teacher: Y / N Pupil: Y / N	
Use of examples:	by teacher / by pupil(s)	by teacher / by pupil(s)	
Use of counter-examples:	by teacher / by pupil(s)	by teacher / by pupil(s)	
T. allowed sufficient time for answers to questions:	always / usual often somet / occa never	always / usual / often / somet / occa never	
T. requested elaborations to answers:	always usual often somet occa / never	always usual / often / somet / occa never	
All pupils were presented with reading at:	word level sentence level text level no reading	word level / sentence level / text level / no reading	
Transition routine from class to group orderly for:	all most many / some few	all / most / many / some few	
General Comment:			

DIEE number: _____

B-2

DESCRIPTION OF ACTIVITIES	TEACHING ACTIV. (NON ICT)	TEACHING ACTIV. (WITH ICT)	REMARKS e.g. time
B) Task time /group work			
ICT equipment used: Hardware/Software (type & quantity)			
+Range of ICT activities:	--	same for all / different for each pupil / different for some (e.g. SEN)	
Technical problems with the ICT equipment:	Y/N (If yes, specify the extent, duration)	Y/N (If yes, specify the extent, duration)	
Non-ICT instructional material (please specify).			
Teacher's attention focussed on.	all groups / 1 gp / 2 gps.	ICT group	
Other adults worked with	all groups / 1 gp / 2 gps	ICT group	
Groups receiving little or no help	No groups: _____	ICT group	
Transition routine from group to class orderly for:	all / most / many / some few	all / most / many / some few	

C) Plenary / Review			
Format:	teacher summary Q&A / pupil presentation instructional content unrelated to earlier tasks / no academic content / no time available other	teacher summary / Q&A / pupil presentation / instructional content unrelated to earlier tasks / no academic content / no time available / other	
Use of modelling / demonstration:	Teacher: Y N Pupil Y N	Teacher: Y / N Pupil Y N	
Use of examples:	by teacher by pupil(s)	by teacher / by pupil(s)	
Use of counter-examples	by teacher by pupil(s)	by teacher / by pupil(s)	
Some reading required at:	word sentence text level / no reading	word / sentence text level / no reading	
Learning aims/objs. reviewed:	Y / N	Y / N	
Reference made to future work:	Y N (please specify):	Y / N (please specify):	
Review used to check pupils' understanding:	Y / N	Y / N	
General Comment:			

DfEE number: _____

B-3

DESCRIPTION OF ACTIVITIES	TEACHING ACTIVITIES (NON-ICT)	TEACHING ACTIVITIES (WITH ICT)
D) General summary		
No. of groups:		
Ability groups:		
Number using ICT:		
SEN support (in-class and/or outside) by:	class teacher / other teacher / LSA / other paid worker / other adult / peer	class teacher / other teacher / LSA / other paid worker / other adult / peer
SEN withdrawn:	total number: _____ duration: _____ (mins.)	total number: _____ duration: _____ (mins.)
Different or adapted task/s provided specifically for SEN	Y / N	Y / N
Pupil/teacher extended talk to develop understanding:	introduction: Y / N task time: Y / N plenary: Y / N	introduction: Y / N task time: Y / N plenary: Y / N
Activities:	<p>ORAL WORK</p> <p>reciting / responding to teacher's closed questions / generating and asking questions / discussion / problem-solving activity / reflecting on thinking or learning / other</p> <p>READING ACTIVITIES</p> <p>reading aloud to other(s) / paired or shared reading / guided reading (for comprehension) / silent reading / accessing dictionary or thesaurus / researching from reference material / other</p> <p>WRITTEN WORK</p> <p>English exercise (closed format) / dictation / improving written accuracy / copying / note-taking / authoring / revising content / integrating text and graphics (non-ICT) / e-communication / other</p> <p>PRACTICAL WORK</p> <p>weighing or measuring / designing, arranging or making / data handling / other</p> <p>OTHER WORK</p> <p>numeral recognition / counting / reciting / mental computation / generating and asking maths questions / estimation / other</p> <p>Maths exercise (mechanical) / maths exercise (problem-solving) / writing numerals / recording the results of practical work / integrating text, symbols and graphics (non-ICT) / correcting previous work / other</p>	<p>READING ACTIVITIES</p> <p>reading aloud to other(s) / paired or shared reading / guided reading (for comprehension) / silent reading / accessing dictionary or thesaurus / researching from reference material / other</p> <p>WRITTEN WORK</p> <p>English exercise (closed format) / dictation / improving written accuracy / copying / note-taking / authoring / revising content / combining digital media / e-communication / other</p> <p>PRACTICAL WORK</p> <p>measuring / designing, arranging or making / data handling / other</p> <p>OTHER WORK</p> <p>numeral recognition / counting / mental computation / estimation / other</p> <p>Maths exercise (mechanical) / maths exercise (problem-solving) / writing numerals / estimation / recording the results of practical work / combining digital media / correcting previous work / other</p>
Some pupils read continuously for:	less than 5 mins / 5-10 mins / 10-20 mins / more than 20 mins	less than 5 mins / 5-10 mins / 10-20 mins / more than 20 mins
Some pupils wrote continuously for:	less than 5 mins / 5-10 mins / 10-20 mins / more than 20 mins	less than 5 mins / 5-10 mins / 10-20 mins / more than 20 mins
Task completion:	all / most / many / some / few	all / most / many / some / few

REFERENCE NOTES

Glossary

Review

- Think or talk about aspects of previous learning about the topic e.g. revision on the use of punctuation.

Modelling/Demonstration

- A physical or verbal representation that shows pupils how to do the work. It is being used so that the others might want to copy this to achieve similar results. e.g. someone doing the work while the other explains the procedure.
Note that a modelling or demonstration is focused on how the work should be done, while an example illustrates typical aspects of a class or style.

Examples

- Something that has many of the typical features of a particular type or group, and which clearly represents that type or group.

Counter-examples

- Something that clearly does not fall within a particular type or group.

Elaboration to answers

- This can be done by asking the same pupil for more details or encouraging talk that extends understanding of the previous point made.

Reference made to future work

- Relates what is learnt during this session to teaching and learning content in the future e.g. homework, learning task in the next session.

Number using ICT

- The total number of pupils that used ICT in the session

Descriptors**Always**

- Will be used only when there has never been insufficient time for answers

Usually

- Between 80% and 99% of the specific duration of time.

Often

- Between 50% to 79% of the specific duration of time.

Sometimes

- Between 20% to 49% of the specific duration of time.

Occasionally

- Less than 20%, but more than none.

Never

- Not at all.

All (or nearly all)

- Will be used when 95% to 100% of the pupils make an orderly transition.

Most

- 80% to 94% of the total number
e.g. 2 to 6 exceptions in a class of 30

Many

- Between 50% to 79%
e.g. 7 to 15 exceptions in a class of 30

Some

- Between 20% to 49%
e.g. 6 to 14 of them are in a class of 30

Few

- Less than 20%, but more than none.
e.g. 1 to 5 of them are in a class of 30

Appendix 2-A: Teacher questionnaire 1997/98

School DfEE number here



Curriculum, Evaluation and Management Centre

Information and Communications Technology (ICT) Survey

Autumn 1997

Please complete this questionnaire which is designed for primary teachers. Some questions ask for open-ended responses but please feel free to write on the questionnaire wherever you feel that you would like to qualify your response. For many of the questions there are no right or wrong answers. As well as factual information, we are interested in your opinions, comments and suggestions.

You and your class

Which year group did you teach last year? (Please tick a box)

Reception	<input type="checkbox"/>
Year 2	<input type="checkbox"/>
Year 4	<input type="checkbox"/>
Other	<input type="checkbox"/>

Which year group are you teaching this year?

How many pupils are *there in your class*?

If your class comprises mixed year groups, how many pupils come from older or younger year groups?

How many of your class are on the Special Needs Register at Stages 3-5

Do you regularly have other adults helping you in class? (*Yes or No*)

If "yes" to what extent do these adults assist with the use of computers or other ICT?

You and your class (contd.)

How many years have you been a teacher, including this year?
(excluding career breaks and secondments)

Do you use a computer at home? (either your own or the school's) (*Yes or No*)

Do you use a computer at home to help you with your school work? (*Yes or No*)

If you answered "Yes" to the last question please give examples of what you use it for.

How much training have you received to help you incorporate computers in your teaching? Please indicate the numbers of each of the following that you have attended in the last two years.

One-off session (e.g. twilight) involving literacy

One-off (e.g. twilight) involving numeracy

5 day GEST course

IT Co-ordinators course

Other

Briefly describe one training course or learning experience that you felt was very useful.

Are you the IT co-ordinator for your school (*Y/N*)

--

Use of computers

(Please feel free to amplify/qualify your answers.)

Does your class use a computer?

Every day

Several times per week

Several times per month

Less frequently

How often does a typical pupil in your class get a turn on the computer ?

Daily ☐
 Several times per week ☐
 Several times per month ☐
 Less frequently ☐

During an average week how much time does a typical child spend on the computer? Please estimate.

_____ hours _____ minutes

When pupils use computers are they usually:

Allowed to work on their own ☐
 Helped on request ☐
 Monitored intermittently ☐
 Closely supervised ☐

Do you plan specific computer activities for pupils with special needs? (Y or N)

Do you adapt the use of programs to suit those with special needs? (Y or N)

☐
☐
☐
☐
☐
☐

ICT provision for your class

(Please feel free to amplify/qualify your answers.)

Please estimate the percentage of pupils in your class who use a computer at home.

_____ %

Please put a number in the appropriate box below to show how many computers of each type you have for use by your class (there is no need to put in zeros - just leave blanks):

	BBC	Acorn	PC/RM	Apple Mac	Portable e.g. laptop	Other
I can use all the time						
I can use sometimes						
(How many other classes do you share them with)						

If you have a cluster or computer suite how is access to it timetabled?

Please indicate how many computers:

	BBC	Acorn	PC/RM	Apple Mac	Portable e.g. laptop	Other
Are connected to a printer						
Have a CD Rom						
Have a hard disc drive						
Are connected to the internet						
Have ILS software installed						

Other ICT equipment

How many calculators are available to you?
 How many hand-held spell checkers are available to you?
 How many programmable floor toys e.g. (Roamers/Turtles) are available to you?
 How many concept keyboards are available to you?
 How many digital cameras are available to you?
 How many musical keyboards are available to you?
 How many children in your class sent a fax from school this term?

Curriculum use of ICT

Please tick a box to show approximately how often you use computers in your class for the following purposes:

	Less than once a fortnight	Once a fortnight	Once a week	Once a day	More than once a day
To demonstrate something to the whole class					
For pupils to use at play time					
As a reward					
As extension work					
As extra support for some pupils					
For information retrieval					
For analysing patterns and interconnections					
To practice basic skills					
For word-processing					
For number work					
As part of free choice activities					
For pupils to use when they have finished classwork					
For major project work					

In your current School Development Plan what specific areas of ICT are you focusing on?
 (Please write "don't know" if you are not sure.)

Do you have a scheme of work for ICT? (Y/N)

Does your half-termly or termly planning specify ICT? (Y/N)

Does your weekly planning specify ICT? (Y/N)

☐
☐
☐

Please complete the table to record what software you use most often. Also indicate when you use the software and for what purposes.

Area of use	Software used	Use
Literacy		
Numeracy		
Other		

Do you plan specific activities to support any computer programs that you use? (e.g. games, worksheets, written work away from the computer) (Y/N)

☐

If "yes", please give an example

Do you keep records of children's ICT usage and skills development. (Y/N)

☐

If "yes", what records do you keep?

Facts and opinions that influence my use of ICT

Please indicate below the extent to which you agree with the following statements, using the scale:

1 - Strongly disagree 2 - Disagree 3 - Not sure 4 - Agree 5 - Strongly agree

My school has a plan to develop the use of ITC across the curriculum.

In my school, there is not enough information about published educational software.

I think the educational use of ICT is cost-effective.

It is hard to include computer work in most sessions.

Teachers in my school often talk about using ICT.

My pupils do not have adequate keyboard skills for using computers.

Computers make me feel good about my teaching.

For me, ICT equipment requires too much technical knowledge.

ICT equipment gets fixed quickly if it breaks down.

The physical layout of the school limits ICT usage.

I know that parents are generally positive about the educational use of computers.

It is hard to monitor pupils' learning on computers.

There are enough computers for the needs of my class.

I find that most software is not appropriate for the National Curriculum.

I am keen on the educational use of ICT.

Teachers do not need to use ICT to be effective.

Most software is too complicated for my pupils to use.

I think my pupils like to learn with computers.

It is difficult to plan follow-up work for computer activities.

For me, planning a computer-supported lesson is too time-consuming.

Your views about ICT in education

(There is room for extra comments on the back of this questionnaire booklet.)

Please describe a recent example from your teaching when you feel that ICT was used particularly well.

Why was ICT very useful for this activity?

Based upon your experience, can you suggest when ICT should be used in teaching and learning?

Based upon your experience, can you suggest when ICT should **not** be used in teaching and learning?

Can you make a general statement about what teachers should be doing when using ICT to support literacy development?

Can you make a general statement about what teachers should be doing when using ICT to support numeracy development?

FINALLY!

Are you willing for your name to be passed in confidence to the TTA funded project on effective teaching with ICT based at Newcastle University? The team may wish to contact you to further the research.

Yes or No

If you would like any further information please phone Steve Higgins (0191-2225470)

If you are willing to be further involved, please add:

Name _____

School _____

School telephone number _____

e-mail address (if available) _____

Thank you very much for completing this questionnaire. We really are most appreciative of the time and effort that you have put in. If you do have any further comments about points raised in the questionnaire please add them here and overleaf.

_____ ... Please continue overleaf

Appendix 2-B: Teacher questionnaire 1998/99

UNIVERSITY OF
NEWCASTLE



17th November, 1998

Dear colleague,

In autumn 1997, our research project team was set up at University of Newcastle upon Tyne to investigate and promote the use of Information and Communications Technology (ICT) in the teaching and learning of literacy and numeracy. An ICT survey was then carried out by the joint work of the PIPS project team at University of Durham and our team at Newcastle.

Many thanks to the support of teachers, which certainly includes your valuable contribution, we succeeded in building up a database with the ICT survey data collected from 250 teachers. Over the last two terms we have been working closely with 37 teachers, providing support to 23 of those in developing their practice and measuring learning gains.

As this is a period of rapid change - ICT usage as well as the teaching of literacy and numeracy, we need to repeat parts of the 1997 survey and gain some additional information, so that our development work can be understood in a broader context. It would be enormously helpful if you could complete the attached ICT form and return to us by the end of November. Please find herewith the freepost reply envelope for returning the completed survey form.

Thank you very much for your help. If you would like any feedback, please tick the box on page 7 of the questionnaire.

Yours sincerely,

(D.V. Moseley,
Project Director, TTA-ICT project)

School DfEE number here _____



Information and Communications Technology (ICT) Survey

1998

Please complete this questionnaire which is designed for primary teachers. Some questions ask for open-ended responses but please feel free to write on the questionnaire wherever you feel that you would like to qualify your response. For many of the questions there are no right or wrong answers. As well as factual information, we are interested in your opinions, comments and suggestions.

You and your class

Your name _____

Which year group are you teaching this year? (Please tick a box)

Reception	<input type="checkbox"/>
Year 2	<input type="checkbox"/>
Year 4	<input type="checkbox"/>
Other	<input type="checkbox"/>

How many pupils are there in your class?

If your class comprises mixed year groups, how many pupils come from older or younger year groups?

How many of your class are on the Special Needs Register at Stages 3-5

Do you regularly have other adults helping you in class? (*Yes or No*)

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

If "yes" to what extent do these adults assist with the use of computers or other ICT?

You and your class (contd.)

Are you the ICT co-ordinator for your school? (Y/N)

Are you the English/Literacy co-ordinator for your school?

Are you the Maths co-ordinator for your school?

What are your formal teaching qualifications?

(You may tick more than one box)

Certificate	
B.Ed.	
PGCE	
Master's degree	
Other	

ICT provision for your class

Please list any new ICT equipment (hardware and software) used by your pupils since January 1998.

Your access to computers (this is about your own access for lesson preparation, administration etc.)**At Home**

(please ✓ the appropriate box or boxes)

- | | |
|--|--------------------------|
| I have no access to a computer at home (for my lesson preparation etc.) | <input type="checkbox"/> |
| I have access to a computer at home but the equipment is dated i.e. it cannot run CD ROM | <input type="checkbox"/> |
| I have access to a computer at home which runs CD ROM | <input type="checkbox"/> |
| I have access to a computer at home with Internet connection | <input type="checkbox"/> |
| I can work at home then print off work at school | <input type="checkbox"/> |

At School

(please ✓ the appropriate box or boxes)

- | | |
|--|--------------------------|
| I have no access to a computer at school (for my lesson preparation etc.) | <input type="checkbox"/> |
| I have access to a computer at school but the equipment is dated i.e. it cannot run CD ROM | <input type="checkbox"/> |
| I have access to a computer at school which runs CD ROM | <input type="checkbox"/> |
| I have access to a computer at school with Internet connection | <input type="checkbox"/> |
| I have access to good printing facilities | <input type="checkbox"/> |

Your own ICT skills

Basic computer skills

How experienced are you at...	Low				High
	1	2	3	4	5
Installing software from disc or CD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manipulating files e.g. saving, copying, deleting, renaming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Formatting a 'floppy' disc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating directories and moving files	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Word processing skills

How experienced are you at...	Low				High
	1	2	3	4	5
Cutting and pasting information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using a spell checker	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adjusting page layout and printing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating tables	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spreadsheet skills

How experienced are you at...	Low				High
	1	2	3	4	5
Using formulae e.g. add up a column	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating graphs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Printing only a specific area of the spreadsheet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating simple list e.g. a class register	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Database skills

How experienced are you at...	Low				High
	1	2	3	4	5
Developing a simple database e.g. an address book	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Importing data from other sources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using a library catalogue (not a paper based one!)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Finding the required information following a search	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Internet/World Wide Web skills

How experienced are you at...	Low				High
	1	2	3	4	5
Finding information using a search engine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Saving text & images to use in other software packages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sending e-mail messages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating web pages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Use of computers by pupils

(Please feel free to amplify/qualify your answers.)

Does your class use a computer?

Every day	<input type="checkbox"/>
Several times per week	<input type="checkbox"/>
Several times per month	<input type="checkbox"/>
Less frequently	<input type="checkbox"/>

How often does a typical pupil in your class get a turn on the computer ?

Daily	<input type="checkbox"/>
Several times per week	<input type="checkbox"/>
Several times per month	<input type="checkbox"/>
Less frequently	<input type="checkbox"/>

During an average week how much time does a typical child spend on the computer? Please estimate.

_____ hours _____ minutes

Do you plan specific computer activities for pupils with special needs? (*Y or N*)

☐

Do you adapt the use of programs to suit those with special needs? (*Y or N*)

☐

Curriculum use of ICT

Please tick a box to show approximately how often you use computers in your class for the following purposes:

	Less than once a fortnight	Once a fortnight	Once a week	Once a day	More than once a day
To demonstrate something to the whole class					
For pupils to use at play time					
As a reward					
As extension work					
As extra support for some pupils					
For information retrieval					
For analysing patterns and interconnections					
To practice basic skills					
For word-processing					
For number work					
As part of free choice activities					
For pupils to use when they have finished classwork					
For major project work					

Has your school adopted the QCA scheme of work for ICT? (Y/N)

☐

Does your weekly planning specify ICT? (Y/N)

☐

Do you plan specific activities to support any computer programs that you use?
(e.g. games, worksheets, written work away from the computer) (Y/N)

☐

If "yes", please give an example

Do you keep records of children's ICT usage and skills development. (Y/N)

☐

If "yes", what records do you keep?

Think about the last time you used ICT in your teaching.

What software did you use? _____

What did the pupils have to do? _____

Why did you choose to use ICT? _____

How did you assess the work? _____

Using ICT in the classroom

Please circle the response which you think most appropriate.

☺ agree ☹ not sure ☹ disagree

I use ICT regularly with my pupils to find things out e.g. search a CD ROM

☺ ☹ ☹

I would make more use of ICT if I had access to more appropriate subject software

☺ ☹ ☹

Planning a lesson which involves ICT takes me longer

☺ ☹ ☹

I find using generic software tools less satisfactory than using subject specific software

☺ ☹ ☹

I find my own ICT skills are adequate for using ICT in my teaching

☺ ☹ ☹

If working in groups at the computer I find it difficult to assess individuals

☺ ☹ ☹

I usually have targeted objectives for assessment when using ICT in subject teaching

☺ ☹ ☹

I use ICT in my teaching because it allows changes to be made easily

☺ ☹ ☹

The Internet has limited use for my year group although I can see its use in other years

☺ ☹ ☹

I use ICT because it allows routine tasks to be carried out quickly

☺ ☹ ☹

I think resources available when using ICT are comparable with print based resources

☺ ☹ ☹

I have to change the way I teach when using ICT

☺ ☹ ☹

ICT offers more to some areas of the curriculum than others

☺ ☹ ☹

I have a limited grasp of the terminology used in ICT

☺ ☹ ☹

I have no difficulty incorporating ICT in my teaching

☺ ☹ ☹

I would be happier using ICT if I had access to detailed ICT lesson plans for all subjects

☺ ☹ ☹

I don't mind that some of my pupils have a greater knowledge of ICT than me

☺ ☹ ☹

I think ICT skills are important for pupils to have but ICT has little to offer other subjects

☺ ☹ ☹

Computers make me feel good about my teaching

☺ ☹ ☹

I am keen on the education use of ICT

☺ ☹ ☹

Most software is too complicated for my pupils to use

☺ ☹ ☹

I think my pupils like to learn with computers

☺ ☹ ☹

It is difficult to link computer activities with other classroom learning

☺ ☹ ☹

For me, planning a computer-supported lesson is too time-consuming

☺ ☹ ☹

Finally!

Please check that you have filled in every item in the questionnaire, as incomplete returns will limit the value of our analysis. If there is a query in your mind about an item, a written note or an N.A. (not applicable) entry is fine.

Thank you very much for completing the questionnaire. We are most appreciative of the time and effort that you have put in.

The project team undertakes not to reveal the identity of schools and individual teachers in project reports.

If you would like to receive written feedback concerning the results of the 1997 questionnaire and of the present 1998 questionnaire, please tick this box.

☐

If you have any further comments about points raised in the questionnaire please add them here.

For further information please phone Steve Higgins (0191 222 5470) or David Moseley (0191 222 7561)

Appendix 2-C: Follow up teacher questionnaire 1998/99 (Version A)

UNIVERSITY OF
NEWCASTLE



22nd February, 1999

Dear colleague,

Thank you for completing a recent survey form about the use of Information and Communications Technology (ICT) in the teaching and learning of literacy and numeracy for the research team based at University of Newcastle upon Tyne.

Being a full-time research staff working for the project, I am involved in providing support to 23 teachers in developing their practice and measuring learning gains. Meanwhile, I am also pursuing for my PhD study at the University. The proposed area of study is "Pedagogical use of information and communication technology to support teaching and learning in primary schools."

I am interested in teachers' practice and their learning style and the use of ICT. For my PhD study, I need to repeat parts of the 1997 survey and get some additional information about your practice and learning style. You will find one of the sections is similar to the recent survey you completed, I hope you don't mind filling that in again.

Since the distribution of this survey form is limited to teachers who completed the previous survey, your contribution is crucial important to the study. It would be enormously helpful if you could complete the attached survey form and if possible, return to me before *Friday, 5 March 1999*. Please find herewith the freepost reply envelope for returning the completed form.

Thank you very much for your help.

Yours sincerely,

(Harrison Tse)



School DFEE number: _____

Your name: _____

Using information and communication technology (ICT) to support subject teaching

Please tick the appropriate box to show the extent to which you use ICT:

to focus on ICT skills development			
0-24% of the time	25-50% of the time	51-74% of the time	75-100% of the time
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

explicitly to support subject teaching (i.e. all curriculum subjects except ICT)			
0-24% of the time	25-50% of the time	51-74% of the time	75-100% of the time
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick the appropriate box to show your perception about the **change in pupils' academic achievement** since autumn 1997, due to the use of computers to support subject teaching.

Improved	No difference	Declined	Not sure or impossible to give an answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick the appropriate box to show your perception about the **change in pupils' attitude towards learning** since autumn 1997, due to the use of computers to support subject teaching.

Improved	No difference	Declined	Not sure or impossible to give an answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick the appropriate box to show **how the use of ICT to support subject teaching (i.e. all curriculum subjects except ICT) affected your workload** when compared with teaching without the use of ICT.

Increased a lot	Increased	No difference	Decreased	Decreased a lot	Not sure or impossible to give an answer e.g. not using ICT at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick the appropriate box to show your **attitude toward computers**:

Strongly dislike them.	Dislike them.	Not sure (try not to use this box)	Like them.	Strongly like them.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NB: ICT includes calculator, video camera, digital camera, electronic keyboard, fax machine, computer, spell-checker, turtle, roamer,... etc.

Generally speaking, how did you perceive the challenge of using ICT to support subject teaching (i.e. all curriculum subjects except ICT): [Please tick the appropriate box]

IN AUTUMN 1997			
It was <i>not</i> a problem to me at all	It was a problem, but it could be solved by <i>rational</i> application of educational knowledge and technique	It was a <i>complex</i> problem. Rational application of educational knowledge and technique was <i>not sufficient</i> to solve the problem	Not sure or impossible to give an answer e.g. not using ICT at all

NOW			
It is <i>not</i> a problem to me at all	It is a problem, but it can be solved by <i>rational</i> application of educational knowledge and technique	It is a <i>complex</i> problem. Rational application of educational knowledge and technique is <i>not sufficient</i> to solve the problem	Not sure or impossible to give an answer e.g. not using ICT at all

The challenges of using ICT in the classroom

Please rate how each of the following affect your use of ICT in the classroom using the scale:

1 – Very favourable to the use of ICT	2 – Favourable to the use of ICT
3 – Okay	4 – Unfavourable to the use of ICT
5 – Very unfavourable to the use of ICT	X – Not sure (try not to use this box)

[Please tick the appropriate box]	1	2	3	4	5	X
The age of my pupils						
My knowledge and skills about hardware						
Equipment available for pupils to use						
The ability of my class						
My knowledge and skills about software						
The number of pupils in my class						
Access to information about hardware & software at school						
Technical support available in school						
My knowledge about how and when to use ICT						
Reliability of available equipment						
My interest in the classroom use of ICT						
Availability of adults to help pupils on the computers						
My expectation about the educational outcome of using ICT						
The demands on teachers' time and effort in class						
The impact of school educational policy e.g. literacy or numeracy hour						
Time and effort for planning and preparation						
The supervision of pupils' learning on computer						
My knowledge and skills in planning follow-up work						

Please add in any other major instructional factors that affect your use of ICT, but not included in the list above. Please also rate how they affect your use of ICT with the descriptions in the scale above.

Please indicate below the extent to which you agree with the following statements, using the scale:
(Please tick the appropriate box)

My school has a plan to develop the use of ICT across the curriculum.

In my school, there is not enough information about published educational software.

I think the educational use of ICT is cost-effective.

It is hard to include computer work in most sessions.

My pupils do not have adequate keyboard skills for using computers.

Computers make me feel good about my teaching.

I know that parents are generally positive about the educational use of computers.

It is hard to monitor pupils' learning on computers.

I find that most software is not appropriate for the National Curriculum.

I am keen on the educational use of ICT.

Most software is too complicated for my pupils to use.

It is difficult to plan follow-up work for computer activities.

For me, planning a computer-supported lesson is too time-consuming.

[illegible]

The items below are referring to your general teaching practice *since Autumn 1997*. Please fill in the box with the appropriate letter according to the scale below to indicate how you think and act in the classroom.

- When I am doing whole class teaching, I work better with audio-visual equipment.

When doing whole class teaching, if you occasionally did the work better with audio-visual equipment you would tick 1.

If this were almost always true of you whenever you were doing whole class teaching, you would tick 4.

	0	1	2	3	4	X
When I am conducting teaching activities, I can perform my job with attention on other things at the same time.						
When making teaching decisions, I consciously draw on my educational knowledge.						
To make the most appropriate response to the teaching problem(s) encountered, I evaluate the available options.						
I come up with a solution to a teaching problem after I have found the fault(s) in my interpretation of the problem.						
I repeat some classroom duties so many times that I tend to do them without conscious thought.						

- 0 - this item is *never* or *only rarely* true of me.
 1 - this item is *occasionally* true of me.
 2 - this item is *sometimes* true of me.
 3 - this item is *often* true of me.
 4 - this item is *always* or *almost always* true of me.
 X - only to be used if *not possible* to give a definite answer

	0	1	2	3	4	X
When performing my teaching duties, I am consciously guided by my knowledge on various educational issues.						
While performing my teaching duties, I pay conscious attention to the procedure of doing it.						
When I have a major classroom problem, I query the criteria by which I make decisions or judgements.						
I am so used to teaching routines that I can do them without conscious thought.						
Discussing with other teachers helps me to apply educational knowledge into practice.						
I question the way others teach and try to think of a better way.						
I ask myself if I could have misinterpreted some incidents that I have used as evidence for making pedagogical decisions or judgements.						
I am so familiar with some teaching routines that doing them becomes a habit.						
I tackle teaching problems by applying educational knowledge into practice.						
When I solve a teaching problem, I consciously pay attention to the process.						
When tackling difficult problems about teaching, I make a conscious effort to find distortions in my reasoning or narrowness in my attitude.						
The teaching problems that I encounter are so familiar that I tend to tackle them with automatic (re)actions.						
I carefully follow teaching procedures that I believe to be effective.						
I like to review what I have been doing for my pupils and (re)consider its efficacy.						
As a result of a specific classroom experience, there has been a major change in my views about effective teaching methods.						
The patterns of the teaching problems I encounter are so repetitive that I can (re)act spontaneously.						
I use the educational knowledge that I have learned to interpret what is happening in the classroom.						
Discussing teaching problems with other teachers triggers me to (re)check the procedure that I normally use.						
I have met a major problem that forced me to alter my beliefs about the efficacy of certain teaching routines.						
I focus my attention on reviewing the possible clues to solving the specific teaching problem(s) that I have encountered.						
To tackle a teaching problem, I ask myself about the features that I noticed when I recognised it as a problem.						
Improper pedagogical decisions or judgements made by me tend to be caused by the lack of re-examination of my beliefs or assumptions about good teaching practice.						

About your own learning: (Source: Kolb, D.A. 1985)

Teachers learn from their practical experience, books and various sources. In this section, you will be asked to complete 12 sentences about your learning in a general sense. Each has four endings. Rank the endings for each sentence according to how well you think each one fits with how you would go about learning something. Try to recall some recent situations where you had to learn something new, perhaps in your job as a teacher. Then, using the spaces provided, rank a "4" for the sentence ending that describes how you learn best, down to a "1" for the sentence ending that seems least like the way you would learn. Be sure to rank all the endings for each sentence unit. Please *do not make ties or duplicate rankings*. This is an example of a completed sentence set:

e.g. When I learn:	I am happy	I am fast	I am logical.	I am careful.
	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>

Rankings: 4 – most like you 3 – second most like you
 2 – third most like you 1 = least like you

Remember: You are ranking **ACROSS**, not down. And each ranking will be used **ONCE**.

1. When I learn:	I like to deal with my feelings.	I like to watch and listen.	I like to think about ideas.	I like to be doing things.
2. I learn best when:	<p>Please refer to</p> <p>LSI-1985 for the</p> <p>content of the questionnaire.</p>			
3. While I am learning				
4. I learn by				
5. When I learn				
6. While I am learning				
7. I learn best from:				
8. When I learn.				
9. I learn best when:				
10. While I am learning				
11. When I learn:				
12. I learn best when:				

Others (please state): _____

for teachers' use _____ for pupils' use _____

7

1. any specific path of the model (please state the path number), with reference to your practical experience as example,
2. the strengths and weaknesses of the model and any other suggestions, and/or
3. the tripartite relationship in promoting out-of-class usage of ICT

[illegible]

page 6

Appendix 2-D: Follow up teacher questionnaire 1998/99 (Version B)

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22nd February, 1999

Dear colleague,

In autumn 1997, our research project team was set up at University of Newcastle upon Tyne to investigate and promote the use of Information and Communications Technology (ICT) in the teaching and learning of literacy and numeracy. An ICT survey was then carried out by the joint work of the PIPS project team at University of Durham and our team at Newcastle. Many thanks to the support of teachers, which certainly includes your valuable contribution. We succeeded in building up a database with the ICT survey data collected from 250 teachers.

Being a full-time research staff working for the project, I am involved in providing support to 23 teachers in developing their practice and measuring learning gains. Meanwhile, I am also pursuing for my PhD study at the University. The proposed area of study is "Pedagogical use of information and communication technology to support teaching and learning in primary schools."

I am interested in teachers' practice and their learning style and the use of ICT. For my PhD study, I need to repeat parts of the 1997 survey and get some additional information about your practice and learning style. Since the distribution of this survey form is limited to teachers who completed the 1997 survey, your contribution is crucial important to the study. It would be enormously helpful if you could complete the attached survey form and if possible, return to me before *Friday, 5 March 1999*. Please find herewith the freepost reply envelope for returning the completed form.

Thank you very much for your help.

Yours sincerely,

(Harrison Tse)



School DfEE number: _____

Your name: _____

Using information and communication technology (ICT) to support subject teaching

Please tick the appropriate box to show the extent to which you use ICT:

to focus on ICT skills development			
0-24% of the time	25-50% of the time	51-74% of the time	75-100% of the time
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

explicitly to support subject teaching (i.e. all curriculum subjects except ICT)			
0-24% of the time	25-50% of the time	51-74% of the time	75-100% of the time
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick the appropriate box to show your perception about the **change in pupils' academic achievement** since autumn 1997, due to the use of computers to support subject teaching.

Improved	No difference	Declined	Not sure or impossible to give an answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick the appropriate box to show your perception about the **change in pupils' attitude towards learning** since autumn 1997, due to the use of computers to support subject teaching.

Improved	No difference	Declined	Not sure or impossible to give an answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick the appropriate box to show **how the use of ICT to support subject teaching (i.e. all curriculum subjects except ICT) affected your workload** when compared with teaching without the use of ICT.

Increased a lot	Increased	No difference	Decreased	Decreased a lot	Not sure or impossible to give an answer e.g. not using ICT at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick the appropriate box to show your **attitude toward computers**:

Strongly dislike them.	Dislike them.	Not sure (try not to use this box)	Like them.	Strongly like them.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NB: ICT includes calculator, video camera, digital camera, electronic keyboard, fax machine, computer, spell-checker, turtle, roamer,... etc.

Curriculum use of ICT

Please tick a box to show approximately how often you use computers in your class for the following purposes:

	Less than once a fortnight	Once a fortnight	Once a week	Once a day	More than once a day
To demonstrate something to the whole class					
For pupils to use at play time					
As a reward					
As extension work					
As extra support for some pupils					
For information retrieval					
For analysing patterns and interconnections					
To practice basic skills					
For word-processing					
For number work					
As part of free choice activities					
For pupils to use when they have finished classwork					
For major project work					

Using information and communication technology (ICT) to support subject teaching

Please tick the appropriate box to show the extent to which you use ICT:

to focus on ICT skills development			
0-24% of the time	25-50% of the time	51-74% of the time	75-100% of the time

explicitly to support subject teaching (i.e. all curriculum subjects except ICT)			
0-24% of the time	25-50% of the time	51-74% of the time	75-100% of the time

Please tick the appropriate box to show your perception about the **change in pupils' academic achievement** since autumn 1997, due to the use of computers to support subject teaching.

Improved	No difference	Declined	Not sure or impossible to give an answer

Please tick the appropriate box to show your perception about the **change in pupils' attitude towards learning** since autumn 1997, due to the use of computers to support subject teaching.

Improved	No difference	Declined	Not sure or impossible to give an answer

Please tick the appropriate box to show **how the use of ICT to support subject teaching (i.e. all curriculum subjects except ICT) affected your workload** when compared with teaching without the use of ICT.

Increased a lot	Increased	No difference	Decreased	Decreased a lot	Not sure or impossible to give an answer e.g. not using ICT at all

Generally speaking, how did you perceive the challenge of using ICT to support subject teaching (i.e. all curriculum subjects except ICT): [Please tick the appropriate box]

IN AUTUMN 1997			
It was <i>not</i> a problem to me at all	It was a problem, but it could be solved by <i>rational</i> application of educational knowledge and technique	It was a <i>complex</i> problem. Rational application of educational knowledge and technique was <i>not sufficient</i> to solve the problem	Not sure or impossible to give an answer e.g. not using ICT at all

NOW			
It is <i>not</i> a problem to me at all	It is a problem, but it can be solved by <i>rational</i> application of educational knowledge and technique	It is a <i>complex</i> problem. Rational application of educational knowledge and technique is <i>not sufficient</i> to solve the problem	Not sure or impossible to give an answer e.g. not using ICT at all

The challenges of using ICT in the classroom

Please rate how each of the following affect your use of ICT in the classroom using the scale:

- | | |
|---|--|
| 1 – Very favourable to the use of ICT | 2 – Favourable to the use of ICT |
| 3 – Okay | 4 – Unfavourable to the use of ICT |
| 5 – Very unfavourable to the use of ICT | X – Not sure (try not to use this box) |

[Please tick the appropriate box]	1	2	3	4	5	X
The age of my pupils						
My knowledge and skills about hardware						
Equipment available for pupils to use						
The ability of my class						
My knowledge and skills about software						
The number of pupils in my class						
Access to information about hardware & software at school						
Technical support available in school						
My knowledge about how and when to use ICT						
Reliability of available equipment						
My interest in the classroom use of ICT						
Availability of adults to help pupils on the computers						
My expectation about the educational outcome of using ICT						
The demands on teachers' time and effort in class						
The impact of school educational policy e.g. literacy or numeracy hour						
Time and effort for planning and preparation						
The supervision of pupils' learning on computer						
My knowledge and skills in planning follow-up work						

Please add in any other major instructional factors that affect your use of ICT, but not included in the list above. Please also rate how they affect your use of ICT with the descriptions in the scale above.

Please indicate below the extent to which you agree with the following statements, using the scale:
(Please tick the appropriate box)

My school has a plan to develop the use of ICT across the curriculum.

In my school, there is not enough information about published educational software.

I think the educational use of ICT is cost-effective.

It is hard to include computer work in most sessions.

My pupils do not have adequate keyboard skills for using computers.

Computers make me feel good about my teaching.

I know that parents are generally positive about the educational use of computers.

It is hard to monitor pupils' learning on computers.

I find that most software is not appropriate for the National Curriculum.

I am keen on the educational use of ICT.

Most software is too complicated for my pupils to use.

It is difficult to plan follow-up work for computer activities.

For me, planning a computer-supported lesson is too time-consuming.

[illegible]

The items below are referring to your general teaching practice *since Autumn 1997*. Please fill in the box with the appropriate letter according to the scale below to indicate how you think and act in the classroom.

- ### Example

When I am doing whole class teaching, I work better with audio-visual equipment.

If you didn't do any whole class teaching, you would tick X.

When doing whole class teaching, if you occasionally did the work better with audio-visual equipment you would tick 1.

If this were almost always true of you whenever you were doing whole class teaching, you would tick 4.

	0	1	2	3	4	X
When I am conducting teaching activities, I can perform my job with attention on other things at the same time.						
When making teaching decisions, I consciously draw on my educational knowledge.						
To make the most appropriate response to the teaching problem(s) encountered, I evaluate the available options.						
I come up with a solution to a teaching problem after I have found the fault(s) in my interpretation of the problem.						
I repeat some classroom duties so many times that I tend to do them without conscious thought.						

- 0 - this item is *never* or *only rarely* true of me.
 1 - this item is *occasionally* true of me.
 2 - this item is *sometimes* true of me.
 3 - this item is *often* true of me.
 4 - this item is *always* or *almost always* true of me.
 X - only to be used if *not possible to give a definite answer*

	0	1	2	3	4	X
When performing my teaching duties, I am consciously guided by my knowledge on various educational issues.						
While performing my teaching duties, I pay conscious attention to the procedure of doing it.						
When I have a major classroom problem, I query the criteria by which I make decisions or judgements.						
I am so used to teaching routines that I can do them without conscious thought.						
Discussing with other teachers helps me to apply educational knowledge into practice.						
I question the way others teach and try to think of a better way.						
I ask myself if I could have misinterpreted some incidents that I have used as evidence for making pedagogical decisions or judgements.						
I am so familiar with some teaching routines that doing them becomes a habit.						
I tackle teaching problems by applying educational knowledge into practice.						
When I solve a teaching problem, I consciously pay attention to the process.						
When tackling difficult problems about teaching, I make a conscious effort to find distortions in my reasoning or narrowness in my attitude.						
The teaching problems that I encounter are so familiar that I tend to tackle them with automatic (re)actions.						
I carefully follow teaching procedures that I believe to be effective.						
I like to review what I have been doing for my pupils and (re)consider its efficacy.						
As a result of a specific classroom experience, there has been a major change in my views about effective teaching methods.						
The patterns of the teaching problems I encounter are so repetitive that I can (re)act spontaneously.						
I use the educational knowledge that I have learned to interpret what is happening in the classroom.						
Discussing teaching problems with other teachers triggers me to (re)check the procedure that I normally use.						
I have met a major problem that forced me to alter my beliefs about the efficacy of certain teaching routines.						
I focus my attention on reviewing the possible clues to solving the specific teaching problem(s) that I have encountered.						
To tackle a teaching problem, I ask myself about the features that I noticed when I recognised it as a problem.						
Improper pedagogical decisions or judgements made by me tend to be caused by the lack of re-examination of my beliefs or assumptions about good teaching practice.						

About your own learning: (Source: Kolb, D.A. 1985)

Teachers learn from their practical experience, books and various sources. In this section, you will be asked to complete 12 sentences about your learning in a general sense. Each has four endings. Rank the endings for each sentence according to how well you think each one fits with how you would go about learning something. Try to recall some recent situations where you had to learn something new, perhaps in your job as a teacher. Then, using the spaces provided, rank a "4" for the sentence ending that describes how you learn best, down to a "1" for the sentence ending that seems least like the way you would learn. Be sure to rank all the endings for each sentence unit. Please *do not make ties or duplicate rankings*. This is an example of a completed sentence set:

e.g. When I learn.	I am happy	I am fast.	I am logical.	I am careful.
	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>

Rankings: 4 – most like you 3 – second most like you
2 = third most like you 1 = least like you

Remember: You are ranking **ACROSS**, not down. And each ranking will be used **ONCE**.

1. When I learn.	I like to deal with my feelings.	I like to watch and listen	I like to think about ideas.	I like to be doing things.
2. I learn best when	<p>Please refer to</p> <p><i>LSI-1985 for the</i></p> <p>content of the questionnaire.</p>			
3. While I am learning				
4. I learn by				
5. When I learn				
6. While I am learning				
7. I learn best from				
8. When I learn.				
9. I learn best when:				
10. While I am learning.				
11. When I learn:				
12. I learn best when:				

How do you like to group your pupils when teaching reading and writing tasks supported by computers? In each of the grouping criterion below, please indicate your preference by writing "1" for your first choice, "2" for your second choice and "3" for your third choice, and so on.

Friendship___ Ability___ Leadership___ Social ability___ IT skills___ Gender___

Others (please state): _____

How many internet access points are available in your school: (You may need help from IT co-ordinator)

for teachers' use _____ for pupils' use _____

Please tick the appropriate box to show your attitude toward computers:

Strongly dislike them	Dislike them	Not sure (try not to use this box)	Like them.	Strongly like them.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Your own ICT skills

Basic computer skills

How experienced are you at...

	Low 1	2	3	4	High 5
Installing software from disc or CD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manipulating files e.g. saving, copying, deleting, renaming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Formatting a 'floppy' disc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating directories and moving files	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Word processing skills

How experienced are you at...

	Low 1	2	3	4	High 5
Cutting and pasting information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using a spell checker	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adjusting page layout and printing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating tables	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spreadsheet skills

How experienced are you at...

	Low 1	2	3	4	High 5
Using formulae e.g. add up a column	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating graphs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Printing only a specific area of the spreadsheet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating simple list e.g. a class register	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Database skills

How experienced are you at...

	Low 1	2	3	4	High 5
Developing a simple database e.g. an address book	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Importing data from other sources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using a library catalogue (not a paper based one!)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Finding the required information following a search	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Internet/World Wide Web skills

How experienced are you at...

	Low 1	2	3	4	High 5
Finding information using a search engine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Saving text & images to use in other software packages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sending e-mail messages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating web pages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank you very much for completing the questionnaire. I am most appreciative of the time and effort that you have put in. I hereby undertake not to reveal the identity of schools and individual teachers in reports.

7

Please also find the enclosed draft paper that tells you about the model that I am using to promote the use of information and communication technology to support literacy and numeracy. That is not a part of the questionnaire, but it would be greatly appreciated if you can comment on:

1. any specific path of the model (please state the path number), with reference to your practical experience as example,
2. the strengths and weaknesses of the model and any other suggestions, and/or
3. the tripartite relationship in promoting out-of-class usage of ICT

[illegible]

For further information please phone Harrison Tse (0191 222 5297)

Appendix 2-E: Extended teacher questionnaire 1998/99 (Version A)

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UNIVERSITY OF
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28th June, 1999

Dear colleague,

Thanks for your help and support with filling in the previous questionnaire for my PhD study. I am at the stage of investigating the possible relation between classroom computer usage and the associated value-added. Before doing that, I need to seek your approval of using the overall PIPS value-added data of your class that is prepared by the Durham team. Access to the collected information will be restricted to team members and I hereby undertake not to reveal the identity of schools and individual teachers in reports. In addition to that, it would be enormously helpful if you could also complete the attached survey form and return to me before *Friday, 16 July 1999*. I am enclosing herewith the freepost reply envelope for returning the completed form.

For those teachers who would like the feedback of the previous survey results, I hope it could be ready by Christmas time. Thank you very much for your help in advance.

Yours sincerely,

(Harrison Tse)



Survey Form A

Our reference: _____

Section A: Classes taught since 1996/97 and approval of using PIPS data

- 1a. Which year group(s) are you teaching in the academic year 1998/1999? [Please circle your answer.
You may circle two groups if it is a mixed year class]

Reception / Y1 / Y2 / Y3 / Y4 / Y5 / Y6 / N.A.

- 1b. Please write the name(s) or the identification code(s) of the class you teach in 98/99? [If your class
is the only class in that year group, the year group code might be used as the class name in PIPS]

- 1c. Will you allow the team to use the overall PIPS value-added data of your class in 98/99?

Yes / No / N.A. (e.g. not in PIPS)

- 2a. Which year group(s) did you teach in the academic year 1997/1998? [Please circle your answer.
You may circle two groups if it was a mixed year class]

Reception / Y1 / Y2 / Y3 / Y4 / Y5 / Y6 / N.A.

- 2b. Please write the name(s) or the identification code(s) of the class you teach in 97/98? [If your class
was the only class in that year group, the year group code might be used as the class name in PIPS]

- 2c. Will you allow the team to use the overall PIPS value-added data of your class in 97/98?

Yes / No / N.A. (e.g. not in PIPS)

- 3a. Which year group did you teach in the academic year 1996 1997? [Please circle your answer. You
may circle two groups if it was a mixed year class]

Reception Y1 / Y2 / Y3 / Y4 / Y5 / Y6 / N.A.

- 3b. Please write the name(s) or the identification code(s) of the class you teach in 96/97? [If your class
was the only class in that year group, the year group code might be used as the class name in PIPS]

- 3c. Will you allow the team to use the overall PIPS value-added data of your class in 96/97?

Yes / No / N.A. (e.g. not in PIPS)

Appendix 2-F: Extended teacher questionnaire 1998/99 (Version B)

UNIVERSITY OF
NEWCASTLE



28th June, 1999

Dear colleague,

In autumn 1997, a research project team was set up at University of Newcastle upon Tyne to investigate and promote the use of Information and Communications Technology (ICT) in the teaching and learning of literacy and numeracy. An ICT survey was then carried out by the joint work of the PIPS project team at University of Durham and the project team that I worked for at Newcastle. Many thanks to the support of teachers, including yourself, a database was built up with information collected from 250 teachers. Meanwhile, I am also pursuing a PhD study at the University.

For my study and further work of the Newcastle team, I need to seek your approval of using the overall PIPS value-added data of your class that is prepared by the Durham team. The data will be used to investigate the possible relation between classroom computer usage and the associated value-added. Access to the collected information will be restricted to team members and I hereby undertake not to reveal the identity of schools and individual teachers in reports. In addition to that, it would be enormously helpful if you could also complete the attached survey forms and return to me before *Friday, 16 July 1999*. I am enclosing herewith the freepost reply envelope for returning the completed forms.

Thank you very much for your help and attention.

Yours sincerely,

(Harrison Tse)



Survey Form A

Our reference: _____

Section A: Classes taught since 1996/97 and approval of using PIPS data

- 1a. Which year group(s) are you teaching in the academic year 1998/1999? [Please circle your answer.
You may circle two groups if it is a mixed year class]

Reception / Y1 / Y2 / Y3 / Y4 / Y5 / Y6 / N.A.

- 1b. Please write the name(s) or the identification code(s) of the class you teach in 98/99? [If your class
is the only class in that year group, the year group code might be used as the class name in PIPS]

- 1c. Will you allow the team to use the overall PIPS value-added data of your class in 98/99?

Yes / No / N.A. (e.g. not in PIPS)

- 2a. Which year group(s) did you teach in the academic year 1997/1998? [Please circle your answer.
You may circle two groups if it was a mixed year class]

Reception / Y1 / Y2 / Y3 / Y4 / Y5 / Y6 / N.A.

- 2b. Please write the name(s) or the identification code(s) of the class you teach in 97/98? [If your class
was the only class in that year group, the year group code might be used as the class name in PIPS]

- 2c. Will you allow the team to use the overall PIPS value-added data of your class in 97/98?

Yes / No / N.A. (e.g. not in PIPS)

- 3a. Which year group did you teach in the academic year 1996/1997? [Please circle your answer. You
may circle two groups if it was a mixed year class]

Reception / Y1 / Y2 / Y3 / Y4 / Y5 / Y6 / N.A.

- 3b. Please write the name(s) or the identification code(s) of the class you teach in 96/97? [If your class
was the only class in that year group, the year group code might be used as the class name in PIPS]

- 3c. Will you allow the team to use the overall PIPS value-added data of your class in 96/97?

Yes / No / N.A. (e.g. not in PIPS)

Section B: Classroom use of computers and your practice

(Please feel free to amplify/qualify your answers)

How many years have you been a teacher, including this year?
(excluding career breaks and secondments)

Does your class use a computer?

Every day
Several times per week
Several times per month
Less frequently

How often does a typical pupil in your class get a turn on the computer?

Daily
Several times per week
Several times per month
Less frequently

During an average week how much time does a typical pupil spend on the computer?
Please estimate.

_____ hours _____ minutes

Using information and communication technology (ICT) to support subject teaching

Please tick the appropriate box to show the extent to which you use ICT:

to focus on ICT skills development			
0-24% of the time	25-50% of the time	51-74% of the time	75-100% of the time
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

explicitly to support subject teaching (i.e. all curriculum subjects except ICT)			
0-24% of the time	25-50% of the time	51-74% of the time	75-100% of the time
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick the appropriate box to show your perception about the **change in pupils' academic achievement** since autumn 1997, due to the use of computers to support subject teaching.

Improved	No difference	Declined	Not sure or impossible to give an answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick the appropriate box to show your perception about the **change in pupils' attitude towards learning** since autumn 1997, due to the use of computers to support subject teaching.

Improved	No difference	Declined	Not sure or impossible to give an answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NB: ICT includes calculator, video camera, digital camera, electronic keyboard, fax machine, computer, spell-checker, turtle, roamer, ... etc.

Please tick the appropriate box to show how the use of ICT to support subject teaching (i.e. all curriculum subjects except ICT) affected your workload when compared with teaching without the use of ICT.

Increased a lot	Increased	No difference	Decreased	Decreased a lot	Not sure or impossible to give an answer e.g. not using ICT at all

About your general teaching practice

The items below are referring to your general teaching practice *since Autumn 1997*. Please fill in the box with the appropriate letter according to the scale below to indicate how you think and act in the classroom.

0 - this item is *never* or *only rarely* true of me.

1 - this item is *occasionally* true of me.

2 - this item is *sometimes* true of me.

3 - this item is *often* true of me.

4 - this item is *always* or *almost always* true of me.

NA - only to be used if *not possible* to give a definite answer

Example

When I am doing whole class teaching, I work better with audio-visual equipment.

If you didn't do any whole class teaching or not sure about the answer, you would tick NA.

When doing whole class teaching, if you occasionally did the work better with audio-visual equipment you would tick 1.

If this were almost always true of you whenever you were doing whole class teaching, you would tick 4.

	0	1	2	3	4	NA
1. When I am conducting teaching activities, I can perform my job with attention on other things at the same time.						
2. When making teaching decisions, I consciously draw on my educational knowledge.						
3. To make the most appropriate response to the teaching problem(s) encountered, I evaluate the available options.						
4. I come up with a solution to a teaching problem after I have found the fault(s) in my interpretation of the problem.						
5. I repeat some classroom duties so many times that I tend to do them without conscious thought.						
6. When performing my teaching duties, I am consciously guided by my knowledge on various educational issues.						
7. While performing my teaching duties, I pay conscious attention to the procedure of doing it.						
8. When I have a major classroom problem, I query the criteria by which I make decisions or judgements.						
9. I am so used to teaching routines that I can do them without conscious thought.						
10. Discussing with other teachers helps me to apply educational knowledge into practice.						
11. I question the way others teach and try to think of a better way.						
12. I ask myself if I could have misinterpreted some incidents that I have used as evidence for making pedagogical decisions or judgements.						

0 - this item *is never or only rarely* true of me.
 1 - this item is *occasionally* true of me.
 2 - this item is *sometimes* true of me.
 3 - this item is *often* true of me.
 4 - this item is *always or almost always* true of me.
 NA - only to be used if *not possible to give a definite answer*

	0	1	2	3	4	NA
13. I am so familiar with some teaching routines that doing them becomes a habit.						
14. I tackle teaching problems by applying educational knowledge into practice.						
15. When I solve a teaching problem, I consciously pay attention to the process.						
16. When tackling difficult problems about teaching, I make a conscious effort to find distortions in my reasoning or narrowness in my attitude.						
17. The teaching problems that I encounter are so familiar that I tend to tackle them with automatic (re)actions.						
18. I carefully follow teaching procedures that I believe to be effective.						
19. I like to review what I have been doing for my pupils and (re)consider its efficacy.						
20. As a result of a specific classroom experience, there has been a major change in my views about effective teaching methods.						
21. The patterns of the teaching problems I encounter are so repetitive that I can (re)act spontaneously.						
22. I use the educational knowledge that I have learned to interpret what is happening in the classroom.						
23. Discussing teaching problems with other teachers triggers me to (re)check the procedure that I normally use.						
24. I have met a major problem that forced me to alter my beliefs about the efficacy of certain teaching routines.						
25. I focus my attention on reviewing the possible clues to solving the specific teaching problem(s) that I have encountered.						
26. To tackle a teaching problem, I ask myself about the features that I noticed when I recognised it as a problem.						
27. Improper pedagogical decisions or judgements made by me tend to be caused by the lack of re-examination of my beliefs or assumptions about good teaching practice.						

Finally!

Thank you very much for completing the questionnaire. I am most appreciative of the time and effort that you have put in.

If you would like to receive feedback concerning the results, please tick this box.

☐

If you have any further comments about points raised in the questionnaire, please add in the spaces provided on the next page.

1. any specific path of the model (please state the path number), with reference to your practical experience as example,
2. the strengths and weaknesses of the model and any other suggestions, and/or
3. the tripartite relationship in promoting out-of-class usage of ICT

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

For further information please contact Harrison Tse
Department of Education, University of Newcastle, St. Thomas Street, Newcastle upon Tyne NE1 7RU.

Survey Form B

Our Reference _____

UNIVERSITY OF
NEWCASTLE



Thinking about teaching and learning

The aim of this task is to explore your understandings of teaching and learning and the words you use to talk and think about your work. It is important to remember that there are no 'right' answers. It is probably best to read the two contrasting phrases, mark your cross on the line and move on fairly quickly to the next one.

Not all of the examples in the lists are opposites. The earlier work we did suggests however that some of the teachers saw that the ideas helped them to distinguish between different types of learning activities.

For example a cross here...

apples ----X----- oranges

...suggests you would put rather more apples than oranges in a fruit salad you were making for your dessert!

The statements are not in any particular order, should you wish to miss one out and return to it later, please feel free to do this. Sometimes making a choice between the different ideas will be frustrating. Please just go on your first reaction and try to put a cross somewhere on the line that you feel represents how you stand in relation to the two ideas. Please think about how important you consider the ideas to be to you in terms of your own teaching.

discovery learning -----X----- didactic teaching

This cross would suggest that you considered that didactic teaching is a little more important in your thinking than discovery learning.

Our Reference _____

Survey Form B

practising skills
open activities
collaborative activities
language tasks
activities with writing
pupils communicating
creative activities
activities needing thinking
whole class activities
teacher directed
tasks with a computer
pupils investigating
practical tasks
routine activities
numeracy
pupils interacting
activities with reading
talking to children
finding information
pupil problem solving
learning things by heart
children choosing
passive
classifying
straightforward tasks

learning new skills
closed activities
individual activities
maths tasks
activities without any writing
pupils listening
structured activities
activities needing doing
group activities
child led
tasks without a computer
teacher instructing
paper and pencil tasks
exciting activities
literacy
pupils working on their own
activities without reading
listening to children
using information
pupils getting correct answers
finding things out
teacher directing
active
interpreting
complex tasks

Our Reference _____

Survey Form B

Just a quick reminder to go on your first reaction to the two contrasting activities. Please think about how important you consider the ideas to be to you in terms of your own teaching.

pupils being active	_____	pupils not being active
ICT activities	_____	activities without ICT
pupils making decisions	_____	teacher making decisions
group activities	_____	individual activities
using questioning	_____	directly instructing
English tasks	_____	maths tasks
finding out	_____	being taught
pupils using machines	_____	activities without machines
oral work	_____	written work
teaching skills	_____	teaching concepts
learning in the classroom	_____	learning outside the classroom
pupils being independent	_____	pupils being guided by the teacher
pupils reflecting	_____	pupils reacting
teaching through subjects	_____	teaching through topics
pupils checking their work	_____	teacher marking pupils' work
introducing new ideas	_____	consolidating ideas
tasks with one answer	_____	tasks with several answers
activities with calculating	_____	activities with no calculating
tasks teaching one skill	_____	tasks teaching many skills
pupils organising themselves	_____	pupils being organised
pupils needing to know the purpose of a task	_____	pupils not needing to know the purpose of a task
activities with discussion	_____	activities without discussion
formal learning	_____	informal learning
developing physical/motor skills	_____	developing mental skills

Our Reference _____

Survey Form B

Nearly done! Again we are asking you think about how important you consider the contrasting ideas are to you in terms of your own teaching.

number tasks	_____	language tasks
pupils planning	_____	teacher planning
pupils repeating things	_____	pupils doing new things
pupils responding	_____	pupils initiating
specific learning activities	_____	general learning activities
learning from structured tasks	_____	learning from open ended tasks
having an audience for work	_____	having no audience
children developing their own strategies	_____	children being taught efficient strategies
pupils decoding text	_____	pupils comprehending text
pupils listening	_____	pupils talking
observable outcomes	_____	tasks where the learning is not observable
pupils using a calculator	_____	pupils without a calculator
silent classroom	_____	noisy classroom
individual activities	_____	whole class activities
social activities	_____	individual activities
learning new knowledge	_____	applying knowledge
recording	_____	interpreting
simple task	_____	complex tasks
pupils recalling facts	_____	pupils working things out
meeting individual needs	_____	meeting all pupils needs
answers which are right or wrong	_____	tasks which have multiple solutions

Please return to:

*Harrison Tse
Department of Education, University of Newcastle,
St. Thomas Street, Newcastle upon Tyne NE1 7RU.*

Remark: The questionnaire was originally designed for a survey of 28 involved in the TTA-ICT project in 1997/98. The collected data was merged with the data collected from this survey.

Appendix 2-H: Data collected from the teacher questionnaire 1997/98

	py0	py2	py4	pyothr	pthis_y	pn_class
1	.	.	1	.	4.0	33.00
2	.	.	1	.	4.0	27.00
3	.	.	.	1	4.0	28.00
4	1	.	.	.	.0	13.00
5	.	.	.	1	4.0	27.00
6	.	.	.	1	4.0	30.00
70	30.00
8	.	1	.	.	1.0	29.00
9	.	.	1	.	-1.0	30.00
10	.	1	.	.	2.0	30.00
11	.	1	.	.	2.0	31.00
12	4.5	27.00
13	.	.	1	.	3.0	34.00
14	.	.	.	6	.	25.00
15	.	.	4	.	4.0	23.00
16	.	1	.	.	2.0	24.00
17	1	.	.	.	.0	30.00
18	.	1	.	.	2.0	25.00
19	.	.	1	.	5.0	31.00
20	.	.	1	.	4.0	27.00
21	.	.	1	.	4.0	32.00
22	.	1	.	.	2.0	30.00
23	1	.	.	.	.0	32.00
24	.	.	1	.	2.0	23.00
25	.	.	1	.	4.0	27.00
26	.	1	.	.	1.5	23.00
27	.	1	.	.	2.0	34.00
28	1	.	.	.	.0	27.00
29	.	1	.	.	2.0	20.00
30	.	.	1	.	4.0	32.00

1-1

	pn_oth	pn_snr	padults	pyrs_tea	pcom_hme
1	.	1.00	1	14.00	0
2	.	.00	1	5.00	0
3	.	.00	1	2.00	0
4	.	.00	1	9.00	1
5	.	5.00	1	7.00	0
6	.	.00	1	12.00	1
7	.	1.00	1	1.00	0
8	.	.00	1	9.00	1
9	.	1.00	1	44.00	0
10	.	.00	1	16.00	0
11	.	.00	1	28.00	0
12	.	1.00	0	26.00	0
13	.	2.00	0	3.00	0
14	.	.00	1	10.00	1
15	.	.00	1	22.00	1
16	.	1.00	0	25.00	1
17	.	.00	1	12.00	1
18	.	.00	1	15.00	1
19	.	1.00	1	26.00	1
20	.	2.00	0	2.00	1
21	.	2.00	0	27.00	1
22	.	1.00	0	13.00	1
23	.	.00	1	9.00	1
24	.	.00	1	8.00	0
25	.	.00	1	21.00	1
26	.	.00	1	9.00	1
27	.	.00	1	16.00	1
28	.	2.00	1	8.00	1
29	.	1.00	1	27.00	0
30	.	2.00	1	20.00	1

	pc_h_wrk	pinset_l	pinset_n	pinset_g	pinset_c
1	0	1	1	0	0
2	0	1	1	0	0
3	0	1	1	0	0
4	1	0	0	0	0
5	0	2	1	0	0
6	1	3	2	0	0
7	0	0	0	0	0
8	1	0	0	0	0
9	1	1	1	0	0
10	0	0	0	0	0
11	0	0	0	0	1
12	0	0	0	0	2
13	0	2	0	0	0
14	1	0	0	0	0
15	1	0	0	0	1
16	1	1	1	0	0
17	1	0	1	0	0
18	1	1	1	0	0
19	1	0	0	0	5
20	1	0	0	0	1
21	1	1	0	0	0
22	0	0	0	0	0
23	0	0	0	0	0
24	0	0	0	0	0
25	1	1	0	0	0
26	1	0	1	0	0
27	1	1	0	0	0
28	1	0	0	0	0
29	0	1	0	0	0
30	1	0	0	0	0

	pinset_o	pitcoord	pc_com_u	pp_com_u	ptim_pup
1	0	0	1	2	120.00
2	0	0	1	3	30.00
3	0	0	1	3	30.00
4	1	0	1	1	60.00
5	1	0	1	3	.
6	0	0	1	3	10.00
7	1	0	2	2	5.00
8	0	0	1	3	60.00
9	0	0	1	2	7.00
10	1	0	1	3	10.00
11	0	0	1	3	10.00
12	0	1	1	3	10.00
13	0	0	1	2	30.00
14	1	0	1	3	30.00
15	1	1	1	2	60.00
16	3	0	2	4	25.00
17	0	0	1	2	20.00
18	0	0	1	3	10.00
19	0	0	.	.	60.00
20	2	1	3	3	60.00
21	0	0	.	.	60.00
22	0	0	2	3	30.00
23	0	0	1	3	15.00
24	1	0	1	3	30.00
25	2	0	3	3	30.00
26	0	0	1	3	30.00
27	1	0	1	2	30.00
28	1	0	1	3	25.00
29	0	0	2	4	30.00
30	1	0	1	3	10.00

	pown	prequest	pmonit	psuperv	psenplan
1	1	1	1	0	1
2	0	0	1	0	1
3	0	0	1	0	1
4	0	0	0	0	1
5	0	1	1	1	1
6	1	1	1	0	1
7	1	0	1	0	0
8	0	0	0	0	0
9	1	1	0	0	1
10	1	1	1	0	1
11	1	1	1	0	1
12	1	1	1	1	0
13	1	1	0	0	1
14	1	1	1	0	1
15	1	1	1	0	0
16	1	1	1	0	1
17	1	1	1	0	0
18	0	1	0	0	1
19	0	1	0	0	0
20	0	0	1	0	0
21	0	1	1	0	0
22	1	1	1	0	0
23	0	1	1	0	0
24	0	1	0	0	1
25	0	0	1	0	1
26	0	0	0	1	1
27	1	1	1	0	1
28	1	1	1	0	1
29	1	1	1	0	0
30	0	0	1	1	1

	psenadpt	pp_hm_pc	pc01	pc02	pc03
1	1		0	0	1
2	1	20.00	0	0	2
3	1	25.00	0	0	2
4	1	8.00	0	0	2
5	1		0	0	3
6	1	25.00	0	0	1
7	0	20.00	0	0	0
8	1	10.00	0	0	1
9	0	10.00	0	1	0
10	0	3.00	0	1	1
11	0	6.00	0	1	1
12	1		0	1	0
13	1	25.00	0	1	0
14	1	25.00	0	1	0
15	0	20.00	0	1	0
16	0	20.00	0	1	0
17	1	.00	0	1	0
18	1	20.00	0	1	0
19	0	45.00	0	0	0
20	0		0	0	0
21	0	10.00	0	1	0
22	0	30.00	1	0	0
23	0	20.00	0	0	0
24	1	1.00	0	1	0
25	1	25.00	0	0	0
26	1	25.00	1	0	0
27	1	25.00	0	1	0
28	1	15.00	0	1	0
29	1	10.00	0	0	1
30	1	35.00	0	0	1

	pc04	pc05	pc06	pc07	pc08
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
5	0	0	0	0	0
6	0	0	0	0	1
7	0	0	0	0	1
8	0	0	0	0	0
9	0	0	0	0	0
10	0	0	0	1	0
11	0	0	0	1	0
12	0	0	0	0	0
13	0	0	0	1	0
14	0	0	0	0	0
15	0	0	0	0	0
16	0	0	0	0	0
17	0	0	0	1	0
18	0	0	0	0	0
19	0	0	0	0	18
20	0	0	0	0	18
21	0	0	0	0	0
22	0	0	0	0	0
23	0	0	0	1	1
24	0	0	0	0	0
25	0	0	0	0	1
26	0	0	0	0	1
27	0	0	0	0	0
28	0	0	0	0	0
29	0	0	0	0	0
30	0	0	0	0	0

	pc09	pc10	pc11	pc12	pc13
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
5	0	0	0	0	0
6	0	0	0	0	0
7	1	0	0	0	0
8	0	0	0	0	0
9	0	0	0	1	0
10	0	0	0	0	0
11	0	0	0	0	0
12	0	0	0	0	0
13	0	0	0	0	0
14	0	0	0	0	0
15	0	0	0	0	0
16	0	0	0	0	0
17	0	0	0	0	2
18	0	0	0	0	0
19	0	0	0	0	0
20	0	0	0	0	0
21	1	0	0	0	0
22	0	0	0	0	0
23	0	0	0	0	0
24	0	0	0	0	0
25	1	0	0	0	0
26	0	0	0	1	0
27	1	0	1	0	0
28	1	0	0	0	0
29	0	0	0	0	0
30	0	0	0	0	0

	pc14	pc15	pc16	pc17	pc18
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
5	0	0	0	0	0
6	0	0	0	0	0
7	0	0	0	0	0
8	0	0	0	0	0
9	0	0	0	0	0
10	0	0	0	0	0
11	0	0	0	0	0
12	0	0	0	0	0
13	0	0	0	0	0
14	0	0	0	0	0
15	0	0	0	0	0
16	0	0	0	0	0
17	0	0	0	0	0
18	0	0	0	0	0
19	14	0	0	0	0
20	0	0	0	0	0
21	0	0	0	0	0
22	0	0	0	0	0
23	0	0	0	0	0
24	0	0	0	0	0
25	1	1	0	0	0
26	0	0	0	0	0
27	0	7	0	7	0
28	0	1	0	0	0
29	0	0	0	0	0
30	0	0	0	0	0

	ph01	ph02	ph03	ph04	ph05
1	.00	.00	1.00	.00	.00
2	.00	.00	2.00	.00	.00
3	.00	.00	2.00	.00	.00
4	.00	.00	2.00	.00	.00
5	.00	.00	1.00	.00	.00
6	.00	.00	.00	.00	.00
7	.00	1.00	1.00	.00	.00
8	.00	.00	.00	.00	.00
9	.00	.00	10.00	.00	.00
10	.00	1.00	1.00	.00	.00
11	.00	1.00	1.00	.00	.00
12	1.00	5.00	.00	.00	.00
13	.00	9.00	.00	.00	.00
14	.00	1.00	.00	.00	.00
15	.00	9.00	.00	.00	.00
16	.00	1.00	.00	.00	.00
17	.00	1.00	.00	.00	.00
18	.00	1.00	.00	.00	.00
19	.00	18.00	.00	.00	.00
20	.00	18.00	.00	.00	.00
21	.00	1.00	.00	.00	.00
22	1.00	.00	.00	.00	.00
23	1.00	1.00	.00	.00	.00
24	.00	1.00	.00	.00	.00
25	1.00	.00	.00	.00	.00
26	1.00	7.00	.00	.00	.00
27	.00	10.00	.00	.00	1.00
28	.00	20.00	7.00	.00	.00
29	.00	.00	1.00	.00	.00
30	.00	.00	1.00	.00	.00

1-10

	ph06	ph07	ph08	ph09	ph10
1	.00	.00	.00	1.00	.00
2	.00	.00	.00	2.00	.00
3	.00	.00	.00	2.00	.00
4	.00	.00	.00	1.00	.00
5	.00	.00	.00	1.00	.00
6	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00
8	.00	.00	.00	4.00	.00
9	.00	10.00	.00	10.00	.00
10	.00	.00	.00	1.00	.00
11	.00	.00	.00	1.00	.00
12	.00	.00	3.00	.00	.00
13	.00	.00	4.00	.00	.00
14	.00	.00	1.00	.00	.00
15	.00	.00	1.00	.00	.00
16	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00
18	.00	.00	1.00	.00	.00
19	.00	.00	2.00	.00	.00
20	.00	.00	6.00	.00	.00
21	.00	.00	4.00	.00	.00
22	.00	1.00	.00	.00	.00
23	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00
25	.00	.00	1.00	.00	.00
26	.00	.00	2.00	.00	.00
27	.00	.00	.00	2.00	.00
28	.00	.00	.00	7.00	.00
29	.00	.00	.00	.00	.00
30	.00	.00	.00	1.00	.00

	ph11	ph12	ph13	ph14	ph15
1	.00	.00	.00	.00	1.00
2	.00	.00	.00	.00	2.00
3	.00	.00	.00	.00	2.00
4	.00	.00	.00	.00	1.00
5	.00	.00	.00	.00	1.00
6	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00
9	.00	.00	10.00	.00	10.00
10	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00
12	.00	.00	.00	2.00	.00
13	.00	.00	.00	4.00	.00
14	.00	.00	.00	1.00	.00
15	.00	.00	.00	3.00	.00
16	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00
18	.00	.00	.00	1.00	.00
19	.00	.00	.00	18.00	.00
20	.00	.00	.00	.00	.00
21	.00	.00	.00	18.00	.00
22	.00	.00	1.00	.00	.00
23	.00	.00	.00	.00	1.00
24	.00	.00	.00	.00	.00
25	.00	.00	.00	3.00	.00
26	.00	.00	.00	2.00	.00
27	.00	.00	.00	16.00	.00
28	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	1.00

	ph16	ph17	ph18	ph19	ph20
1	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00
9	.00	.00	.00	10.00	.00
10	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	1.00
20	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00
22	.00	.00	.00	1.00	.00
23	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	.00

	ph21	ph22	ph23	ph24	ph25
1	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00
8	1.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00
10	1.00	.00	.00	.00	.00
11	1.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	1.00
23	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	.00

1-14

	ph26	ph27	ph28	ph29	ph30
1	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	9.00
21	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	.00

1-15

	pcalcul	pspell_c	pturtle	pcon_k	pcamera
1	20.00	10.00	1.00	.00	1.00
2	15.00	.00	1.00	1.00	.00
3	15.00	.00	1.00	1.00	.00
4	10.00	.00	3.00	1.00	.00
5	10.00	.00	2.00	1.00	1.00
6	18.00	.00	1.00	.00	.00
7	15.00	.00	1.00	.00	.00
8	10.00	.00	2.00	1.00	.00
9	1.00	50.00	.00	20.00	20.00
10	36.00	.00	3.00	.00	.00
11	36.00	.00	3.00	.00	.00
12	6.00	.00	1.00	2.00	.00
13	25.00	.00	.00	2.00	.00
14	30.00	.00	1.00	2.00	.00
15	25.00	.00	2.00	.00	.00
16	68.00	.00	2.00	1.00	.00
17	30.00	.00	1.00	1.00	.00
18	15.00	.00	1.00	.00	.00
19	30.00	.00	2.00	.00	.00
20	35.00	.00	.00	.00	.00
21	32.00	.00	1.00	.00	.00
22	10.00	.00	1.00	1.00	.00
23	36.00	.00	2.00	1.00	.00
24	10.00	.00	2.00	2.00	.00
25	30.00	.00	1.00	1.00	.00
26	.00	.00	2.00	2.00	.00
27	40.00	2.00	2.00	1.00	1.00
28	.00	.00	2.00	2.00	1.00
29	.00	.00	1.00	.00	.00
30	32.00	.00	2.00	2.00	.00

1-16

	pmus_k	pfax	pcu01	pcu02	pcu03
1	2.00	.00	1.00	1.00	.00
2	2.00	.00	3.00	1.00	1.00
3	2.00	.00	3.00	1.00	1.00
4	.00	.00	.00	1.00	.00
5	.00	.00	1.00	.00	.00
6	.00	.00	3.00	4.00	.00
7	1.00	.00	2.00	1.00	4.00
8	.00	.00	1.00	1.00	1.00
9	.00	10.00	1.00	1.00	.00
10	.00	.00	1.00	1.00	1.00
11	.00	.00	1.00	1.00	1.00
12	2.00	.00	1.00	1.00	.00
13	3.00	.00	1.00	1.00	5.00
14	2.00	1.00	3.00	3.00	.00
15	2.00	.00	3.00	2.00	1.00
16	6.00	.00	3.00	.00	1.00
17	6.00	.00	2.00	1.00	1.00
18	.00	.00	1.00	.00	4.00
19	15.00	.00	3.00	.	.
20	9.00	.00	3.00	1.00	1.00
21	9.00	.00	3.00	.	.
22	3.00	.00	1.00	1.00	2.00
23	1.00	.00	2.00	.00	1.00
24	.00	.00	1.00	1.00	1.00
25	1.00	.00	1.00	1.00	1.00
26	2.00	.00	3.00	1.00	1.00
27	1.00	.00	2.00	.00	.00
28	1.00	.00	3.00	1.00	3.00
29	.00	.00	.00	.00	.00
30	1.00	.00	3.00	.00	.00

	pcu04	pcu05	pcu06	pcu07	pcu08
1	3.00	3.00	.00	.00	.00
2	1.00	2.00	2.00	1.00	3.00
3	1.00	2.00	2.00	3.00	3.00
4	.00	.00	1.00	.00	5.00
5	.00	1.00	1.00	.00	5.00
6	.00	.00	1.00	.00	2.00
7	4.00	.00	1.00	1.00	4.00
8	2.00	2.00	1.00	1.00	3.00
9	1.00	4.00	.00	.00	.00
10	3.00	2.00	4.00	.00	4.00
11	3.00	2.00	4.00	.00	4.00
12	1.00	1.00	1.00	.00	3.00
13	4.00	3.00	1.00	1.00	4.00
14	.00	1.00	1.00	1.00	3.00
15	.00	.00	.00	.00	.00
16	.00	.00	1.00	.00	3.00
17	3.00	.	1.00	.	2.00
18	3.00	2.00	1.00	.00	4.00
19	.	.	.	.	3.00
20	2.00	4.00	1.00	1.00	3.00
21	.	.	3.00	.	3.00
22	2.00	2.00	1.00	1.00	3.00
23	1.00	1.00	.00	.00	4.00
24	1.00	1.00	1.00	1.00	5.00
25	1.00	1.00	1.00	1.00	1.00
26	1.00	3.00	1.00	.00	3.00
27	3.00	3.00	3.00	3.00	3.00
28	2.00	3.00	.	.	4.00
29	3.00	3.00	.00	.00	3.00
30	3.00	.00	1.00	.00	3.00

1-18

	pcu09	pcu10	pcu11	pcu12	pcu13
1	3.00	3.00	3.00	.00	3.00
2	2.00	1.00	1.00	1.00	1.00
3	2.00	1.00	1.00	1.00	1.00
4	5.00	5.00	5.00	.00	.00
5	5.00	5.00	1.00	1.00	4.00
6	2.00	.00	.00	.00	1.00
7	3.00	3.00	3.00	4.00	2.00
8	1.00	1.00	1.00	1.00	3.00
9	5.00	.00	5.00	5.00	.00
10	4.00	3.00	.00	.00	.00
11	3.00	3.00	.00	.00	.00
12	3.00	3.00	.00	.00	1.00
13	5.00	5.00	5.00	4.00	1.00
14	3.00	.00	.00	.00	3.00
15	.00	.00	.00	.00	.00
16	3.00	2.00	1.00	.00	1.00
17	3.00	3.00	5.00	1.00	1.00
18	3.00	3.00	3.00	3.00	1.00
19	3.00	3.00	.	.	.
20	3.00	2.00	.	.	1.00
21	3.00	.	.	.	.
22	3.00	3.00	3.00	3.00	1.00
23	1.00	3.00	5.00	5.00	1.00
24	3.00	3.00	3.00	3.00	3.00
25	1.00	1.00	1.00	1.00	1.00
26	1.00	3.00	1.00	1.00	1.00
27	3.00	3.00	.00	.00	3.00
28	.	3.00	3.00	2.00	.
29	3.00	.00	.00	.00	.00
30	4.00	3.00	.00	.00	1.00

	pscheme	ppln_trm	ppln_wk	pactiv	precord	pls1a
1	1.00	1.00	.00	1.00	1.00	1.00
2	1.00	1.00	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00	1.00	1.00
4	1.00	1.00	1.00	1.00	1.00	1.00
5	1.00	1.00	1.00	.00	1.00	1.00
6	1.00	1.00	1.00	.00	1.00	1.00
7	.00	1.00	1.00	.00	.00	1.00
8	1.00	1.00	1.00	1.00	.00	1.00
9	.00	.00	1.00	1.00	.00	.00
10	1.00	1.00	1.00	.00	1.00	1.00
11	1.00	1.00	1.00	1.00	1.00	1.00
12	1.00	1.00	1.00	1.00	1.00	1.00
13	.00	1.00	.00	1.00	.00	.00
14	1.00	1.00	.00	1.00	1.00	1.00
15	1.00	1.00	1.00	.00	1.00	1.00
16	1.00	1.00	1.00	.00	1.00	1.00
17	1.00	1.00	1.00	1.00	1.00	1.00
18	1.00	1.00	1.00	.00	1.00	1.00
19	1.00	1.00	1.00	.00	1.00	1.00
20	1.00	1.00	1.00	.00	.00	1.00
21	1.00	1.00	1.00	1.00	.00	1.00
22	1.00	.00	.00	.00	1.00	.00
23	1.00	1.00	1.00	.00	1.00	.00
24	.00	1.00	.00	.00	.00	.00
25	1.00	1.00	1.00	.00	.00	1.00
26	1.00	1.00	1.00	1.00	1.00	1.00
27	1.00	1.00	1.00	1.00	1.00	1.00
28	1.00	1.00	1.00	1.00	1.00	1.00
29	.00	.00	.00	.00	1.00	.00
30	1.00	1.00	1.00	1.00	1.00	1.00

1-20

	pls01	pls02	pls03	pls04	pls05
1	5.00	3.00	3.00	2.00	4.00
2	5.00	4.00	2.00	5.00	2.00
3	5.00	4.00	2.00	5.00	2.00
4	5.00	1.00	5.00	1.00	5.00
5	5.00	2.00	3.00	3.00	4.00
6	5.00	1.00	5.00	1.00	5.00
7	4.00	4.00	4.00	4.00	2.00
8	4.00	3.00	3.00	4.00	2.00
9	1.00	5.00	1.00	4.00	1.00
10	4.00	4.00	3.00	3.00	4.00
11	4.00	4.00	3.00	4.00	4.00
12	4.00	1.00	2.00	5.00	2.00
13	2.00	4.00	3.00	4.00	2.00
14	5.00	2.00	4.00	2.00	4.00
15	5.00	1.00	1.00	1.00	4.00
16	4.00	1.00	3.00	2.00	3.00
17	5.00	5.00	3.00	1.00	1.00
18	4.00	2.00	3.00	2.00	4.00
19	5.00	5.00	4.00	4.00	2.00
20	5.00	2.00	3.00	2.00	5.00
21	4.00	3.00	4.00	2.00	2.00
22	2.00	2.00	3.00	4.00	2.00
23	3.00	2.00	3.00	2.00	2.00
24	3.00	3.00	3.00	2.00	4.00
25	4.00	4.00	3.00	4.00	2.00
26	4.00	2.00	3.00	4.00	1.00
27	5.00	3.00	4.00	4.00	4.00
28	5.00	2.00	3.00	2.00	4.00
29	1.00	3.00	2.00	2.00	4.00
30	4.00	3.00	1.00		3.00

	pls06	pls07	pls08	pls09	pls10
1	2.00	4.00	2.00	4.00	2.00
2	4.00	2.00	2.00	3.00	2.00
3	4.00	2.00	3.00	3.00	2.00
4	1.00	4.00	1.00	5.00	1.00
5	3.00	.	4.00	4.00	1.00
6	1.00	4.00	2.00	2.00	3.00
7	4.00	2.00	2.00	4.00	2.00
8	2.00	2.00	2.00	4.00	2.00
9	4.00	2.00	4.00	4.00	2.00
10	2.00	3.00	3.00	2.00	2.00
11	2.00	4.00	4.00	4.00	2.00
12	5.00	2.00	2.00	4.00	4.00
13	4.00	3.00	4.00	2.00	2.00
14	4.00	4.00	4.00	2.00	2.00
15	4.00	3.00	2.00	4.00	5.00
16	5.00	2.00	2.00	2.00	4.00
17	4.00	.	4.00	1.00	3.00
18	4.00	3.00	1.00	4.00	5.00
19	4.00	3.00	2.00	4.00	4.00
20	3.00	4.00	2.00	3.00	1.00
21	2.00	2.00	2.00	2.00	3.00
22	2.00	3.00	2.00	1.00	2.00
23	1.00	2.00	4.00	1.00	5.00
24	4.00	4.00	2.00	2.00	3.00
25	2.00	1.00	4.00	2.00	4.00
26	1.00	2.00	2.00	2.00	2.00
27	2.00	3.00	2.00	2.00	2.00
28	2.00	4.00	2.00	3.00	2.00
29	3.00	2.00	4.00	4.00	4.00
30	2.00	3.00	3.00	2.00	5.00

	pls11	pls12	pls13	pls14	pls15
1	4.00	2.00	2.00	2.00	4.00
2	4.00	3.00	5.00	3.00	2.00
3	4.00	4.00	4.00	3.00	2.00
4	5.00	1.00	5.00	1.00	5.00
5	5.00	4.00	5.00	3.00	4.00
6	5.00	3.00	1.00	1.00	5.00
7	4.00	4.00	2.00	3.00	5.00
8	4.00	4.00	2.00	2.00	4.00
9	1.00	5.00	2.00	4.00	2.00
10	4.00	2.00	4.00	3.00	4.00
11	4.00	2.00	2.00	2.00	4.00
12	3.00	2.00	1.00	4.00	4.00
13	4.00	4.00	2.00	3.00	2.00
14	3.00	2.00	5.00	2.00	4.00
15	3.00	2.00	4.00	1.00	5.00
16	3.00	2.00	1.00	3.00	4.00
17	1.00	4.00	2.00	2.00	4.00
18	3.00	2.00	2.00	1.00	5.00
19	5.00	2.00	4.00	3.00	4.00
20	5.00	2.00	3.00	2.00	5.00
21	4.00	4.00	4.00	3.00	4.00
22	3.00	4.00	4.00	3.00	4.00
23	4.00	4.00	4.00	3.00	4.00
24	4.00	3.00	5.00	2.00	4.00
25	3.00	4.00	2.00	3.00	2.00
26	4.00	2.00	5.00	2.00	4.00
27	3.00	3.00	3.00	2.00	4.00
28	4.00	2.00	4.00	2.00	4.00
29	3.00	2.00	4.00	2.00	2.00
30	1.00	3.00	1.00	4.00	4.00

1-23

	pls16	pls17	pls18	pls19	pls20
1	3.00	2.00	5.00	2.00	2.00
2	2.00	4.00	3.00	3.00	2.00
3	2.00	4.00	4.00	4.00	2.00
4	3.00	1.00	5.00	1.00	1.00
5	2.00	3.00	5.00	4.00	3.00
6	1.00	1.00	5.00	1.00	2.00
7	1.00	2.00	5.00	4.00	3.00
8	2.00	1.00	5.00	4.00	2.00
9	5.00	4.00	5.00	5.00	2.00
10	4.00	2.00	4.00	3.00	2.00
11	4.00	2.00	4.00	4.00	2.00
12	4.00	2.00	5.00	4.00	4.00
13	4.00	4.00	4.00	5.00	5.00
14	4.00	2.00	5.00	1.00	2.00
15	3.00	2.00	5.00	2.00	4.00
16	2.00	2.00	4.00	2.00	2.00
17	4.00	4.00	5.00	2.00	2.00
18	3.00	1.00	5.00	2.00	2.00
19	4.00	2.00	5.00	4.00	2.00
20	1.00	1.00	5.00	2.00	1.00
21	2.00	3.00	5.00	4.00	2.00
22	3.00	2.00	4.00	3.00	3.00
23	4.00	4.00	4.00	4.00	4.00
24	3.00	2.00	4.00	4.00	3.00
25	4.00	3.00	4.00	2.00	4.00
26	1.00	2.00	5.00	2.00	2.00
27	3.00	2.00	4.00	4.00	2.00
28	5.00	2.00	5.00	2.00	2.00
29	3.00	2.00	5.00	2.00	2.00
30	5.00	3.00	5.00	4.00	3.00

1-24

	py0	py2	py4	pyothr	pthis_y	pn_class
31	.	.	1	.	5.0	30.00
32	.	1	.	.	2.0	32.00
33	.	.	1	.	4.0	25.00
34	.	.	1	.	4.0	25.00
35	1	.	.	.	2.0	28.00
36	.	.	1	.	4.0	33.00
37	.	1	.	.	3.0	28.00
38	.	1	.	.	2.0	22.00
39	1	.	.	.	1.5	27.00
40	.	.	.	1	4.0	31.00
41	.	1	.	.	2.0	30.00
42	1	.	.	1	.5	30.00
43	.	1	.	.	2.0	34.00
44	1	.	.	.	.0	29.00
45	.	1	.	.	2.0	29.00
46	.	.	1	.	4.0	30.00
47	.	.	.	1	.0	26.00
48	.	1	.	.	1.0	32.00
49	.	1	.	.	2.0	32.00
50	1	.	.	.	.0	25.00
51	.	1	.	.	2.0	27.00
52	1	.	.	.	1.0	27.00
53	.	1	.	.	2.0	30.00
54	.	1	.	.	2.0	28.00
55	1	.	.	.	.0	22.00
56	1	.	.	.	.0	26.00
57	.	1	.	.	2.0	30.00
58	.	.	1	.	4.0	.
59	.	1	.	.	2.0	36.00
60	.	.	1	.	3.0	29.00

2-1

	pn_oth	pn_snr	padults	pyrs_tea	pcom_hme
31	.	6.00	1	5.00	1
32	.	.00	0	13.00	0
33	.	2.00	0	4.00	0
34	.	1.00	0	4.00	0
35	2.00	10.00	1	22.00	1
36	.	9.00	1	19.00	0
37	.	3.00	1	9.00	1
38	.	2.00	0	9.00	0
39	15.00	.00	1	13.00	1
40	.	1.00	1	7.00	1
41	.	2.00	1	18.00	1
42	.	1.00	1	18.00	0
43	.	2.00	0	18.00	1
44	.	.00	1	20.00	0
45	.	2.00	1	17.00	1
46	.	7.00	1	29.00	1
47	.	1.00	1	7.00	0
48	.	1.00	1	24.00	0
49	.	.00	1	9.00	1
50	.	1.00	1	13.00	1
51	.	.00	1	15.00	1
52	.	2.00	1	15.00	1
53	.	2.00	1	1.00	1
54	.	1.00	1	4.00	0
55	.	1.00	0	17.00	0
56	.	2.00	1	3.00	1
57	.	.00	0	3.00	0
58	.	.00	0	3.00	0
59	.	.00	1	28.00	1
60	.	5.00	1	16.00	1

	pc_h_wrk	pinset_l	pinset_n	pinset_g	pinset_c
31	1	1	1	0	1
32	0	0	0	0	0
33	0	1	0	0	0
34	0	1	1	0	0
35	1	0	0	0	0
36	0	0	0	0	0
37	1	0	0	0	0
38	0	0	0	0	1
39	1	2	2	0	0
40	1	0	0	0	0
41	1	0	0	0	0
42	0	1	1	0	0
43	1	0	0	0	0
44	0	0	0	0	0
45	1	1	0	0	0
46	1	0	0	0	0
47	0	0	0	0	0
48	0	1	1	0	1
49	1	0	0	0	0
50	1	0	0	0	0
51	1	0	0	0	1
52	1	1	0	0	0
53	1	0	0	0	0
54	0	0	1	0	0
55	0	0	0	0	0
56	1	0	0	0	0
57	0	0	1	0	0
58	0	1	0	0	0
59	1	1	0	0	0
60	1	0	0	0	0

2-3

	pinset_o	pitcoord	pc_com_u	pp_com_u	ptim_pup
31	0	0	1	3	30.00
32	2	0	4	3	15.00
33	0	0	1	3	15.00
34	1	0	2	3	30.00
35	0	0	4	4	17.00
36	0	0	2	4	15.00
37	2	0	2	2	45.00
38	0	0	4	4	45.00
39	0	0	2	3	10.00
40	0	0	1	4	20.00
41	0	0	1	4	20.00
42	0	0	2	2	30.00
43	0	0	2	2	20.00
44	0	0	2	2	.
45	0	0	2	3	20.00
46	0	0	4	4	15.00
47	0	0	1	2	20.00
48	0	0	1	3	60.00
49	1	0	3	3	15.00
50	0	0	3	3	10.00
51	1	1	1	2	20.00
52	0	0	1	3	22.00
53	1	0	2	4	10.00
54	0	0	2	3	10.00
55	1	0	1	1	90.00
56	1	0	1	2	.
57	0	0	1	2	20.00
58	0	0	1	2	120.00
59	0	0	2	3	20.00
60	1	0	2	3	20.00

	pown	prequest	pmonit	psuperv	psenplan
31	0	0	1	0	1
32	0	1	0	0	0
33	0	1	0	0	1
34	0	0	1	0	1
35	1	0	1	0	0
36	0	0	1	0	1
37	0	0	0	1	1
38	0	1	1	0	0
39	1	1	1	0	0
40	1	1	1	1	0
41	1	1	1	1	0
42	0	0	0	1	1
43	1	1	0	0	1
44	0	0	1	0	0
45	1	1	0	0	0
46	0	1	1	0	0
47	0	0	1	0	0
48	1	1	1	0	0
49	1	0	0	1	0
50	1	1	1	0	0
51	1	1	1	0	0
52	1	1	0	0	0
53	0	1	1	0	1
54	0	1	0	0	0
55	1	1	1	0	0
56	1	1	1	1	1
57	1	0	1	0	1
58	1	0	0	0	0
59	1	1	1	0	0
60	1	1	0	1	0

	psenadpt	pp_hm_pc	pc01	pc02	pc03
31	1	1.00	0	0	1
32	0	.	0	0	1
33	0	20.00	1	0	0
34	0	20.00	1	0	0
35	0	7.00	1	0	0
36	0	8.00	1	0	1
37	1	20.00	0	0	0
38	1	.	1	0	0
39	0	20.00	1	0	1
40	1	30.00	0	0	1
41	1	25.00	1	0	0
42	0	10.00	1	0	0
43	0	1.00	0	0	0
44	0	3.00	0	1	0
45	0	.	0	0	0
46	0	.	0	0	0
47	0	2.00	0	1	0
48	1	.	0	1	0
49	0	40.00	0	1	0
50	0	.	2	0	0
51	0	5.00	0	1	0
52	0	10.00	0	1	0
53	1	50.00	1	1	0
54	1	85.00	0	0	0
55	0	.	1	0	0
56	1	5.00	1	0	0
57	0	50.00	0	1	0
58	1	80.00	0	1	0
59	0	.	1	0	0
60	0	20.00	0	0	0

	pc04	pc05	pc06	pc07	pc08
31	0	0	0	0	0
32	0	0	0	1	0
33	0	0	0	0	0
34	0	0	0	0	0
35	0	0	0	0	0
36	0	0	0	0	0
37	0	0	0	0	0
38	0	0	0	0	0
39	0	0	0	0	0
40	0	0	0	1	0
41	0	0	0	0	0
42	0	0	0	0	0
43	10	0	0	0	0
44	0	0	0	0	0
45	0	1	0	0	0
46	0	0	0	0	1
47	0	0	0	0	0
48	0	0	0	0	0
49	0	0	0	0	0
50	0	0	0	0	3
51	0	0	0	2	0
52	0	0	0	0	0
53	0	0	0	0	0
54	0	0	0	1	1
55	0	0	0	0	1
56	0	0	0	0	1
57	0	0	0	0	0
58	0	0	0	1	1
59	1	0	0	0	0
60	0	0	0	0	1

	pc09	pc10	pc11	pc12	pc13
31	0	0	0	1	0
32	0	0	0	0	0
33	1	0	0	0	0
34	2	0	0	0	1
35	0	0	0	0	0
36	0	0	0	0	0
37	11	0	0	0	0
38	10	0	0	0	0
39	0	0	0	0	0
40	0	0	0	0	0
41	1	0	0	0	0
42	1	0	0	1	0
43	0	0	0	0	0
44	0	0	0	0	0
45	0	0	0	0	0
46	0	0	0	10	0
47	0	0	0	0	0
48	0	0	0	0	0
49	0	0	0	0	0
50	1	0	0	0	2
51	1	0	0	0	13
52	1	0	0	0	0
53	0	1	1	0	0
54	0	1	0	0	1
55	1	0	0	0	0
56	0	0	0	0	3
57	1	0	0	0	0
58	1	0	0	0	0
59	0	0	0	0	0
60	0	1	0	0	0

	pc14	pc15	pc16	pc17	pc18
31	0	0	1	0	0
32	0	0	0	0	0
33	0	4	0	0	0
34	0	8	0	0	0
35	0	0	0	0	0
36	0	0	0	0	0
37	0	0	0	0	0
38	0	0	0	0	0
39	0	0	0	0	0
40	0	0	0	0	0
41	0	2	0	0	0
42	0	3	0	0	3
43	0	0	0	0	0
44	0	0	0	0	0
45	0	0	0	0	0
46	0	0	0	0	0
47	0	0	0	0	0
48	0	0	0	0	0
49	0	0	0	0	0
50	5	13	0	0	0
51	0	13	0	0	0
52	0	14	0	0	0
53	0	0	0	0	0
54	1	0	1	0	0
55	5	5	0	0	0
56	3	0	0	0	0
57	0	2	0	0	0
58	0	0	0	0	0
59	0	0	0	0	0
60	1	0	1	0	0

	ph01	ph02	ph03	ph04	ph05
31	.00	.00	1.00	.00	.00
32	4.00	.00	6.00	.00	.00
33	1.00	.00	.00	.00	.00
34	1.00	.00	3.00	.00	.00
35	1.00	.00	.00	.00	.00
36	1.00	.00	1.00	.00	.00
37	.00	.00	8.00	.00	.00
38	.00	.00	10.00	.00	.00
39	1.00	.00	1.00	.00	.00
40	.00	.00	1.00	.00	.00
41	1.00	.00	1.00	.00	.00
42	2.00	.00	1.00	.00	.00
43	2.00	.00	6.00	.00	.00
44	.00	1.00	.00	.00	.00
45	.00	.00	.00	.00	.00
46	.00	.00	3.00	.00	.00
47	.00	1.00	.00	.00	.00
48	.00	1.00	.00	.00	.00
49	.00	1.00	.00	.00	.00
50	.00	.00	.00	.00	.00
51	2.00	10.00	1.00	.00	.00
52	.00	1.00	.00	.00	.00
53	1.00	1.00	.00	.00	.00
54	1.00	1.00	.00	.00	.00
55	.00	1.00	1.00	.00	1.00
56	2.00	1.00	.00	.00	.00
57	.00	1.00	1.00	.00	.00
58	1.00	2.00	1.00	.00	.00
59	1.00	.00	.00	1.00	.00
60	.00	1.00	.00	1.00	.00

	ph06	ph07	ph08	ph09	ph10
31	.00	.00	.00	1.00	.00
32	.00	.00	.00	2.00	.00
33	.00	.00	.00	1.00	.00
34	.00	.00	.00	3.00	.00
35	.00	.00	.00	.00	.00
36	.00	.00	.00	.00	.00
37	.00	.00	.00	3.00	.00
38	.00	.00	.00	2.00	.00
39	.00	.00	.00	1.00	.00
40	.00	.00	.00	.00	.00
41	.00	.00	.00	.00	.00
42	1.00	.00	.00	1.00	.00
43	.00	.00	.00	3.00	.00
44	.00	.00	.00	.00	.00
45	.00	.00	.00	.00	.00
46	.00	.00	.00	.00	.00
47	.00	.00	.00	.00	.00
48	.00	.00	.00	.00	.00
49	.00	.00	.00	.00	.00
50	.00	.00	1.00	.00	.00
51	.00	.00	.00	1.00	.00
52	.00	.00	.00	.00	.00
53	.00	.00	.00	.00	.00
54	.00	.00	.00	.00	.00
55	.00	.00	.00	1.00	.00
56	.00	.00	.00	.00	.00
57	.00	.00	.00	1.00	.00
58	.00	.00	1.00	1.00	.00
59	.00	.00	.00	.00	.00
60	.00	.00	.00	.00	1.00

	ph11	ph12	ph13	ph14	ph15
31	.00	.00	.00	.00	2.00
32	.00	.00	.00	.00	.00
33	.00	.00	.00	.00	1.00
34	.00	.00	1.00	.00	3.00
35	.00	.00	.00	.00	.00
36	.00	.00	.00	.00	1.00
37	.00	.00	.00	.00	11.00
38	.00	.00	.00	.00	8.00
39	.00	.00	.00	.00	1.00
40	.00	.00	.00	.00	1.00
41	.00	.00	.00	.00	1.00
42	.00	.00	.00	.00	1.00
43	.00	.00	.00	.00	.00
44	.00	.00	.00	.00	.00
45	.00	.00	.00	.00	.00
46	.00	.00	.00	.00	.00
47	.00	.00	.00	.00	.00
48	.00	.00	.00	1.00	.00
49	.00	.00	.00	.00	.00
50	.00	.00	.00	.00	.00
51	.00	.00	.00	10.00	1.00
52	.00	.00	.00	.00	.00
53	.00	.00	1.00	.00	.00
54	.00	.00	1.00	.00	.00
55	1.00	.00	.00	.00	1.00
56	.00	.00	.00	1.00	.00
57	.00	.00	.00	1.00	1.00
58	.00	.00	1.00	2.00	1.00
59	.00	.00	1.00	.00	.00
60	.00	.00	.00	1.00	.00

	ph16	ph17	ph18	ph19	ph20
31	.00	.00	.00	.00	.00
32	.00	.00	.00	.00	.00
33	.00	.00	.00	.00	.00
34	.00	.00	.00	.00	.00
35	.00	.00	.00	.00	.00
36	.00	.00	.00	.00	.00
37	.00	.00	.00	.00	.00
38	.00	.00	.00	.00	.00
39	.00	.00	.00	.00	.00
40	.00	.00	.00	.00	.00
41	.00	.00	.00	.00	.00
42	.00	.00	1.00	.00	.00
43	.00	.00	.00	.00	.00
44	.00	.00	.00	.00	.00
45	.00	.00	.00	.00	.00
46	.00	.00	.00	.00	.00
47	.00	.00	.00	.00	.00
48	.00	.00	.00	.00	.00
49	.00	.00	.00	.00	.00
50	.00	.00	.00	.00	.00
51	.00	.00	.00	.00	.00
52	.00	.00	.00	.00	.00
53	.00	.00	.00	.00	.00
54	.00	.00	.00	.00	.00
55	.00	1.00	.00	.00	.00
56	.00	.00	.00	.00	.00
57	.00	.00	.00	.00	.00
58	.00	.00	.00	.00	.00
59	1.00	.00	.00	.00	.00
60	1.00	.00	.00	.00	.00

	ph21	ph22	ph23	ph24	ph25
31	.00	.00	.00	.00	.00
32	.00	.00	.00	.00	.00
33	.00	.00	.00	.00	.00
34	.00	.00	.00	.00	.00
35	.00	.00	.00	.00	.00
36	.00	.00	.00	.00	.00
37	.00	.00	.00	.00	.00
38	.00	.00	.00	.00	.00
39	.00	.00	.00	.00	.00
40	.00	.00	.00	.00	.00
41	.00	.00	.00	.00	.00
42	.00	.00	.00	.00	.00
43	.00	.00	.00	.00	.00
44	.00	.00	.00	.00	.00
45	.00	.00	.00	.00	.00
46	1.00	.00	.00	.00	.00
47	.00	.00	.00	.00	.00
48	.00	.00	.00	.00	.00
49	.00	.00	.00	.00	.00
50	.00	.00	.00	.00	.00
51	.00	.00	.00	.00	.00
52	.00	.00	.00	.00	.00
53	.00	.00	.00	.00	.00
54	.00	.00	.00	.00	.00
55	1.00	.00	1.00	.00	.00
56	.00	.00	.00	.00	.00
57	.00	.00	.00	.00	.00
58	.00	.00	.00	.00	1.00
59	.00	.00	.00	.00	.00
60	.00	1.00	.00	.00	.00

	ph26	ph27	ph28	ph29	ph30
31	.00	.00	.00	.00	.00
32	.00	.00	.00	.00	.00
33	.00	.00	.00	.00	.00
34	.00	3.00	.00	.00	.00
35	.00	.00	.00	.00	.00
36	.00	.00	.00	.00	.00
37	.00	.00	.00	.00	.00
38	.00	.00	.00	.00	.00
39	.00	.00	.00	.00	.00
40	.00	.00	.00	.00	.00
41	.00	.00	.00	.00	.00
42	.00	.00	.00	.00	.00
43	.00	.00	.00	.00	.00
44	.00	.00	.00	.00	.00
45	.00	.00	.00	.00	.00
46	.00	.00	.00	.00	.00
47	.00	.00	.00	.00	.00
48	.00	.00	.00	.00	.00
49	.00	.00	.00	.00	.00
50	.00	.00	.00	.00	.00
51	.00	.00	.00	.00	.00
52	.00	.00	.00	.00	.00
53	.00	.00	.00	.00	.00
54	.00	.00	.00	.00	.00
55	.00	.00	.00	.00	.00
56	.00	.00	.00	.00	.00
57	.00	.00	.00	.00	.00
58	.00	.00	.00	.00	.00
59	.00	.00	.00	.00	.00
60	.00	.00	.00	.00	.00

	pcalcul	pspell_c	pturtle	pcon_k	pcamera
31	20.00	.00	.00	.00	.00
32	6.00	.00	1.00	.00	.00
33	13.00	.00	1.00	.00	.00
34	6.00	.00	2.00	1.00	1.00
35	10.00	.00	1.00	1.00	.00
36	10.00	.00	1.00	.00	.00
37	50.00	.00	3.00	6.00	1.00
38	8.00	.00	2.00	4.00	1.00
39	6.00	.00	1.00	1.00	1.00
40	31.00	.00	2.00	1.00	.00
41	30.00	.00	2.00	1.00	.00
42	35.00	.00	1.00	2.00	.00
43	15.00	.00	2.00	1.00	1.00
44	10.00	.00	2.00	.00	.00
45	8.00	.00	2.00	.00	.00
46	30.00	1.00	1.00	.00	.00
47	8.00	.00	2.00	.00	.00
48	12.00	.00	1.00	1.00	.00
49	32.00	1.00	2.00	2.00	1.00
50	8.00	.00	.00	10.00	10.00
51	8.00	.00	1.00	1.00	.00
52	6.00	.00	1.00	.00	1.00
53	5.00	.00	1.00	1.00	.00
54	4.00	.00	1.00	.00	.00
55	8.00	.00	2.00	.00	.00
56	1.00	.00	2.00	2.00	.00
57	10.00	.00	1.00	.00	.00
58	30.00	.00	1.00	2.00	.00
59	6.00	.00	2.00	1.00	.00
60	1.00	.00	1.00	1.00	.00

	pmus_k	pfax	pcu01	pcu02	pcu03
31	1.00	.00	2.00	1.00	.00
32	1.00	.00	1.00	.00	3.00
33	1.00	.00	1.00	1.00	3.00
34	1.00	.00	1.00	3.00	3.00
35	.00	.00	1.00	1.00	1.00
36	3.00	.00	1.00	1.00	.00
37	1.00	.00	3.00	1.00	.00
38	1.00	.00	3.00	.00	.00
39	.00	.00	3.00	.00	5.00
40	2.00	.00	1.00	2.00	.00
41	2.00	.00	1.00	1.00	.00
42	2.00	.00	.00	.00	.00
43	2.00	.00	.00	.00	.00
44	.00	.00	3.00	.00	.00
45	.00	.00	1.00	1.00	3.00
46	1.00	.00	.00	.00	.00
47	.00	.00	1.00	.	.
48	.00	.00	1.00	.00	.00
49	.00	.00	1.00	.00	3.00
50	.00	.00	1.00	.	.
51	.00	.00	2.00	.00	.00
52	.00	.00	1.00	1.00	.
53	.00	.00	1.00	1.00	2.00
54	.00	.00	1.00	1.00	2.00
55	.00	.00	1.00	.00	.00
56	.00	.00	1.00	1.00	1.00
57	.00	.00	1.00	.00	4.00
58	4.00	.00	2.00	1.00	1.00
59	1.00	.00	1.00	2.00	.
60	.00	.00	1.00	.	3.00

	pcu04	pcu05	pcu06	pcu07	pcu08
31	2.00	3.00	3.00	.00	4.00
32	1.00	2.00	1.00	1.00	3.00
33	3.00	.00	3.00	1.00	1.00
34	.00	3.00	2.00	3.00	3.00
35	5.00	.	.	.	5.00
36	.00	1.00	.00	.00	.00
37	1.00	3.00	1.00	.00	2.00
38	3.00	3.00	3.00	.00	.00
39	4.00	4.00	.00	.00	4.00
40	.00	.00	1.00	.00	.00
41	.00	.00	1.00	.00	1.00
42	.00	3.00	.00	.00	3.00
43	.00	.00	1.00	.00	4.00
44	.00	.00	.00	.00	4.00
45	1.00	.00	3.00	1.00	1.00
46	.00	.00	.00	.00	.00
47	2.00	4.00	.	.	4.00
48	4.00	.00	.00	.00	5.00
49	.00	5.00	1.00	.00	1.00
50	.	3.00	.	.	2.00
51	1.00	.00	1.00	.00	3.00
52	4.00	.	.	.	5.00
53	1.00	1.00	2.00	1.00	1.00
54	1.00	1.00	2.00	1.00	1.00
55	4.00	.00	.00	.00	4.00
56	3.00	3.00	2.00	1.00	5.00
57	.00	.00	.00	.00	3.00
58	1.00	1.00	1.00	1.00	1.00
59	1.00	1.00	.	2.00	2.00
60	3.00	.	3.00	.	3.00

	pcu09	pcu10	pcu11	pcu12	pcu13
31	4.00	3.00	4.00	4.00	2.00
32	3.00	1.00	3.00	3.00	1.00
33	3.00	1.00	1.00	1.00	1.00
34	4.00	3.00	3.00	3.00	2.00
35	1.00	.	3.00	4.00	.
36	1.00	.00	.00	.00	.00
37	2.00	2.00	.00	.00	.00
38	3.00	.00	.00	.00	.00
39	3.00	3.00	5.00	5.00	.00
40	2.00	.00	.00	.00	3.00
41	1.00	1.00	1.00	1.00	.00
42	3.00	.00	.00	.00	.00
43	4.00	.00	4.00	.00	.00
44	.00	.00	4.00	.00	.00
45	5.00	1.00	1.00	3.00	4.00
46	.00	.00	.00	.00	.00
47	.	4.00	.	.	.
48	5.00	.00	4.00	.00	.00
49	1.00	1.00	3.00	3.00	1.00
50	1.00	3.00	3.00	.	.
51	2.00	1.00	.00	.00	3.00
52	.	2.00	5.00	.	.
53	1.00	1.00	1.00	1.00	1.00
54	2.00	1.00	2.00	2.00	2.00
55	.00	4.00	5.00	5.00	.00
56	1.00	4.00	5.00	.00	.00
57	3.00	5.00	5.00	.00	.00
58	1.00	1.00	1.00	1.00	1.00
59	2.00	3.00	2.00	2.00	1.00
60	3.00	3.00	2.00	2.00	3.00

	pscheme	ppln_trm	ppln_wk	pactiv	precord	pls1a
31	1.00	1.00	1.00	.00	1.00	1.00
32	.00	.00	.00	.00	.00	1.00
33	.00	1.00	.00	1.00	1.00	1.00
34	.00	1.00	1.00	1.00	1.00	.00
35	.00	00	.00	.00	.00	.00
36	.00	1.00	.00	1.00	1.00	1.00
37	1.00	1.00	1.00	1.00	1.00	1.00
38	1.00	1.00	1.00	.00	1.00	1.00
39	1.00	1.00	1.00	.00	.00	1.00
40	1.00	1.00	1.00	1.00	1.00	1.00
41	1.00	1.00	1.00	1.00	.00	1.00
42	1.00	1 00	1.00	.00	1.00	1.00
43	1.00	1 00	1.00	1.00	1.00	1.00
44	.00	00	1.00	.00	1.00	1.00
45	.00	1 00	.00	.00	1.00	.00
46	.00	00	.00	.00	1.00	1.00
47	.00	00	.00	.00	1.00	.00
48	1.00	1 00	1.00	.00	1.00	1.00
49	1 00	1 00	1.00	1.00	1.00	1.00
50	.00	1 00	1.00	.00	1.00	.00
51	.00	1 00	1.00	1.00	1.00	1.00
52	1.00	1.00	1.00	1.00	1.00	.00
53	1.00	1 00	.00	1.00	1.00	1.00
54	1.00	1.00	1.00	.00	1.00	1.00
55	1.00	1 00	1.00	.00	.00	1.00
56	1.00	1 00	1.00	1.00	1.00	.00
57	1.00	1 00	1.00	1.00	1.00	1.00
58	1.00	1 00	1.00	1.00	1.00	1.00
59	1.00	1 00	1 00	.00	.00	.00
60	1.00	1 00	1.00	.00	1.00	1.00

	pls01	pls02	pls03	pls04	pls05
31	5.00	3.00	5.00	4.00	3.00
32	4.00	4.00	3.00	4.00	2.00
33	4.00	2.00	3.00	4.00	5.00
34	3.00	2.00		2.00	4.00
35	3.00	5.00	4.00	4.00	4.00
36	4.00	5.00	2.00	5.00	3.00
37	5.00	3.00	4.00	4.00	4.00
38	4.00	4.00	1.00	5.00	1.00
39	5.00	3.00	4.00	4.00	4.00
40	4.00	3.00	2.00	5.00	1.00
41	4.00	3.00	2.00	5.00	1.00
42	4.00	3.00	4.00	3.00	4.00
43	4.00	3.00	3.00	5.00	4.00
44	4.00	3.00	2.00	4.00	3.00
45	3.00	4.00	3.00	2.00	2.00
46	5.00	5.00	2.00	4.00	1.00
47	3.00	3.00	2.00	5.00	2.00
48	4.00	2.00	4.00	3.00	2.00
49	5.00	1.00	4.00	4.00	4.00
50	3.00	3.00	2.00	2.00	4.00
51	5.00	2.00	3.00	1.00	4.00
52	3.00	3.00	5.00	4.00	4.00
53	4.00	3.00	3.00	5.00	1.00
54	4.00	3.00	3.00	5.00	1.00
55	4.00	4.00	2.00	5.00	4.00
56	2.00	4.00	4.00	5.00	2.00
57	4.00	3.00	4.00	4.00	4.00
58	5.00	4.00	2.00	4.00	2.00
59	1.00	3.00	3.00	4.00	4.00
60	4.00	3.00	3.00	4.00	2.00

	pls06	pls07	pls08	pls09	pls10
31	4.00	3.00	2.00	2.00	3.00
32	1.00	4.00	2.00	2.00	2.00
33	3.00	3.00	4.00	2.00	2.00
34	2.00	2.00	2.00	4.00	1.00
35	4.00	5.00	4.00	1.00	2.00
36	4.00	2.00	3.00	2.00	4.00
37	2.00	4.00	2.00	4.00	2.00
38	1.00	1.00	1.00	4.00	4.00
39	4.00	1.00	3.00	4.00	5.00
40	5.00	4.00	3.00	3.00	4.00
41	5.00	4.00	3.00	3.00	2.00
42	2.00	2.00	4.00	4.00	2.00
43	4.00	2.00	2.00	4.00	2.00
44	2.00	2.00	2.00	2.00	.
45	2.00	3.00	1.00	2.00	2.00
46	2.00	1.00	2.00	2.00	4.00
47	4.00	1.00	2.00	1.00	4.00
48	2.00	1.00	4.00	3.00	1.00
49	3.00	3.00	2.00	2.00	2.00
50	2.00	3.00	2.00	4.00	2.00
51	1.00	3.00	5.00	4.00	5.00
52	3.00	5.00	4.00	2.00	.
53	2.00	2.00	2.00	1.00	5.00
54	2.00	2.00	2.00	1.00	5.00
55	2.00	1.00	2.00	1.00	5.00
56	2.00	4.00	2.00	1.00	4.00
57	2.00	4.00	4.00	3.00	2.00
58	2.00	4.00	1.00	2.00	5.00
59	3.00	3.00	2.00	5.00	3.00
60	4.00	2.00	5.00	4.00	2.00

	pls11	pls12	pls13	pls14	pls15
31	3.00	2.00	4.00	3.00	3.00
32	3.00	4.00	4.00	2.00	3.00
33	4.00	4.00	2.00	4.00	4.00
34	3.00	1.00	1.00	2.00	4.00
35	4.00	4.00	1.00	4.00	4.00
36	3.00	4.00	2.00	3.00	2.00
37	2.00	2.00	4.00	2.00	5.00
38	1.00	4.00	5.00	2.00	1.00
39	4.00	2.00	2.00	2.00	4.00
40	4.00	4.00	2.00	2.00	3.00
41	4.00	3.00	2.00	2.00	3.00
42	4.00	3.00	4.00	3.00	3.00
43	3.00	2.00	1.00	4.00	4.00
44	3.00	5.00	1.00	.	3.00
45	3.00	2.00	1.00	3.00	4.00
46	3.00	4.00	1.00	3.00	3.00
47	3.00	4.00	4.00	4.00	2.00
48	3.00	1.00	1.00	2.00	5.00
49	4.00	2.00	2.00	1.00	4.00
50	4.00	2.00	4.00	2.00	2.00
51	4.00	2.00	2.00	2.00	5.00
52	4.00	4.00	2.00	2.00	3.00
53	5.00	5.00	1.00	3.00	4.00
54	5.00	5.00	1.00	3.00	4.00
55	4.00	5.00	1.00	3.00	4.00
56	3.00	4.00	2.00	2.00	4.00
57	4.00	4.00	4.00	2.00	4.00
58	4.00	4.00	4.00	2.00	5.00
59	4.00	4.00	2.00	3.00	4.00
60	3.00	2.00	4.00	2.00	4.00

	pls16	pls17	pls18	pls19	pls20
31	2.00	3.00	4.00	4.00	4.00
32	2.00	3.00	4.00	4.00	2.00
33	2.00	3.00	4.00	4.00	2.00
34	2.00	2.00	1.00	4.00	2.00
35	5.00	4.00	5.00	5.00	5.00
36	3.00	3.00	4.00	4.00	3.00
37	2.00	2.00	5.00	2.00	4.00
38	5.00	2.00	2.00	2.00	1.00
39	5.00	2.00	4.00	2.00	5.00
40	2.00	2.00	5.00	4.00	4.00
41	2.00	2.00	5.00	4.00	4.00
42	4.00	2.00	5.00	3.00	4.00
43	3.00	3.00	2.00	4.00	4.00
44	4.00	2.00	5.00	5.00	3.00
45	4.00	3.00	4.00	3.00	3.00
46	5.00	2.00	4.00	4.00	3.00
47	4.00	4.00	4.00	2.00	3.00
48	5.00	4.00	5.00	2.00	2.00
49	4.00	2.00	5.00	2.00	3.00
50	4.00	2.00	4.00	3.00	2.00
51	3.00	2.00	4.00	3.00	2.00
52	4.00	4.00	4.00	4.00	4.00
53	2.00	2.00	5.00	5.00	4.00
54	2.00	2.00	5.00	5.00	4.00
55	5.00	2.00	4.00	2.00	2.00
56	4.00	2.00	5.00	2.00	2.00
57	2.00	3.00	5.00	3.00	2.00
58	1.00	1.00	5.00	2.00	1.00
59	4.00	3.00	4.00	4.00	4.00
60	5.00	2.00	5.00	2.00	4.00

	py0	py2	py4	pyothr	pthis_y	pn_class
61	.	1	.	.	2.0	30.00
62	.	1	.	.	2.0	34.00
63	1	.	.	.	.0	30.00
64	.	.	.	1	2.0	31.00
65	.	1	.	.	2.0	30.00
66	1	.	.	.	.0	24.00
67	1	.	.	.	.0	24.00
68	.	.	1	.	4.0	23.00
69	1	.	.	.	.0	21.00
70	.	.	1	.	4.0	33.00
71	.	1	.	.	2.0	26.00
72	.	.	.	3	.	25.00
73	.	1	.	.	.0	22.00
74	.	.	1	.	4.0	32.00
75	.	.	1	.	2.0	23.00
76	.	.	.	6	5.5	23.00
77	1	.	.	.	.0	30.00
78	.	.	1	.	4.0	30.00
79	1	.	.	.	.0	29.00
80	.	.	1	.	4.0	20.00
81	1	.	.	.	-1.0	24.00
82	.	.	1	.	4.0	26.00
83	1	.	.	.	.0	32.00
84	.	1	.	.	2.0	32.00
85	.	.	1	.	2.0	32.00
86	.	1	.	.	6.0	26.00
87	1	.	.	.	.0	30.00
88	.	1	.	.	2.0	33.00
89	1	.	.	.	.0	27.00
90	.	.	.	1	2.0	28.00

3-1

	pn_oth	pn_snr	padults	pyrs_tea	pcom_hme
61	.	1.00	0	21.00	1
62	.	2.00	1	22.00	1
63	.	1.00	1	6.00	1
64	.	2.00	0	17.00	1
65	.	6.00	1	2.00	1
66	.	.00	1	23.00	0
67	.	.00	1	10.00	1
68	.	.00	1	24.00	0
69	.	.00	1	13.00	1
70	.	5.00	0	2.00	1
71	.	7.00	0	5.00	0
72	.	2.00	1	21.00	1
73	.	.00	1	6.00	0
74	.	.00	0	3.00	0
75	.	1.00	1	19.00	1
76	13.00	1.00	0	24.00	1
77	.	.00	1	17.00	1
78	.	.00	1	23.00	1
79	.	.00	1	14.00	1
80	.	3.00	0	20.00	1
81	.	.00	1	8.00	1
82	.	6.00	1	31.00	1
83	.	.00	1	5.00	0
84	.	.00	1	18.00	0
85	.	.00	1	6.00	0
86	.	.00	1	15.00	1
87	.	.00	1	5.00	1
88	.	.00	0	18.00	0
89	.	2.00	1	22.00	1
90	.	6.00	1	5.00	0

	pc_h_wrk	pinset_l	pinset_n	pinset_g	pinset_c
61	1	0	0	0	0
62	1	1	1	0	1
63	1	1	1	0	0
64	0	0	0	0	0
65	0	0	0	0	0
66	0	2	2	0	0
67	0	1	0	0	0
68	0	0	0	0	0
69	1	0	0	0	0
70	1	0	0	0	0
71	0	0	0	0	0
72	1	0	0	0	0
73	0	0	0	0	0
74	0	0	0	0	0
75	1	0	0	0	2
76	1	1	0	0	0
77	0	0	0	0	0
78	1	0	0	0	0
79	1	0	0	0	0
80	1	0	1	0	0
81	1	0	0	0	0
82	1	0	0	0	1
83	0	0	0	0	0
84	1	1	1	0	0
85	0	1	1	0	0
86	1	1	0	0	0
87	1	0	0	0	0
88	0	0	0	0	2
89	0	1	0	0	0
90	0	1	0	0	0

	pinset_o	pitcoord	pc_com_u	pp_com_u	ptim_pup
61	0	0	1	4	45.00
62	0	0	1	2	15.00
63	0	0	1	2	20.00
64	0	0	2	3	10.00
65	1	0	2	3	15.00
66	0	0	1	1	20.00
67	0	0	1	2	20.00
68	0	0	3	3	10.00
69	1	0	3	3	10.00
70	0	0	.	.	30.00
71	0	0	1	2	15.00
72	0	0	1	4	60.00
73	0	0	1	2	.
74	1	0	1	3	60.00
75	0	1	1	3	30.00
76	0	1	2	3	30.00
77	0	0	1	2	10.00
78	0	0	2	3	25.00
79	1	0	1	1	30.00
80	0	0	1	4	30.00
81	1	0	1	1	70.00
82	1	1	1	2	40.00
83	0	0	1	1	15.00
84	0	0	2	3	10.00
85	0	0	2	3	25.00
86	0	0	2	3	20.00
87	0	0	1	2	10.00
88	0	0	1	3	10.00
89	0	0	1	2	20.00
90	0	0	1	2	13.00

	pown	prequest	pmonit	psuperv	psenplan
61	0	0	1	0	0
62	1	1	1	1	1
63	1	1	1	0	0
64	0	1	1	0	0
65	1	1	0	0	0
66	1	1	0	0	0
67	0	1	0	0	0
68	1	0	0	0	0
69	0	0	0	1	1
70	1	1	0	0	0
71	0	0	1	0	0
72	0	0	1	0	1
73	1	1	0	0	0
74	0	0	1	1	0
75	1	1	1	0	1
76	0	1	0	0	0
77	1	0	0	0	0
78	0	0	1	0	0
79	1	1	1	1	0
80	0	0	1	0	0
81	1	1	1	0	0
82	1	1	1	1	1
83	1	1	0	0	0
84	0	0	0	0	0
85	0	0	1	0	0
86	0	1	0	0	1
87	1	1	1	1	0
88	1	1	1	1	0
89	1	1	1	0	0
90	1	0	0	0	0

	psenadpt	pp_hm_pc	pc01	pc02	pc03
61	0	.	1	1	0
62	0	30.00	1	0	0
63	0	.	0	1	0
64	1	8.00	1	0	0
65	0	30.00	0	1	0
66	0	.	0	0	0
67	1	.00	1	0	0
68	0	25.00	1	1	0
69	0	.	1	0	0
70	1	17.00	0	0	0
71	0	.	1	0	0
72	0	20.00	0	0	0
73	0	.	1	0	0
74	0	40.00	0	0	0
75	1	40.00	1	0	0
76	0	40.00	0	0	0
77	0	20.00	1	0	0
78	0	35.00	0	0	0
79	0	20.00	1	1	0
80	1	5.00	1	0	1
81	1	12.00	0	0	0
82	1	40.00	0	0	0
83	0	20.00	0	0	0
84	1	10.00	1	0	0
85	0	.	0	0	0
86	1	20.00	0	0	0
87	0	5.00	0	0	0
88	1	.	1	0	0
89	0	3.00	0	0	0
90	0	35.00	0	0	0

	pc04	pc05	pc06	pc07	pc08
61	1	0	0	0	0
62	0	0	0	0	1
63	0	0	0	1	0
64	0	0	0	0	1
65	0	0	0	0	0
66	0	0	0	0	0
67	0	0	0	0	0
68	0	0	0	0	0
69	0	0	0	0	0
70	1	0	0	0	0
71	0	0	0	0	0
72	1	0	0	0	0
73	0	0	0	0	0
74	1	0	0	1	0
75	0	0	0	0	1
76	1	0	0	1	1
77	0	0	0	0	0
78	1	0	0	1	1
79	0	0	0	0	0
80	1	0	0	0	0
81	0	0	0	0	0
82	1	0	0	0	0
83	0	0	0	1	0
84	0	0	0	0	0
85	0	0	0	1	1
86	1	0	0	0	0
87	1	0	0	1	0
88	0	1	0	0	0
89	1	0	0	0	0
90	1	0	0	0	0

	pc09	pc10	pc11	pc12	pc13
61	0	0	0	0	0
62	0	1	0	0	0
63	0	1	0	0	1
64	0	0	0	0	0
65	0	0	0	0	0
66	0	0	0	0	0
67	0	0	0	0	0
68	0	1	0	0	0
69	0	1	0	0	0
70	0	0	0	0	0
71	0	1	0	0	0
72	0	0	0	0	0
73	0	0	0	0	0
74	0	0	0	0	2
75	0	1	0	0	0
76	0	0	0	0	0
77	0	0	0	0	0
78	0	0	0	0	0
79	0	0	0	0	0
80	0	0	0	0	0
81	1	1	0	0	0
82	1	0	0	0	0
83	0	1	0	0	1
84	0	1	0	0	0
85	0	1	0	0	1
86	1	0	0	0	0
87	0	0	0	0	8
88	0	0	0	0	0
89	0	0	0	0	0
90	0	0	0	1	0

	pc14	pc15	pc16	pc17	pc18
61	3	0	3	0	0
62	0	0	0	0	0
63	0	0	2	0	0
64	1	0	0	0	0
65	0	0	0	0	0
66	0	0	0	0	0
67	0	0	0	0	0
68	0	0	4	0	0
69	0	0	3	0	0
70	0	0	0	0	0
71	0	0	8	0	0
72	0	0	0	0	0
73	0	0	0	0	0
74	0	0	0	0	0
75	2	0	2	0	0
76	0	0	0	0	0
77	0	0	0	0	0
78	0	0	0	0	0
79	0	0	0	0	0
80	0	0	0	0	0
81	0	1	0	0	0
82	0	0	0	0	0
83	0	0	1	0	0
84	0	0	4	0	0
85	1	0	3	0	0
86	0	1	1	0	0
87	0	0	0	0	0
88	0	0	0	0	0
89	0	0	0	0	0
90	0	0	0	0	5

	ph01	ph02	ph03	ph04	ph05
61	.00	.00	1.00	6.00	.00
62	.00	1.00	.00	1.00	.00
63	1.00	1.00	.00	1.00	.00
64	1.00	.00	.00	.00	.00
65	.00	1.00	.00	.00	.00
66	1.00	.00	.00	.00	.00
67	1.00	.00	.00	.00	.00
68	1.00	1.00	.00	1.00	.00
69	.00	.00	.00	.00	.00
70	.00	.00	.00	1.00	.00
71	1.00	.00	.00	1.00	.00
72	.00	.00	.00	1.00	.00
73	1.00	.00	.00	.00	.00
74	.00	.00	.00	1.00	.00
75	10.00	4.00	.00	5.00	.00
76	2.00	2.00	.00	5.00	.00
77	1.00	.00	.00	.00	.00
78	.00	.00	.00	1.00	.00
79	1.00	.00	.00	.00	.00
80	.00	.00	1.00	1.00	.00
81	.00	.00	1.00	1.00	.00
82	.00	.00	1.00	7.00	.00
83	.00	.00	.00	1.00	.00
84	1.00	.00	.00	1.00	.00
85	.00	1.00	.00	1.00	.00
86	.00	.00	.00	1.00	.00
87	.00	.00	.00	1.00	.00
88	1.00	.00	.00	1.00	.00
89	.00	.00	.00	.00	.00
90	.00	.00	.00	.00	.00

	ph06	ph07	ph08	ph09	ph10
61	.00	.00	.00	.00	5.00
62	.00	.00	.00	.00	1.00
63	.00	.00	.00	.00	1.00
64	.00	.00	.00	.00	.00
65	.00	.00	.00	.00	.00
66	.00	.00	.00	.00	.00
67	.00	.00	.00	.00	.00
68	.00	.00	.00	.00	.00
69	.00	.00	.00	.00	.00
70	.00	.00	.00	.00	1.00
71	.00	.00	.00	.00	1.00
72	.00	.00	.00	.00	.00
73	.00	.00	.00	.00	.00
74	.00	.00	.00	.00	1.00
75	.00	.00	.00	.00	2.00
76	.00	.00	.00	.00	5.00
77	.00	.00	.00	.00	.00
78	.00	.00	.00	.00	1.00
79	.00	.00	.00	.00	.00
80	.00	.00	.00	1.00	1.00
81	.00	.00	.00	1.00	1.00
82	.00	.00	.00	1.00	6.00
83	.00	.00	.00	.00	.00
84	.00	.00	.00	.00	1.00
85	.00	.00	.00	.00	.00
86	.00	.00	.00	.00	1.00
87	.00	.00	.00	.00	1.00
88	.00	.00	.00	.00	1.00
89	.00	.00	.00	.00	1.00
90	.00	.00	.00	.00	.00

	ph11	ph12	ph13	ph14	ph15
61	.00	.00	.00	3.00	1.00
62	.00	.00	.00	.00	1.00
63	.00	.00	.00	.00	.00
64	.00	.00	.00	.00	.00
65	.00	.00	.00	.00	.00
66	.00	.00	.00	.00	.00
67	.00	.00	.00	.00	.00
68	.00	.00	.00	.00	.00
69	.00	.00	.00	.00	.00
70	.00	.00	.00	.00	.00
71	.00	.00	.00	.00	.00
72	.00	.00	.00	.00	.00
73	.00	.00	.00	.00	.00
74	.00	.00	.00	.00	.00
75	.00	.00	.00	.00	.00
76	.00	.00	.00	.00	.00
77	.00	.00	.00	.00	.00
78	.00	.00	.00	.00	.00
79	.00	.00	.00	.00	.00
80	.00	.00	.00	.00	1.00
81	.00	.00	.00	.00	1.00
82	.00	.00	.00	.00	1.00
83	.00	.00	.00	.00	.00
84	.00	.00	1.00	.00	.00
85	.00	.00	.00	.00	.00
86	.00	.00	.00	.00	.00
87	.00	.00	.00	.00	.00
88	.00	.00	.00	.00	.00
89	.00	.00	.00	.00	.00
90	.00	.00	.00	.00	.00

	ph16	ph17	ph18	ph19	ph20
61	6.00	.00	.00	.00	.00
62	.00	.00	.00	.00	.00
63	1.00	.00	.00	.00	.00
64	.00	.00	.00	.00	.00
65	.00	.00	.00	.00	.00
66	.00	.00	.00	.00	.00
67	.00	.00	.00	.00	.00
68	.00	.00	.00	.00	.00
69	.00	.00	.00	.00	.00
70	1.00	.00	.00	.00	.00
71	1.00	.00	.00	.00	.00
72	.00	.00	.00	.00	.00
73	.00	.00	.00	.00	.00
74	1.00	.00	.00	.00	.00
75	.00	.00	.00	.00	.00
76	9.00	.00	.00	.00	.00
77	.00	.00	.00	.00	.00
78	1.00	.00	.00	.00	.00
79	.00	.00	.00	.00	.00
80	1.00	.00	.00	.00	.00
81	1.00	.00	.00	.00	.00
82	7.00	.00	.00	.00	.00
83	1.00	.00	.00	.00	.00
84	.00	.00	.00	.00	.00
85	.00	.00	.00	.00	.00
86	1.00	.00	.00	.00	.00
87	1.00	.00	.00	.00	.00
88	1.00	.00	.00	.00	.00
89	.00	.00	.00	.00	.00
90	.00	.00	.00	.00	.00

	ph21	ph22	ph23	ph24	ph25
61	.00	.00	.00	.00	.00
62	.00	.00	.00	.00	.00
63	.00	.00	.00	.00	.00
64	.00	.00	.00	.00	.00
65	.00	.00	.00	.00	.00
66	.00	.00	.00	.00	.00
67	.00	.00	.00	.00	.00
68	.00	.00	.00	.00	.00
69	.00	.00	.00	.00	.00
70	.00	.00	.00	.00	.00
71	.00	.00	.00	.00	.00
72	.00	.00	.00	.00	.00
73	.00	.00	.00	.00	.00
74	.00	.00	.00	.00	.00
75	.00	.00	.00	.00	.00
76	.00	.00	.00	.00	.00
77	.00	.00	.00	.00	.00
78	.00	.00	.00	.00	.00
79	.00	.00	.00	.00	.00
80	1.00	.00	.00	.00	.00
81	.00	.00	.00	.00	.00
82	1.00	.00	.00	.00	.00
83	.00	.00	.00	.00	.00
84	.00	.00	.00	.00	.00
85	.00	.00	.00	.00	.00
86	.00	.00	.00	.00	.00
87	.00	.00	.00	.00	.00
88	.00	.00	.00	.00	.00
89	.00	.00	.00	.00	.00
90	.00	.00	.00	.00	.00

	ph26	ph27	ph28	ph29	ph30
61	.00	.00	.00	.00	.00
62	.00	.00	1.00	.00	.00
63	.00	.00	.00	.00	.00
64	.00	.00	.00	.00	.00
65	.00	.00	.00	.00	.00
66	.00	.00	.00	.00	.00
67	.00	.00	.00	.00	.00
68	.00	.00	.00	.00	.00
69	.00	.00	.00	.00	.00
70	.00	.00	1.00	.00	.00
71	.00	.00	.00	.00	.00
72	.00	.00	.00	.00	.00
73	.00	.00	.00	.00	.00
74	.00	.00	.00	.00	.00
75	.00	.00	.00	.00	.00
76	.00	.00	.00	.00	.00
77	.00	.00	.00	.00	.00
78	.00	.00	.00	.00	.00
79	.00	.00	.00	.00	.00
80	.00	.00	.00	.00	.00
81	.00	.00	.00	.00	.00
82	.00	1.00	.00	.00	.00
83	.00	.00	.00	.00	.00
84	.00	.00	.00	.00	.00
85	.00	.00	.00	.00	.00
86	.00	.00	.00	.00	.00
87	.00	.00	.00	.00	.00
88	.00	.00	.00	.00	.00
89	.00	.00	.00	.00	.00
90	.00	.00	.00	.00	.00

	pcalcul	pspell_c	pturtle	pcon_k	pcamera
61	10.00	.00	1.00	.00	.00
62	10.00	2.00	1.00	2.00	.00
63	1.00	.00	1.00	1.00	.00
64	10.00	.00	1.00	3.00	.00
65	15.00	.00	1.00	.00	.00
66	6.00	.00	1.00	1.00	.00
67	4.00	.00	1.00	1.00	.00
68	20.00	.00	2.00	.00	.00
69	4.00	.00	2.00	.00	.00
70	20.00	.00	3.00	.00	.00
71	15.00	.00	1.00	1.00	.00
72	25.00	.00	1.00	.00	.00
73	10.00	.00	1.00	.00	.00
74	22.00	.00	1.00	.00	.00
75	15.00	.00	1.00	1.00	.00
76	25.00	.00	2.00	2.00	.00
77	6.00	.00	1.00	1.00	.00
78	10.00	.00	2.00	1.00	.00
79	.00	.00	1.00	1.00	.00
80	24.00	.00	.00	.00	.00
81	.00	.00	1.00	1.00	.00
82	12.00	.00	3.00	.00	.00
83	15.00	.00	2.00	1.00	.00
84	10.00	.00	2.00	1.00	.00
85	15.00	.00	6.00	1.00	.00
86	29.00	.00	4.00	.00	1.00
87	10.00	.00	.00	.00	.00
88	10.00	.00	1.00	1.00	.00
89	6.00	.00	.00	.00	.00
90	2.00	.00	1.00	.00	.00

	pmus_k	pfax	pcu01	pcu02	pcu03
61	.00	.00	.00	.00	.00
62	.00	.00	1.00	5.00	.00
63	.00	.00	1.00	1.00	1.00
64	1.00	.00	3.00	.00	.00
65	.00	.00	1.00	4.00	1.00
66	1.00	.00	1.00	1.00	.00
67	.00	.00	1.00	1.00	1.00
68	1.00	.00	1.00	1.00	3.00
69	.00	.00	1.00	.	.
70	.00	.00	1.00	.00	3.00
71	.00	.00	1.00	1.00	2.00
72	.00	.00	1.00	3.00	3.00
73	.00	.00	1.00	1.00	1.00
74	.00	.00	2.00	3.00	4.00
75	.00	.00	2.00	.	4.00
76	1.00	.00	.00	.00	.00
77	.00	.00	1.00	.	.
78	6.00	.00	1.00	1.00	4.00
79	6.00	.00	1.00	.00	.00
80	1.00	.00	.	.	4.00
81	.00	.00	1.00	1.00	1.00
82	1.00	.00	3.00	.00	3.00
83	.00	.00	1.00	.00	.00
84	4.00	.00	1.00	1.00	.
85	.00	.00	1.00	2.00	1.00
86	4.00	6.00	1.00	1.00	3.00
87	1.00	.00	1.00	1.00	1.00
88	1.00	.00	1.00	1.00	4.00
89	1.00	.00	.00	.00	5.00
90	1.00	.00	1.00	1.00	3.00

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	pcu04	pcu05	pcu06	pcu07	pcu08
61	1.00	.00	.00	.00	1.00
62	4.00	4.00	1.00	1.00	4.00
63	1.00	1.00	1.00	1.00	4.00
64	3.00	3.00	1.00	.00	4.00
65	1.00	3.00	1.00	1.00	3.00
66	5.00	5.00	.00	.00	5.00
67	5.00	5.00	1.00	1.00	5.00
68	3.00	1.00	1.00	1.00	1.00
69	1.00	1.00	.	.	2.00
70	3.00	1.00	3.00	1.00	1.00
71	2.00	1.00	.00	1.00	3.00
72	2.00	4.00	1.00	1.00	3.00
73	1.00	1.00	1.00	1.00	5.00
74	2.00	1.00	4.00	1.00	4.00
75	.	5.00	3.00	.	4.00
76	2.00	3.00	2.00	.00	2.00
77	1.00	3.00	.	.	4.00
78	3.00	.	1.00	.	.
79	4.00	4.00	.00	.00	4.00
80	.	4.00	4.00	.	4.00
81	.00	1.00	1.00	1.00	5.00
82	4.00	4.00	5.00	4.00	4.00
83	3.00	.00	.00	.00	4.00
84	2.00	4.00	.	.	3.00
85	1.00	3.00	.00	.00	5.00
86	3.00	3.00	.00	3.00	4.00
87	2.00	1.00	1.00	1.00	5.00
88	3.00	1.00	1.00	1.00	5.00
89	5.00	5.00	.00	.00	5.00
90	.00	3.00	1.00	1.00	5.00

	pcu09	pcu10	pcu11	pcu12	pcu13
61	1.00	.00	.00	.00	.00
62	4.00	4.00	4.00	3.00	1.00
63	.00	4.00	4.00	1.00	.00
64	3.00	3.00	1.00	2.00	1.00
65	3.00	1.00	4.00	1.00	1.00
66	1.00	5.00	5.00	5.00	.00
67	2.00	5.00	5.00	5.00	1.00
68	1.00	1.00	3.00	3.00	1.00
69	.	2.00	2.00	.	.
70	4.00	1.00	1.00	2.00	1.00
71	2.00	3.00	3.00	3.00	1.00
72	1.00	1.00	.00	.00	2.00
73	1.00	3.00	5.00	5.00	1.00
74	4.00	2.00	1.00	2.00	4.00
75	4.00	4.00	3.00	4.00	3.00
76	3.00	.00	.00	.00	.00
77	2.00	4.00	4.00	.	1.00
78	4.00	3.00	3.00	3.00	3.00
79	1.00	4.00	4.00	.00	1.00
80	.	4.00	4.00	4.00	.
81	1.00	5.00	5.00	1.00	1.00
82	4.00	4.00	4.00	.00	5.00
83	5.00	5.00	5.00	.00	.00
84	1.00	4.00	5.00	5.00	1.00
85	5.00	.00	4.00	4.00	4.00
86	.00	1.00	3.00	3.00	3.00
87	3.00	5.00	5.00	5.00	1.00
88	5.00	5.00	4.00	4.00	1.00
89	.00	5.00	5.00	5.00	.00
90	1.00	5.00	5.00	5.00	1.00

	pscheme	ppln_trm	ppln_wk	pactiv	precord	pls1a
61	1.00	1.00	.00	.00	1.00	1.00
62	1.00	1.00	1.00	1.00	1.00	1.00
63	1.00	1.00	1.00	.00	1.00	.00
64	1.00	1.00	1.00	1.00	1.00	1.00
65	1.00	1.00	1.00	.00	1.00	1.00
66	1.00	1.00	1.00	.00	.00	1.00
67	1.00	1.00	.00	1.00	1.00	1.00
68	1.00	1.00	1.00	.00	.00	.00
69	1.00	1.00	1.00	1.00	1.00	1.00
70	1.00	1.00	1.00	.00	1.00	1.00
71	1.00	1.00	1.00	.00	1.00	.00
72	1.00	1.00	1.00	.00	.00	.00
73	1.00	1.00	1.00	.00	.00	1.00
74	1.00	1.00	1.00	1.00	1.00	1.00
75	1.00	1.00	1.00	1.00	1.00	1.00
76	1.00	1.00	1.00	.00	.00	.00
77	1.00	1.00	1.00	.00	.00	.00
78	1.00	1.00	1.00	.00	.00	.00
79	1.00	.00	1.00	.00	1.00	.00
80	.00	1.00	1.00	.00	1.00	1.00
81	1.00	1.00	1.00	.00	1.00	1.00
82	.00	1.00	1.00	1.00	1.00	1.00
83	1.00	1.00	1.00	.00	.00	1.00
84	1.00	1.00	1.00	.00	1.00	.00
85	1.00	1.00	1.00	.00	1.00	1.00
86	1.00	1.00	1.00	.00	.00	1.00
87	1.00	1.00	1.00	.00	1.00	.00
88	1.00	1.00	1.00	.00	1.00	.00
89	1.00	.00	.00	.00	.00	1.00
90	.00	1.00	1.00	.00	1.00	.00

	pls01	pls02	pls03	pls04	pls05
61	4.00	4.00	.	4.00	2.00
62	5.00	2.00	4.00	2.00	4.00
63	3.00	3.00	3.00	5.00	4.00
64	5.00	3.00	4.00	2.00	1.00
65	5.00	2.00	3.00	5.00	1.00
66	5.00	4.00	3.00	3.00	2.00
67	4.00	4.00	3.00	3.00	2.00
68	2.00	4.00	2.00	4.00	3.00
69	4.00	3.00	3.00	3.00	4.00
70	4.00	2.00	3.00	2.00	3.00
71	3.00	3.00	4.00	4.00	2.00
72	.	.	.	.	.
73	4.00	3.00	3.00	2.00	2.00
74	4.00	4.00	3.00	3.00	2.00
75	5.00	1.00	3.00	4.00	4.00
76	2.00	3.00	3.00	4.00	3.00
77	3.00	4.00	3.00	4.00	2.00
78	1.00	5.00	2.00	4.00	2.00
79	.	.	.	.	.
80	4.00	3.00	4.00	4.00	4.00
81	4.00	4.00	2.00	2.00	3.00
82	4.00	4.00	4.00	2.00	2.00
83	4.00	3.00	3.00	3.00	4.00
84	3.00	4.00	4.00	5.00	2.00
85	4.00	3.00	5.00	4.00	5.00
86	4.00	2.00	3.00	4.00	3.00
87	2.00	4.00	3.00	4.00	4.00
88	3.00	4.00	2.00	3.00	2.00
89	4.00	2.00	4.00	5.00	4.00
90	.	.	.	.	.

	pls06	pls07	pls08	pls09	pls10
61	3.00	2.00	4.00	4.00	4.00
62	2.00	2.00	2.00	3.00	2.00
63	2.00	1.00	4.00	1.00	3.00
64	2.00	1.00	2.00	4.00	5.00
65	3.00	1.00	4.00	5.00	2.00
66	5.00	1.00	4.00	2.00	3.00
67	4.00	2.00	4.00	2.00	3.00
68	3.00	2.00	4.00	2.00	2.00
69	4.00	2.00	2.00	2.00	4.00
70	4.00	2.00	2.00	2.00	2.00
71	2.00	3.00	2.00	2.00	.
72	.	.	.	.	.
73	5.00	2.00	3.00	2.00	4.00
74	2.00	3.00	2.00	4.00	4.00
75	4.00	3.00	2.00	5.00	2.00
76	4.00	2.00	3.00	4.00	5.00
77	4.00	3.00	2.00	4.00	5.00
78	4.00	1.00	2.00	2.00	3.00
79	.	.	.	.	.
80	4.00	2.00	4.00	4.00	4.00
81	.	3.00	4.00	4.00	1.00
82	4.00	5.00	4.00	4.00	3.00
83	2.00	3.00	.	2.00	2.00
84	4.00	2.00	3.00	5.00	2.00
85	3.00	2.00	3.00	1.00	1.00
86	4.00	1.00	4.00	2.00	2.00
87	2.00	2.00	2.00	2.00	2.00
88	5.00	2.00	44.00	1.00	4.00
89	3.00	2.00	2.00	2.00	2.00
90	.	.	.	.	.

	pls11	pls12	pls13	pls14	pls15
61	3.00	4.00	1.00	2.00	4.00
62	3.00	2.00	2.00	3.00	4.00
63	3.00	4.00	3.00	2.00	2.00
64	3.00	2.00	1.00	3.00	4.00
65	3.00	4.00	5.00	3.00	3.00
66	4.00	4.00	2.00	4.00	2.00
67	3.00	2.00	1.00	2.00	4.00
68	3.00	4.00	2.00	3.00	4.00
69	4.00	4.00	2.00	2.00	4.00
70	4.00	3.00	2.00	2.00	4.00
71	4.00	4.00	2.00	2.00	4.00
72	.	.	.	.	.
73	4.00	4.00	1.00	4.00	3.00
74	4.00	2.00	5.00	4.00	4.00
75	4.00	5.00	2.00	3.00	4.00
76	3.00	4.00	1.00	3.00	4.00
77	4.00	5.00	1.00	3.00	4.00
78	4.00	3.00	5.00	3.00	5.00
79	.	.	.	.	.
80	3.00	4.00	2.00	3.00	4.00
81	4.00	2.00	2.00	3.00	4.00
82	4.00	3.00	2.00	4.00	4.00
83	4.00	4.00	2.00	2.00	4.00
84	4.00	5.00	2.00	3.00	4.00
85	3.00	3.00	2.00	2.00	4.00
86	4.00	2.00	2.00	3.00	3.00
87	4.00	4.00	2.00	4.00	4.00
88	4.00	4.00	1.00	3.00	4.00
89	5.00	2.00	5.00	4.00	4.00
90	.	.	.	.	.

	pls16	pls17	pls18	pls19	pls20
61	3.00	2.00	4.00	4.00	4.00
62	4.00	2.00	4.00	2.00	2.00
63	5.00	4.00	5.00	5.00	3.00
64	2.00	2.00	4.00	4.00	2.00
65	5.00	3.00	4.00	4.00	4.00
66	4.00	4.00	3.00	4.00	4.00
67	3.00	2.00	5.00	4.00	3.00
68	4.00	3.00	4.00	3.00	3.00
69	2.00	3.00	5.00	2.00	2.00
70	2.00	2.00	4.00	4.00	4.00
71	2.00	2.00	4.00	4.00	4.00
72	.	.	.	.	.
73	3.00	3.00	4.00	3.00	4.00
74	4.00	2.00	5.00	2.00	1.00
75	4.00	2.00	5.00	4.00	4.00
76	3.00	4.00	4.00	4.00	4.00
77	4.00	2.00	5.00	4.00	4.00
78	1.00	3.00	4.00	3.00	3.00
79	.	.	.	.	.
80	2.00	4.00	4.00	4.00	3.00
81	4.00	4.00	4.00	2.00	2.00
82	3.00	4.00	5.00	1.00	2.00
83	2.00	4.00	4.00	4.00	3.00
84	4.00	4.00	3.00	5.00	4.00
85	5.00	2.00	5.00	4.00	3.00
86	4.00	2.00	4.00	2.00	4.00
87	3.00	2.00	4.00	4.00	4.00
88	4.00	3.00	5.00	4.00	4.00
89	4.00	1.00	5.00	4.00	2.00
90	.	.	.	.	.

	py0	py2	py4	pyothr	pthis_y	pn_class
91	.	.	1	.	1.0	32.00
92	.	1	.	.	2.0	21.00
93	.	.	1	.	4.0	29.00
94	.	1	.	.	2.0	25.00
95	.	.	1	.	3.5	22.00
96	.	.	.	1	1.0	28.00
97	.	.	1	.	3.5	32.00
98	.	.	.	1	.	33.00
99	1	.	.	.	2.0	34.00
100	.	.	.	1	2.0	31.00
101	.	1	.	.	4.0	31.00
102	.	1	.	.	.0	33.00
103	1	.	.	.	.0	31.00
104	.	1	.	.	2.0	34.00
105	.	1	.	.	2.0	27.00
106	.	1	.	.	1.0	24.00
107	1	.	.	.	.0	31.00
108	.	1	.	.	2.0	28.00
109	1	.	.	.	.0	22.00
110	.	1	.	.	2.0	28.00
111	.	.	1	.	4.0	34.00
112	.	.	1	.	4.0	19.00
113	.	1	.	.	4.0	29.00
114	.	.	1	.	3.0	34.00
115	.	.	.	1	5.0	31.00
116	1	.	.	.	.5	28.00
117	3.5	30.00
118	3.5	30.00
119	.	.	1	.	2.5	31.00
120	5.5	25.00

	pn_oth	pn_snr	padults	pyrs_tea	pcom_hme
91	.	1.00	1	5.00	1
92	.	2.00	1	10.00	0
93	.	.00	0	12.00	1
94	.	.00	0	5.00	1
95	.	8.00	1	23.00	1
96	.	2.00	1	25.00	0
97	.	3.00	1	9.00	1
98	.	3.00	0	1.00	1
99	.	2.00	1	5.00	1
100	.	1.00	1	15.00	1
101	.	.00	0	24.00	1
102	.	.00	1	5.00	0
103	.	.00	1	3.00	0
104	.	.00	1	11.00	1
105	.	1.00	1	14.00	1
106	.	1.00	1	26.00	1
107	.	.00	1	32.00	0
108	.	1.00	1	14.00	0
109	.	.00	1	25.00	0
110	.	2.00	1	10.00	1
111	.	.00	0	1.00	0
112	.	.00	1	9.00	1
113	.	3.00	1	10.00	1
114	.	2.00	1	27.00	1
115	.	7.00	1	29.00	1
116	18.00	1.00	1	19.00	1
117	.	3.00	1	11.00	0
118	.	3.00	1	11.00	0
119	.	2.00	1	7.00	0
120	.	7.00	0	25.00	1

	pc_h_wrk	pinset_l	pinset_n	pinset_g	pinset_c
91	1	1	0	0	0
92	0	0	0	0	0
93	1	0	0	0	0
94	1	0	0	0	0
95	1	0	0	0	0
96	0	0	0	0	0
97	1	0	0	0	0
98	1	0	0	0	0
99	1	0	0	0	0
100	1	1	0	0	0
101	1	0	0	0	0
102	1	0	1	0	1
103	0	1	1	0	0
104	1	0	0	0	1
105	1	1	0	0	1
106	0	1	1	0	0
107	0	1	1	0	0
108	0	0	0	0	0
109	0	1	1	0	0
110	1	2	0	0	0
111	0	0	0	0	0
112	1	0	0	0	1
113	0	0	0	0	4
114	1	2	2	0	0
115	1	0	0	0	1
116	1	0	0	0	1
117	0	0	1	0	0
118	0	0	1	0	0
119	1	1	0	0	0
120	1	2	2	1	0

	pinset_o	pitcoord	pc_com_u	pp_com_u	ptim_pup
91	0	0	1	3	15.00
92	1	0	1	3	10.00
93	0	0	2	3	20.00
94	1	0	1	3	30.00
95	1	0	1	1	.
96	0	0	2	4	10.00
97	1	0	2	3	12.00
98	1	0	1	3	30.00
99	0	0	1	3	20.00
100	1	0	1	2	15.00
101	3	1	1	2	30.00
102	0	1	1	2	15.00
103	0	0	1	3	60.00
104	0	1	1	3	.
105	1	1	1	4	5.00
106	0	0	2	3	30.00
107	0	0	2	3	15.00
108	0	0	1	3	10.00
109	0	0	4	4	20.00
110	0	0	2	3	10.00
111	0	0	1	4	40.00
112	0	1	1	2	30.00
113	0	0	2	3	120.00
114	0	1	1	2	30.00
115	1	1	2	3	10.00
116	0	1	1	2	20.00
117	0	0	2	3	25.00
118	0	0	2	3	25.00
119	1	0	2	3	.
120	2	1	3	3	45.00

	pown	prequest	pmonit	psuperv	psenplan
91	0	1	0	0	0
92	1	0	0	1	0
93	0	1	0	0	0
94	0	0	0	0	0
95	0	0	1	0	1
96	0	1	0	0	1
97	1	1	1	0	1
98	1	1	1	0	0
99	1	1	1	0	0
100	0	0	0	1	1
101	0	1	1	1	1
102	1	1	1	1	0
103	0	1	0	0	0
104	1	1	1	1	0
105	1	1	1	1	0
106	1	1	1	1	0
107	1	1	1	1	0
108	0	0	1	0	0
109	0	0	0	1	1
110	0	1	0	0	0
111	1	1	0	0	0
112	1	0	1	0	1
113	1	1	0	0	1
114	1	1	1	0	0
115	0	0	1	1	0
116	0	1	1	0	0
117	1	1	1	0	1
118	1	1	1	0	1
119	0	0	1	0	1
120	0	1	0	0	1

	psenadpt	pp_hm_pc	pc01	pc02	pc03
91	0	.00	0	0	0
92	0	.00	1	0	0
93	0	30.00	0	0	0
94	0	20.00	1	0	0
95	0	1.00	0	0	0
96	1	25.00	1	0	0
97	0	.	0	1	0
98	0	35.00	0	1	0
99	0	70.00	0	1	1
100	1	.	2	0	0
101	1	75.00	0	0	0
102	0	50.00	1	0	0
103	0	50.00	1	0	0
104	1	10.00	1	0	0
105	0	.00	0	0	1
106	0	15.00	0	0	0
107	0	.	0	0	0
108	0	5.00	0	0	0
109	0	.	0	0	0
110	0	13.00	0	0	0
111	0	60.00	0	0	2
112	1	2.00	0	0	0
113	0	20.00	1	0	0
114	1	5.00	1	1	0
115	1	10.00	1	1	1
116	1	5.00	1	0	0
117	0	12.00	0	0	1
118	0	12.00	0	0	1
119	1	15.00	1	0	0
120	0	10.00	0	0	10

	pc04	pc05	pc06	pc07	pc08
91	1	0	0	0	0
92	0	0	0	0	0
93	1	0	0	0	0
94	1	0	0	0	0
95	1	0	0	0	0
96	0	0	0	0	1
97	0	0	0	0	0
98	1	0	0	1	0
99	0	0	0	1	0
100	0	0	0	0	0
101	1	0	0	1	0
102	1	0	0	0	0
103	1	0	0	0	0
104	0	0	0	0	1
105	0	0	0	0	0
106	0	0	0	0	0
107	0	0	0	0	0
108	0	0	1	0	0
109	0	0	0	0	0
110	0	0	1	0	0
111	0	0	0	0	0
112	0	0	0	0	0
113	1	0	0	0	0
114	0	0	0	0	0
115	1	0	0	0	0
116	0	0	0	0	0
117	0	0	0	0	0
118	0	0	0	0	0
119	0	0	0	0	0
120	1	0	0	0	0

	pc09	pc10	pc11	pc12	pc13
91	1	0	0	0	0
92	0	0	0	0	0
93	0	0	0	0	0
94	0	0	0	0	0
95	0	0	0	0	0
96	0	0	0	0	0
97	0	1	0	0	0
98	0	0	1	0	0
99	0	1	0	0	0
100	0	2	0	0	0
101	0	1	0	0	0
102	0	0	0	0	0
103	0	0	0	0	0
104	1	1	0	0	0
105	0	0	0	0	0
106	1	0	0	0	0
107	1	0	0	0	0
108	0	0	0	0	0
109	0	0	0	1	0
110	0	0	0	0	0
111	0	0	0	0	0
112	1	1	0	0	0
113	0	0	0	0	0
114	0	0	0	0	0
115	0	0	0	0	0
116	0	1	0	0	0
117	0	0	1	0	0
118	0	0	1	0	0
119	2	0	0	0	0
120	0	0	0	0	0

	pc14	pc15	pc16	pc17	pc18
91	0	0	0	0	0
92	0	0	0	0	0
93	0	0	0	0	0
94	0	0	0	0	0
95	0	0	0	0	0
96	0	0	0	0	0
97	0	0	5	0	0
98	0	0	0	0	0
99	1	1	0	0	0
100	0	0	2	0	0
101	0	0	0	0	0
102	0	0	0	0	0
103	0	0	0	0	0
104	0	0	0	0	0
105	0	0	0	0	0
106	0	1	0	0	0
107	0	1	0	0	0
108	0	0	0	0	0
109	0	0	0	0	1
110	0	0	0	0	0
111	0	0	0	0	0
112	0	3	1	0	0
113	0	0	0	0	0
114	0	0	0	0	0
115	1	0	1	0	0
116	0	0	0	0	0
117	0	0	0	0	0
118	0	0	0	0	0
119	0	3	0	0	0
120	0	0	0	0	0

	ph01	ph02	ph03	ph04	ph05
91	.00	.00	.00	1.00	.00
92	1.00	.00	.00	.00	.00
93	.00	.00	.00	1.00	.00
94	1.00	.00	.00	1.00	.00
95	.00	.00	.00	1.00	.00
96	5.00	4.00	10.00	4.00	.00
97	1.00	1.00	1.00	1.00	.00
98	.00	1.00	1.00	2.00	.00
99	.00	.00	.00	.00	.00
100	1.00	.00	.00	1.00	.00
101	3.00	.00	.00	5.00	.00
102	3.00	3.00	2.00	7.00	.00
103	.00	.00	.00	1.00	.00
104	7.00	20.00	4.00	.00	.00
105	.00	.00	6.00	.00	.00
106	.00	.00	1.00	.00	.00
107	.00	.00	1.00	.00	.00
108	.00	.00	.00	.00	.00
109	.00	.00	.00	.00	.00
110	.00	.00	.00	.00	.00
111	.00	.00	2.00	.00	.00
112	1.00	.00	1.00	5.00	.00
113	.00	.00	.00	1.00	.00
114	1.00	1.00	.00	.00	.00
115	1.00	1.00	1.00	1.00	.00
116	9.00	.00	.00	6.00	.00
117	.00	.00	1.00	.00	.00
118	.00	.00	1.00	.00	.00
119	1.00	.00	2.00	.00	.00
120	4.00	.00	10.00	.00	30.00

	ph06	ph07	ph08	ph09	ph10
91	.00	.00	.00	1.00	.00
92	.00	.00	.00	.00	.00
93	.00	.00	.00	.00	.00
94	.00	.00	.00	.00	1.00
95	.00	.00	.00	.00	.00
96	.00	.00	.00	.00	1.00
97	.00	.00	.00	.00	.00
98	.00	.00	.00	1.00	2.00
99	.00	.00	.00	1.00	2.00
100	.00	.00	.00	.00	1.00
101	.00	.00	.00	.00	2.00
102	.00	.00	.00	2.00	5.00
103	.00	.00	.00	.00	.00
104	.00	.00	.00	4.00	.00
105	.00	.00	.00	4.00	.00
106	.00	.00	.00	1.00	.00
107	.00	.00	.00	1.00	.00
108	1.00	.00	.00	.00	.00
109	.00	.00	.00	.00	.00
110	1.00	.00	.00	.00	.00
111	.00	.00	.00	1.00	.00
112	.00	.00	.00	1.00	1.00
113	.00	.00	.00	.00	1.00
114	.00	.00	1.00	.00	.00
115	.00	.00	.00	1.00	.00
116	.00	.00	.00	.00	2.00
117	.00	.00	.00	1.00	.00
118	.00	.00	.00	1.00	.00
119	.00	.00	.00	2.00	.00
120	.00	.00	.00	1.00	.00

	ph11	ph12	ph13	ph14	ph15
91	.00	.00	.00	.00	1.00
92	.00	.00	.00	.00	.00
93	.00	.00	.00	.00	.00
94	.00	.00	.00	.00	.00
95	.00	.00	.00	.00	.00
96	.00	.00	.00	.00	10.00
97	.00	.00	.00	.00	.00
98	.00	.00	.00	.00	1.00
99	.00	.00	.00	.00	.00
100	.00	.00	.00	.00	.00
101	.00	.00	.00	.00	.00
102	.00	.00	.00	.00	2.00
103	.00	.00	.00	.00	.00
104	.00	.00	.00	.00	4.00
105	.00	.00	.00	.00	6.00
106	.00	.00	.00	.00	1.00
107	.00	.00	.00	.00	1.00
108	.00	.00	.00	.00	.00
109	.00	.00	.00	.00	.00
110	.00	.00	.00	.00	.00
111	.00	.00	.00	.00	1.00
112	.00	.00	.00	.00	1.00
113	.00	.00	.00	.00	.00
114	.00	.00	.00	1.00	.00
115	.00	.00	.00	1.00	1.00
116	.00	.00	.00	.00	.00
117	.00	.00	.00	.00	1.00
118	.00	.00	.00	.00	1.00
119	.00	.00	.00	.00	2.00
120	10.00	.00	.00	.00	1.00

	ph16	ph17	ph18	ph19	ph20
91	1.00	.00	.00	.00	.00
92	.00	.00	.00	.00	.00
93	1.00	.00	.00	.00	.00
94	1.00	.00	.00	.00	.00
95	.00	.00	.00	.00	.00
96	4.00	.00	.00	.00	.00
97	1.00	.00	.00	.00	.00
98	2.00	.00	.00	.00	.00
99	.00	.00	.00	.00	.00
100	2.00	.00	.00	.00	.00
101	6.00	.00	.00	.00	.00
102	7.00	.00	.00	.00	.00
103	1.00	.00	.00	.00	.00
104	.00	.00	.00	.00	.00
105	.00	.00	.00	.00	.00
106	.00	.00	.00	.00	.00
107	.00	.00	.00	.00	.00
108	.00	.00	.00	.00	.00
109	.00	.00	.00	.00	.00
110	.00	.00	.00	.00	.00
111	.00	.00	.00	.00	.00
112	5.00	.00	.00	.00	.00
113	.00	.00	.00	.00	.00
114	.00	.00	.00	.00	1.00
115	1.00	.00	.00	.00	.00
116	8.00	.00	.00	.00	.00
117	.00	.00	.00	.00	.00
118	.00	.00	.00	.00	.00
119	.00	.00	.00	.00	.00
120	.00	10.00	.00	.00	.00

	ph21	ph22	ph23	ph24	ph25
91	.00	.00	.00	.00	.00
92	.00	.00	.00	.00	.00
93	.00	.00	.00	.00	.00
94	.00	.00	.00	.00	.00
95	.00	.00	.00	.00	.00
96	1.00	.00	.00	.00	.00
97	1.00	.00	.00	.00	.00
98	1.00	.00	.00	.00	.00
99	1.00	1.00	.00	.00	.00
100	.00	.00	.00	.00	.00
101	.00	.00	.00	.00	.00
102	.00	.00	.00	.00	.00
103	.00	.00	.00	.00	.00
104	4.00	.00	.00	.00	.00
105	.00	.00	.00	.00	.00
106	.00	.00	.00	.00	.00
107	.00	.00	.00	.00	.00
108	.00	.00	.00	.00	.00
109	.00	.00	.00	.00	.00
110	.00	.00	.00	.00	.00
111	.00	.00	.00	.00	.00
112	.00	.00	.00	.00	.00
113	.00	.00	.00	.00	.00
114	.00	.00	.00	.00	.00
115	.00	.00	.00	.00	.00
116	.00	.00	.00	.00	.00
117	.00	.00	.00	.00	.00
118	.00	.00	.00	.00	.00
119	.00	.00	.00	.00	.00
120	.00	10.00	.00	.00	.00

	ph26	ph27	ph28	ph29	ph30
91	.00	.00	.00	.00	.00
92	.00	.00	.00	.00	.00
93	.00	.00	.00	.00	.00
94	.00	.00	.00	.00	.00
95	.00	.00	.00	.00	.00
96	.00	.00	.00	.00	.00
97	.00	.00	.00	.00	.00
98	.00	.00	.00	.00	.00
99	.00	.00	.00	.00	.00
100	.00	.00	.00	.00	.00
101	.00	.00	.00	.00	.00
102	.00	.00	.00	.00	.00
103	.00	.00	1.00	.00	.00
104	.00	.00	.00	.00	.00
105	.00	6.00	.00	.00	.00
106	.00	1.00	.00	.00	.00
107	.00	1.00	.00	.00	.00
108	.00	.00	.00	.00	.00
109	.00	.00	.00	.00	.00
110	.00	.00	.00	.00	.00
111	.00	.00	.00	.00	.00
112	.00	.00	.00	.00	.00
113	.00	.00	.00	.00	.00
114	.00	.00	.00	.00	.00
115	.00	.00	.00	.00	.00
116	.00	.00	.00	.00	.00
117	.00	.00	.00	.00	.00
118	.00	.00	.00	.00	.00
119	.00	.00	.00	.00	.00
120	.00	.00	.00	.00	.00

	pcalcul	pspell_c	pturtle	pcon_k	pcamera
91	10.00	.00	1.00	1.00	.00
92	12.00	.00	1.00	1.00	.00
93	12.00	.00	1.00	.00	.00
94	25.00	.00	1.00	1.00	.00
95	12.00	.00	1.00	1.00	.00
96	30.00	.00	2.00	1.00	1.00
97	30.00	.00	2.00	.00	.00
98	20.00	.00	.00	.00	.00
99	12.00	.00	2.00	2.00	.00
100	12.00	.00	2.00	1.00	.00
101	1.00	.00	2.00	2.00	1.00
102	.00	.00	1.00	1.00	.00
103	.00	.00	1.00	2.00	.00
104	12.00	.00	2.00	1.00	.00
105	10.00	.00	2.00	3.00	.00
106	6.00	.00	1.00	.00	.00
107	4.00	.00	1.00	.00	.00
108	9.00	.00	1.00	.00	.00
109	.00	.00	.00	1.00	.00
110	6.00	.00	1.00	1.00	.00
111	34.00	.00	2.00	6.00	1.00
112	19.00	.00	1.00	1.00	.00
113	30.00	.00	1.00	.00	.00
114	30.00	.00	1.00	1.00	1.00
115	15.00	.00	1.00	1.00	.00
116	12.00	.00	3.00	2.00	1.00
117	30.00	.00	1.00	.00	.00
118	30.00	.00	1.00	.00	.00
119	10.00	.00	2.00	1.00	.00
120	48.00	.00	1.00	4.00	.00

	pmus_k	pfax	pcu01	pcu02	pcu03
91	2.00	.00	1.00	4.00	3.00
92	.00	.00	1.00	1.00	5.00
93	.00	.00	1.00	1.00	3.00
94	.00	.00	1.00	1.00	1.00
95	.00	.00	3.00	.00	4.00
96	3.00	.00	1.00	.	1.00
97	8.00	.00	2.00	1.00	1.00
98	5.00	.00	1.00	4.00	4.00
99	10.00	.00	1.00	1.00	1.00
100	1.00	.00	2.00	.	.
101	1.00	31.00	4.00	5.00	4.00
102	1.00	.00	3.00	.00	.00
103	.00	.00	1.00	1.00	5.00
104	1.00	.00	3.00	.	.
105	.00	.00	1.00	.	.
106	.00	.00	3.00	.00	.00
107	1.00	.00	2.00	.00	3.00
108	.00	.00	3.00	.00	.00
109	.00	.00	.00	.00	.00
110	.00	.00	2.00	.00	.00
111	2.00	.00	1.00	1.00	1.00
112	1.00	.00	2.00	.00	3.00
113	.00	.00	.00	.00	.00
114	1.00	.00	1.00	4.00	2.00
115	.00	.00	.00	.00	.00
116	.00	.00	3.00	.00	.00
117	1.00	.00	2.00	3.00	3.00
118	1.00	.00	2.00	3.00	3.00
119	4.00	.00	2.00	1.00	2.00
120	3.00	.00	3.00	1.00	.00

	pcu04	pcu05	pcu06	pcu07	pcu08
91	3.00	1.00	1.00	1.00	3.00
92	3.00	4.00	1.00	1.00	4.00
93	1.00	1.00	2.00	1.00	4.00
94	5.00	3.00	.00	.00	3.00
95	4.00	.00	.00	4.00	.00
96	.	1.00	1.00	.	3.00
97	1.00	1.00	1.00	1.00	1.00
98	3.00	3.00	5.00	5.00	4.00
99	1.00	1.00	1.00	1.00	3.00
100	.	.	.	.	3.00
101	4.00	3.00	4.00	.	.
102	.00	.00	.00	.00	4.00
103	5.00	5.00	1.00	1.00	5.00
104	3.00	2.00	2.00	3.00	3.00
105	.	.	1.00	.	1.00
106	3.00	3.00	.00	.00	3.00
107	3.00	.00	.00	.00	3.00
108	.00	.00	.00	.00	3.00
109	1.00	.00	.00	.00	.00
110	1.00	1.00	.00	.00	3.00
111	1.00	1.00	1.00	1.00	5.00
112	3.00	3.00	1.00	3.00	3.00
113	.00	3.00	.00	.00	.00
114	3.00	3.00	2.00	.00	.00
115	1.00	1.00	1.00	.00	.00
116	4.00	4.00	.00	.00	4.00
117	4.00	1.00	1.00	1.00	4.00
118	4.00	1.00	1.00	1.00	4.00
119	2.00	.00	1.00	.00	2.00
120	3.00	4.00	3.00	3.00	3.00

	pcu09	pcu10	pcu11	pcu12	pcu13
91	3.00	1.00	3.00	4.00	1.00
92	2.00	3.00	5.00	5.00	1.00
93	5.00	1.00	1.00	4.00	2.00
94	3.00	.00	5.00	5.00	2.00
95	3.00	3.00	3.00	3.00	.00
96	3.00	2.00	3.00	3.00	.
97	2.00	1.00	1.00	1.00	3.00
98	4.00	3.00	3.00	5.00	.00
99	3.00	3.00	4.00	3.00	5.00
100	.	4.00	.	.	.
101	5.00	3.00	3.00	.	4.00
102	4.00	4.00	.00	.00	4.00
103	2.00	5.00	5.00	5.00	1.00
104	3.00	3.00	2.00	2.00	2.00
105	1.00	1.00	.	.	.
106	3.00	3.00	3.00	3.00	2.00
107	.00	3.00	.00	.00	3.00
108	3.00	.00	.00	.00	.00
109	.00	.00	1.00	.00	.00
110	.00	3.00	3.00	3.00	.00
111	5.00	1.00	1.00	1.00	1.00
112	3.00	2.00	.00	.00	2.00
113	4.00	3.00	.00	.00	2.00
114	5.00	4.00	3.00	4.00	3.00
115	2.00	1.00	.00	.00	1.00
116	1.00	4.00	4.00	4.00	.00
117	1.00	3.00	1.00	3.00	1.00
118	1.00	3.00	1.00	3.00	1.00
119	5.00	3.00	3.00	1.00	1.00
120	3.00	3.00	3.00	3.00	3.00

	pscheme	ppln_trm	ppln_wk	pactiv	precord	pls1a
91	.00	1.00	1.00	.00	.00	.00
92	.00	1.00	1.00	.00	1.00	1.00
93	.00	.00	.00	.00	.00	.00
94	.00	1.00	1.00	.00	.00	1.00
95	.00	1.00	.00	.00	1.00	1.00
96	1.00	1.00	1.00	1.00	1.00	1.00
97	1.00	1.00	1.00	1.00	1.00	1.00
98	1.00	1.00	1.00	1.00	1.00	1.00
99	1.00	1.00	1.00	1.00	.00	1.00
100	1.00	1.00	1.00	1.00	1.00	1.00
101	1.00	1.00	1.00	1.00	1.00	.00
102	1.00	1.00	1.00	.00	1.00	1.00
103	.00	1.00	.00	.00	.00	1.00
104	1.00	1.00	1.00	.00	1.00	1.00
105	1.00	1.00	1.00	1.00	1.00	1.00
106	.00	1.00	1.00	1.00	1.00	1.00
107	1.00	1.00	1.00	1.00	1.00	1.00
108	1.00	1.00	1.00	.00	.00	.00
109	1.00	1.00	1.00	.00	1.00	1.00
110	1.00	1.00	1.00	.00	1.00	1.00
111	1.00	1.00	1.00	.00	1.00	.00
112	1.00	1.00	1.00	1.00	1.00	1.00
113	1.00	1.00	.00	.00	1.00	1.00
114	1.00	1.00	1.00	.00	1.00	1.00
115	1.00	1.00	1.00	.00	1.00	1.00
116	1.00	1.00	1.00	.00	1.00	1.00
117	1.00	1.00	1.00	.00	.00	1.00
118	1.00	1.00	1.00	.00	.00	1.00
119	.00	1.00	1.00	.00	1.00	1.00
120	1.00	1.00	1.00	.00	.00	1.00

	pls01	pls02	pls03	pls04	pls05
91	3.00	3.00	4.00	2.00	4.00
92	5.00	3.00	3.00	5.00	2.00
93	3.00	4.00	3.00	4.00	2.00
94	4.00	4.00	2.00	2.00	2.00
95	4.00	2.00	4.00	4.00	3.00
96	4.00	4.00	3.00	5.00	3.00
97	5.00	2.00	3.00	3.00	3.00
98	4.00	4.00	3.00	2.00	4.00
99	4.00	2.00	3.00	4.00	4.00
100	5.00	1.00	5.00	1.00	5.00
101	3.00	2.00	5.00	1.00	4.00
102	4.00	2.00	3.00	2.00	4.00
103	4.00	2.00	3.00	4.00	4.00
104	5.00	4.00	4.00	2.00	444.00
105	4.00	2.00	3.00	3.00	4.00
106	5.00	3.00	4.00	4.00	4.00
107	5.00	3.00	3.00	5.00	5.00
108	3.00	4.00	4.00	4.00	4.00
109	4.00	3.00	1.00	1.00	2.00
110	5.00	3.00	4.00	3.00	3.00
111	3.00	3.00	3.00	4.00	3.00
112	5.00	4.00	4.00	2.00	4.00
113	4.00	2.00	2.00	2.00	2.00
114	5.00	1.00	3.00	2.00	3.00
115	4.00	2.00	2.00	3.00	2.00
116	5.00	2.00	4.00	3.00	4.00
117	4.00	3.00	3.00	4.00	3.00
118	4.00	3.00	3.00	4.00	3.00
119	4.00	3.00	1.00	4.00	3.00
120	5.00	2.00	2.00	2.00	2.00

	pls06	pls07	pls08	pls09	pls10
91	4.00	2.00	4.00	2.00	2.00
92	4.00	2.00	5.00	3.00	2.00
93	2.00	4.00	2.00	3.00	4.00
94	1.00	4.00	2.00	4.00	5.00
95	2.00	3.00	2.00	4.00	3.00
96	4.00	1.00	1.00	4.00	3.00
97	3.00	4.00	3.00	3.00	4.00
98	1.00	3.00	2.00	3.00	2.00
99	2.00	4.00	4.00	4.00	4.00
100	1.00	5.00	1.00	4.00	1.00
101	1.00	5.00	1.00	5.00	1.00
102	2.00	4.00	2.00	4.00	2.00
103	2.00	2.00	3.00	2.00	2.00
104	1.00	3.00	1.00	1.00	4.00
105	4.00	2.00	2.00	4.00	4.00
106	5.00	1.00	3.00	2.00	2.00
107	4.00	2.00	4.00	2.00	2.00
108	4.00	3.00	4.00	2.00	4.00
109	5.00	1.00	1.00	3.00	5.00
110	3.00	3.00	2.00	3.00	1.00
111	2.00	2.00	2.00	3.00	2.00
112	1.00	3.00	2.00	1.00	5.00
113	4.00	.	1.00	.	4.00
114	4.00	4.00	1.00	4.00	4.00
115	4.00	3.00	4.00	4.00	4.00
116	4.00	3.00	3.00	4.00	2.00
117	2.00	2.00	4.00	2.00	4.00
118	2.00	2.00	4.00	2.00	4.00
119	4.00	2.00	3.00	3.00	3.00
120	4.00	3.00	2.00	2.00	3.00

	pls11	pls12	pls13	pls14	pls15
91	3.00	3.00	4.00	3.00	3.00
92	4.00	2.00	3.00	4.00	3.00
93	4.00	4.00	5.00	3.00	4.00
94	4.00	2.00	4.00	4.00	5.00
95	3.00	2.00	2.00	3.00	4.00
96	4.00	5.00	3.00	4.00	3.00
97	4.00	4.00	2.00	2.00	4.00
98	4.00	3.00	2.00	3.00	4.00
99	4.00	4.00	2.00	3.00	4.00
100	5.00	2.00	4.00	1.00	5.00
101	5.00	4.00	4.00	2.00	5.00
102	4.00	3.00	4.00	2.00	4.00
103	4.00	4.00	4.00	1.00	2.00
104	4.00	4.00	4.00	2.00	5.00
105	4.00	3.00	4.00	2.00	4.00
106	4.00	2.00	1.00	3.00	4.00
107	4.00	2.00	2.00	3.00	4.00
108	3.00	4.00	2.00	4.00	4.00
109	3.00	5.00	1.00	5.00	2.00
110	4.00	3.00	2.00	3.00	4.00
111	4.00	3.00	2.00	2.00	3.00
112	2.00	4.00	5.00	3.00	5.00
113	4.00	2.00	4.00	4.00	2.00
114	4.00	4.00	2.00	1.00	5.00
115	4.00	4.00	4.00	4.00	3.00
116	4.00	4.00	2.00	2.00	4.00
117	4.00	4.00	1.00	3.00	4.00
118	4.00	4.00	1.00	3.00	4.00
119	4.00	4.00	2.00	3.00	3.00
120	4.00	2.00	2.00	4.00	5.00

	pls16	pls17	pls18	pls19	pls20
91	4.00	2.00	4.00	3.00	3.00
92	4.00	5.00	4.00	5.00	4.00
93	2.00	2.00	4.00	4.00	4.00
94	1.00	2.00	5.00	2.00	2.00
95	2.00	3.00	4.00	2.00	3.00
96	5.00	3.00	4.00	5.00	5.00
97	2.00	2.00	4.00	4.00	2.00
98	2.00	2.00	1.00	2.00	2.00
99	2.00	2.00	4.00	4.00	3.00
100	4.00	2.00	5.00	2.00	5.00
101	2.00	1.00	5.00	2.00	1.00
102	2.00	2.00	4.00	3.00	
103	3.00	3.00	4.00	3.00	4.00
104	2.00	1.00	5.00	2.00	2.00
105	3.00	1.00	5.00	2.00	2.00
106	4.00	3.00	4.00	3.00	3.00
107	4.00	3.00	5.00	3.00	3.00
108	4.00	2.00	4.00	4.00	4.00
109	4.00	5.00	3.00	4.00	2.00
110	3.00	3.00	5.00	4.00	2.00
111	4.00	2.00	5.00	3.00	3.00
112	4.00	2.00	5.00	2.00	2.00
113	5.00		4.00	4.00	4.00
114	1.00	1.00	5.00	4.00	3.00
115	3.00	4.00	4.00	3.00	4.00
116	2.00	2.00	4.00	4.00	2.00
117	4.00	2.00	4.00	4.00	2.00
118	4.00	2.00	4.00	4.00	2.00
119	2.00	3.00	4.00	4.00	3.00
120	2.00	3.00	4.00	3.00	2.00

	py0	py2	py4	pyothr	pthis_y	pn_class
121	.	.	1	.	4.0	37.00
122	.	.	1	.	4.0	23.00
123	.	.	1	.	4.5	32.00
124	1	.	1	.	.5	38.00
125	1	.	.	.	.0	36.00
126	1	.	.	.	.0	31.00
127	1	.	.	.	1.0	29.00
128	1	.	.	.	.5	30.00
129	.	.	1	.	1.5	33.00
130	.	1	.	.	2.0	34.00
131	1	.	.	.	.0	30.00
132	.	.	.	.	.0	29.00
133	1	.	.	.	.0	41.00
134	1	.	.	.	.0	31.00
135	.	1	.	.	1.5	32.00
136	.	.	1	.	4.0	29.00
137	1	.	.	.	.5	23.00
138	.	1	1	3	2.0	26.00
139	.	1	.	.	2.0	.
140	1	.	.	.	.0	22.00
141	1	.	.	.	.0	34.00
142	.	1	.	.	2.0	34.00
143	1	.	.	.	.0	40.00
144	.	1	.	.	.0	27.00
145	1	.	.	.	.0	21.00
146	.	1	.	.	2.5	29.00
147	1	.	.	.	.0	29.00
148	1	.	.	.	.5	26.00
149	1	.	.	.	.0	26.00
150	.	.	.	.	1.5	26.00

	pn_oth	pn_snr	padults	pyrs_tea	pcom_hme
121	.	.00	1	21.00	1
122	.	3.00	1	23.00	0
123	.	2.00	1	3.00	0
124	.	1.00	1	18.00	1
125	.	.00	1	25.00	1
126	.	2.00	1	2.00	1
127	.	.00	1	11.00	0
128	.	4.00	1	28.00	1
129	.	2.00	1	11.00	1
130	.	.00	1	.	1
131	.	1.00	1	8.00	0
132	.	.00	1	15.00	1
133	.	1.00	1	17.00	0
134	.	.00	1	18.00	1
135	14.00	1.00	1	20.00	1
136	.	2.00	0	6.00	1
137	.	2.00	1	17.00	0
138	17.00	8.00	1	22.00	1
139	.	.00	.	4.00	1
140	.	.00	1	9.00	0
141	.	.00	1	5.00	1
142	.	2.00	1	20.00	1
143	2.00	.00	1	19.00	0
144	.	2.00	1	8.00	1
145	.	1.00	1	20.00	1
146	2.00	9.00	1	5.00	1
147	2.00	5.00	1	20.00	1
148	.	8.00	1	18.00	1
149	.	.00	1	20.00	0
150	.	.00	1	17.00	1

	pc_h_wrk	pinset_l	pinset_n	pinset_g	pinset_c
121	1	1	1	0	1
122	0	0	0	0	0
123	0	1	1	0	0
124	1	0	0	0	0
125	1	2	0	0	0
126	1	0	0	0	0
127	0	0	0	0	0
128	1	2	2	0	0
129	1	1	0	0	0
130	1	0	0	0	0
131	0	0	0	0	0
132	1	0	0	0	0
133	0	1	1	0	0
134	1	0	0	0	0
135	1	0	0	0	0
136	1	1	0	0	0
137	0	2	1	0	0
138	1	0	0	0	0
139	1	1	1	0	0
140	0	0	0	0	0
141	1	0	0	1	1
142	1	1	1	0	0
143	0	1	0	0	0
144	1	0	0	0	0
145	1	0	0	0	0
146	1	0	0	0	0
147	1	1	1	0	0
148	1	0	0	0	0
149	0	0	0	0	0
150	1	1	0	1	0

	pinset_o	pitcoord	pc_com_u	pp_com_u	ptim_pup
121	0	1	3	3	15.00
122	0	0	4	4	.
123	0	0	2	3	30.00
124	1	0	1	3	30.00
125	1	0	1	3	15.00
126	0	0	1	2	15.00
127	1	0	2	3	15.00
128	0	0	1	2	30.00
129	0	0	1	.	60.00
130	0	0	1	3	30.00
131	1	0	1	3	30.00
132	0	0	2	3	25.00
133	4	0	2	3	20.00
134	0	0	1	2	12.00
135	0	0	1	2	50.00
136	0	0	3	3	10.00
137	0	1	1	2	10.00
138	1	0	1	4	30.00
139	0	0	1	2	30.00
140	1	0	1	2	20.00
141	0	1	1	3	5.00
142	0	0	1	3	.
143	2	0	2	2	40.00
144	0	1	1	2	12.00
145	0	0	2	2	20.00
146	1	1	1	3	15.00
147	0	0	1	3	10.00
148	1	0	1	3	.
149	1	0	1	2	45.00
150	0	0	1	3	15.00

	pown	prequest	pmonit	psuperv	psenplan
121	0	1	1	0	1
122	0	0	0	0	0
123	1	1	1	0	0
124	1	1	1	0	0
125	1	1	1	1	0
126	1	1	1	0	0
127	1	1	1	1	0
128	0	0	0	0	1
129	0	1	1	0	1
130	1	1	1	0	0
131	1	1	0	1	0
132	1	1	1	0	0
133	0	0	0	1	1
134	1	1	0	0	0
135	0	1	0	0	0
136	1	1	1	0	0
137	1	1	1	0	1
138	0	0	1	1	0
139	1	1	1	0	0
140	1	1	1	0	1
141	0	0	1	0	0
142	1	1	0	1	1
143	1	1	1	1	1
144	1	1	1	1	1
145	1	0	1	0	0
146	0	1	1	0	1
147	0	0	0	1	0
148	1	1	1	0	1
149	1	1	1	1	1
150	1	1	1	1	1

	psenadpt	pp_hm_pc	pc01	pc02	pc03
121	1	50.00	0	0	0
122	0	.	0	0	0
123	0	33.00	0	0	0
124	0	10.00	0	0	0
125	0	30.00	2	0	0
126	1	5.00	0	1	1
127	0	30.00	0	1	1
128	0	.00	0	1	0
129	0	5.00	0	1	0
130	0	.	0	0	1
131	0	45.00	1	0	0
132	0	15.00	2	0	0
133	0	4.00	0	2	0
134	1	.00	0	0	0
135	1	10.00	1	0	1
136	0	25.00	1	0	0
137	1	4.00	2	1	0
138	0	7.00	2	1	0
139	1	45.00	0	1	0
140	0	12.00	0	0	0
141	1	50.00	0	1	0
142	0	40.00	0	0	1
143	1	2.00	2	1	0
144	1	5.00	0	0	0
145	0	.	0	1	0
146	0	20.00	0	1	0
147	0	30.00	1	0	0
148	1	8.00	1	0	0
149	1	20.00	1	0	0
150	0	50.00	0	1	0

	pc04	pc05	pc06	pc07	pc08
121	0	0	0	1	0
122	0	0	0	1	0
123	0	0	0	0	0
124	0	0	0	0	10
125	1	0	0	0	0
126	0	0	0	0	1
127	0	0	0	0	0
128	0	0	0	0	0
129	0	0	0	0	0
130	0	0	1	0	0
131	0	0	1	0	0
132	0	0	0	0	0
133	0	0	0	0	0
134	0	0	10	10	0
135	0	0	0	0	0
136	0	0	0	0	0
137	0	0	0	0	0
138	0	0	0	0	0
139	0	0	0	0	0
140	0	0	0	1	1
141	0	0	0	0	0
142	0	0	0	0	0
143	0	0	0	0	0
144	0	0	0	1	0
145	0	0	0	0	0
146	0	0	0	0	0
147	0	0	0	0	0
148	0	0	0	0	1
149	0	0	0	0	0
150	0	0	0	1	0

	pc09	pc10	pc11	pc12	pc13
121	0	1	0	0	1
122	0	1	0	0	7
123	1	0	0	0	0
124	0	0	0	0	0
125	0	0	0	0	0
126	0	0	0	0	0
127	0	0	0	0	0
128	0	0	0	0	0
129	0	0	0	0	0
130	0	0	0	0	0
131	0	0	0	0	0
132	0	0	0	0	0
133	0	0	0	0	0
134	0	0	0	0	0
135	0	0	0	0	0
136	1	0	0	0	0
137	0	0	0	0	0
138	0	0	0	0	0
139	0	0	0	0	0
140	0	0	0	0	1
141	0	0	0	0	0
142	0	0	0	0	0
143	0	0	0	0	0
144	1	0	0	0	0
145	1	0	0	0	0
146	0	0	0	0	0
147	0	0	0	0	0
148	0	0	0	0	0
149	1	0	0	0	0
150	0	0	0	1	2

5-8

	pc14	pc15	pc16	pc17	pc18
121	0	0	1	0	0
122	0	0	1	0	0
123	0	1	0	0	0
124	0	0	0	0	0
125	0	0	0	0	0
126	2	0	0	0	0
127	1	1	0	0	0
128	0	0	0	0	0
129	0	0	0	0	0
130	0	0	0	0	0
131	0	0	0	0	0
132	0	0	0	0	0
133	0	0	0	0	0
134	0	0	0	0	0
135	0	0	0	0	0
136	0	4	0	0	0
137	0	0	0	0	0
138	0	0	0	0	0
139	0	0	0	0	0
140	1	0	0	0	0
141	0	0	0	0	0
142	0	0	0	0	0
143	0	0	0	0	0
144	0	0	0	0	0
145	0	0	0	0	0
146	0	0	0	0	0
147	0	0	0	0	0
148	0	0	0	0	0
149	0	8	0	0	0
150	0	0	0	0	3

	ph01	ph02	ph03	ph04	ph05
121	2.00	.00	1.00	4.00	.00
122	.00	.00	.00	.00	.00
123	.00	.00	7.00	.00	.00
124	1.00	.00	1.00	.00	.00
125	.00	.00	.00	1.00	.00
126	.00	1.00	1.00	.00	.00
127	.00	.00	1.00	.00	.00
128	.00	1.00	.00	.00	.00
129	.00	16.00	2.00	.00	.00
130	.00	.00	1.00	.00	.00
131	.00	.00	.00	.00	.00
132	2.00	.00	.00	.00	.00
133	.00	2.00	.00	.00	.00
134	1.00	1.00	.00	.00	.00
135	1.00	.00	1.00	.00	.00
136	4.00	4.00	3.00	.00	.00
137	1.00	1.00	.00	.00	.00
138	1.00	1.00	.00	.00	.00
139	.00	1.00	.00	.00	.00
140	1.00	1.00	.00	.00	.00
141	.00	1.00	4.00	.00	.00
142	.00	.00	4.00	.00	.00
143	1.00	1.00	.00	.00	.00
144	3.00	5.00	1.00	.00	.00
145	.00	3.00	2.00	.00	.00
146	.00	1.00	.00	.00	.00
147	1.00	.00	.00	.00	.00
148	1.00	.00	.00	.00	.00
149	.00	1.00	.00	.00	.00
150	1.00	1.00	.00	.00	.00

5-10

	ph06	ph07	ph08	ph09	ph10
121	.00	.00	.00	1.00	2.00
122	.00	.00	.00	.00	.00
123	.00	.00	.00	5.00	.00
124	.00	.00	.00	1.00	.00
125	.00	.00	.00	.00	.00
126	.00	.00	.00	1.00	.00
127	.00	.00	.00	1.00	.00
128	.00	.00	.00	.00	.00
129	.00	.00	2.00	1.00	.00
130	1.00	.00	.00	.00	.00
131	1.00	.00	.00	.00	.00
132	.00	.00	.00	.00	.00
133	.00	.00	.00	.00	.00
134	.00	.00	.00	.00	.00
135	.00	.00	.00	.00	.00
136	.00	.00	.00	3.00	.00
137	.00	.00	1.00	.00	.00
138	.00	.00	1.00	.00	.00
139	.00	.00	1.00	.00	.00
140	.00	.00	.00	.00	.00
141	.00	.00	.00	4.00	.00
142	.00	.00	.00	4.00	.00
143	.00	.00	.00	.00	.00
144	.00	.00	.00	1.00	.00
145	.00	.00	.00	2.00	.00
146	.00	.00	1.00	.00	.00
147	.00	.00	.00	.00	.00
148	.00	.00	1.00	.00	.00
149	.00	.00	1.00	.00	.00
150	.00	.00	1.00	.00	.00

	ph11	ph12	ph13	ph14	ph15
121	.00	.00	.00	.00	1.00
122	.00	.00	.00	.00	.00
123	.00	.00	.00	.00	8.00
124	.00	.00	.00	.00	1.00
125	.00	.00	.00	.00	.00
126	.00	.00	.00	.00	1.00
127	.00	.00	.00	.00	1.00
128	.00	.00	.00	1.00	.00
129	.00	.00	.00	6.00	2.00
130	.00	1.00	.00	.00	1.00
131	.00	.00	.00	.00	.00
132	.00	.00	.00	.00	.00
133	.00	.00	.00	2.00	.00
134	.00	.00	.00	1.00	.00
135	.00	.00	.00	.00	.00
136	.00	.00	.00	.00	3.00
137	.00	.00	.00	1.00	.00
138	.00	.00	.00	.00	.00
139	.00	.00	.00	1.00	.00
140	.00	.00	.00	.00	.00
141	.00	.00	.00	.00	4.00
142	.00	.00	.00	.00	4.00
143	.00	.00	.00	.00	.00
144	.00	.00	.00	5.00	1.00
145	.00	.00	.00	3.00	2.00
146	.00	.00	.00	1.00	.00
147	.00	.00	.00	.00	.00
148	.00	.00	.00	1.00	.00
149	.00	.00	1.00	1.00	.00
150	.00	.00	.00	1.00	.00

	ph16	ph17	ph18	ph19	ph20
121	4.00	.00	.00	.00	.00
122	.00	.00	.00	.00	.00
123	.00	.00	.00	.00	.00
124	.00	.00	.00	.00	.00
125	1.00	.00	.00	.00	.00
126	.00	.00	.00	.00	.00
127	.00	.00	.00	.00	.00
128	.00	.00	.00	.00	.00
129	.00	.00	.00	.00	.00
130	.00	.00	1.00	.00	.00
131	.00	.00	.00	.00	.00
132	.00	.00	.00	.00	.00
133	.00	.00	.00	.00	.00
134	.00	.00	.00	.00	.00
135	.00	.00	.00	.00	.00
136	.00	.00	.00	.00	.00
137	.00	.00	.00	.00	.00
138	.00	.00	.00	.00	.00
139	.00	.00	.00	.00	.00
140	.00	.00	.00	.00	.00
141	.00	.00	.00	.00	.00
142	.00	.00	.00	.00	.00
143	.00	.00	.00	.00	.00
144	.00	.00	.00	.00	.00
145	.00	.00	.00	.00	.00
146	.00	.00	.00	.00	.00
147	.00	.00	.00	.00	.00
148	.00	.00	.00	.00	.00
149	.00	.00	.00	.00	.00
150	.00	.00	.00	.00	.00

	ph21	ph22	ph23	ph24	ph25
121	.00	.00	.00	.00	.00
122	.00	.00	.00	.00	.00
123	.00	.00	.00	.00	.00
124	1.00	.00	.00	.00	.00
125	.00	.00	.00	.00	.00
126	.00	.00	.00	.00	.00
127	.00	.00	.00	.00	.00
128	.00	.00	.00	.00	.00
129	.00	.00	.00	.00	.00
130	.00	.00	.00	.00	.00
131	.00	.00	.00	.00	.00
132	.00	.00	.00	.00	.00
133	.00	.00	.00	.00	.00
134	.00	.00	.00	.00	.00
135	.00	.00	.00	.00	.00
136	.00	.00	.00	.00	.00
137	.00	.00	.00	.00	.00
138	.00	.00	.00	.00	.00
139	.00	.00	.00	.00	.00
140	.00	.00	.00	.00	.00
141	.00	.00	.00	.00	.00
142	.00	.00	.00	.00	.00
143	.00	.00	.00	.00	.00
144	.00	.00	.00	.00	.00
145	.00	.00	.00	.00	.00
146	.00	.00	.00	.00	.00
147	.00	.00	.00	.00	.00
148	.00	.00	.00	.00	.00
149	1.00	.00	.00	.00	.00
150	.00	.00	.00	.00	.00

	ph26	ph27	ph28	ph29	ph30
121	.00	.00	.00	.00	.00
122	.00	.00	.00	.00	.00
123	.00	.00	.00	.00	.00
124	.00	.00	.00	.00	.00
125	.00	.00	.00	.00	.00
126	.00	.00	.00	.00	.00
127	.00	.00	.00	.00	.00
128	.00	.00	.00	.00	.00
129	.00	.00	.00	.00	.00
130	.00	.00	.00	.00	.00
131	.00	.00	.00	.00	.00
132	.00	.00	.00	.00	.00
133	.00	.00	.00	.00	.00
134	.00	.00	.00	.00	.00
135	.00	.00	.00	.00	.00
136	.00	.00	.00	.00	.00
137	.00	.00	.00	.00	.00
138	.00	.00	.00	.00	.00
139	.00	.00	.00	.00	.00
140	.00	.00	.00	.00	.00
141	.00	.00	.00	.00	.00
142	.00	.00	.00	.00	.00
143	.00	.00	.00	.00	.00
144	.00	.00	.00	.00	.00
145	.00	.00	.00	.00	.00
146	.00	.00	.00	.00	.00
147	.00	.00	.00	.00	.00
148	.00	.00	.00	.00	.00
149	.00	.00	.00	.00	.00
150	.00	.00	.00	.00	.00

	pcalcul	pspell_c	pturtle	pcon_k	pcamera
121	40.00	.00	1.00	1.00	.00
122	12.00	.00	1.00	.00	.00
123	32.00	2.00	1.00	1.00	1.00
124	25.00	.00	2.00	1.00	.00
125	12.00	.00	1.00	1.00	.00
126	15.00	.00	3.00	.00	.00
127	10.00	.00	1.00	.00	1.00
128	30.00	6.00	2.00	.00	1.00
129	30.00	4.00	2.00	.00	.00
130	34.00	.00	1.00	.00	.00
131	.00	.00	.00	1.00	.00
132	.00	.00	2.00	1.00	.00
133	5.00	.00	2.00	1.00	.00
134	.00	.00	1.00	1.00	.00
135	10.00	.00	1.00	4.00	.00
136	80.00	.00	.00	.00	.00
137	30.00	.00	1.00	1.00	.00
138	20.00	2.00	1.00	.00	.00
139	12.00	.00	1.00	.00	.00
140	12.00	.00	.00	.00	.00
141	20.00	.00	2.00	1.00	.00
142	12.00	.00	.00	.00	.00
143	10.00	.00	1.00	.00	.00
144	.00	.00	1.00	1.00	.00
145	.00	.00	1.00	1.00	.00
146	8.00	.00	.00	.00	.00
147	.00	.00	.00	.00	.00
148	2.00	.00	2.00	1.00	.00
149	10.00	.00	1.00	1.00	.00
150	8.00	.00	2.00	1.00	.00

	pmus_k	pfax	pcu01	pcu02	pcu03
121	1.00	.00	2.00	2.00	3.00
122	1.00	.00	1.00	1.00	1.00
123	4.00	.00	1.00	.00	.00
124	.00	.00	3.00	4.00	.00
125	1.00	.00	2.00	.00	4.00
126	1.00	.00	1.00	5.00	.
127	1.00	.00	3.00	.00	.00
128	.00	.00	3.00	.00	.00
129	.00	.00	3.00	1.00	.00
130	.00	.00	.00	.00	.00
131	.00	.00	.	.	.
132	.00	.00	1.00	.	.
133	.00	.00	.00	.00	3.00
134	.00	.00	1.00	.00	.00
135	1.00	.00	2.00	4.00	.
136	1.00	.00	1.00	1.00	1.00
137	.00	.00	1.00	.00	.00
138	1.00	.00	1.00	2.00	4.00
139	1.00	.00	2.00	1.00	2.00
140	.00	.00	2.00	.	.
141	.00	.00	2.00	2.00	.
142	.00	.00	2.00	1.00	.00
143	1.00	.00	.	.	.
144	1.00	.00	1.00	1.00	1.00
145	.00	.00	2.00	.00	.00
146	.00	.00	1.00	1.00	1.00
147	.00	.00	.00	.00	.00
148	1.00	.00	1.00	5.00	1.00
149	.00	.00	2.00	.	.
150	1.00	.00	1.00	.00	.00

	pcu04	pcu05	pcu06	pcu07	pcu08
121	2.00	1.00	2.00	.00	3.00
122	1.00	1.00	1.00	1.00	1.00
123	3.00	2.00	1.00	1.00	2.00
124	.00	.00	.00	.00	4.00
125	.00	.00	.00	.00	4.00
126	3.00	.	.	.	3.00
127	.00	3.00	3.00	.00	.00
128	3.00	2.00	.00	.00	4.00
129	.00	.00	1.00	1.00	3.00
130	1.00	1.00	.00	1.00	1.00
131	4.00	4.00	.	.	5.00
132	.	.	.	.	.
133	3.00	2.00	.00	3.00	.00
134	1.00	1.00	.00	.00	2.00
135	3.00	2.00	3.00	.	5.00
136	2.00	1.00	2.00	1.00	3.00
137	5.00	3.00	.00	.00	5.00
138	3.00	4.00	1.00	4.00	4.00
139	3.00	2.00	3.00	3.00	3.00
140	.	1.00	.	.	4.00
141	.	3.00	1.00	.	5.00
142	3.00	2.00	.00	.00	3.00
143	3.00	3.00	.	.	3.00
144	3.00	1.00	1.00	1.00	4.00
145	1.00	1.00	.00	.00	5.00
146	2.00	3.00	1.00	.00	4.00
147	.00	3.00	.00	.00	.00
148	3.00	3.00	1.00	1.00	5.00
149	3.00	3.00	.	3.00	5.00
150	3.00	4.00	.00	3.00	4.00

	pcu09	pcu10	pcu11	pcu12	pcu13
121	3.00	2.00	3.00	.00	2.00
122	1.00	1.00	1.00	1.00	1.00
123	1.00	1.00	1.00	1.00	1.00
124	3.00	5.00	4.00	.00	3.00
125	4.00	4.00	4.00	4.00	.00
126	3.00	5.00	.	.	.
127	3.00	1.00	3.00	.00	3.00
128	1.00	1.00	4.00	.00	.00
129	3.00	3.00	.00	.00	5.00
130	1.00	1.00	1.00	1.00	1.00
131	2.00	3.00	3.00	3.00	1.00
132	.	.	.	.	.
133	.00	2.00	.00	3.00	2.00
134	2.00	.00	1.00	.00	.00
135	5.00	3.00	1.00	.	.
136	3.00	1.00	1.00	1.00	1.00
137	1.00	5.00	5.00	5.00	1.00
138	3.00	4.00	3.00	4.00	3.00
139	1.00	1.00	2.00	2.00	1.00
140	1.00	4.00	4.00	.	.
141	3.00	4.00	5.00	.	1.00
142	2.00	2.00	3.00	4.00	1.00
143	.	3.00	.	.	.
144	1.00	3.00	3.00	3.00	.
145	.00	1.00	5.00	.00	.00
146	4.00	2.00	4.00	.00	1.00
147	.00	3.00	.00	.00	.00
148	3.00	3.00	5.00	4.00	1.00
149	.	5.00	5.00	3.00	.
150	3.00	3.00	4.00	4.00	1.00

	pscheme	ppln_trm	ppln_wk	pactiv	precord	pls1a
121	1.00	1.00	1.00	.00	.00	1.00
122	.00	.00	.00	.00	1.00	1.00
123	1.00	1.00	1.00	1.00	1.00	1.00
124	1.00	1.00	1.00	1.00	1.00	1.00
125	1.00	1.00	.00	.00	1.00	1.00
126	.00	1.00	1.00	.00	1.00	1.00
127	.00	1.00	1.00	1.00	1.00	1.00
128	1.00	1.00	1.00	.00	1.00	1.00
129	1.00	1.00	1.00	1.00	1.00	1.00
130	1 00	1.00	1.00	.00	1.00	1.00
131	00	1.00	1.00	1.00	1.00	1.00
132	1 00	1.00	1.00	.00	1.00	.00
133	1.00	1.00	1.00	.00	1.00	1.00
134	.00	1.00	1.00	.00	.00	1.00
135	1 00	1.00	1.00	.00	1.00	1.00
136	1 00	1.00	.00	.00	.00	.00
137	1 00	1.00	.00	1.00	1.00	1.00
138	1 00	1 00	1.00	1 00	.00	1.00
139	.00	.00	.00	.00	.00	1.00
140	1 00	1 00	1.00	.00	.00	1.00
141	1 00	1 00	1.00	.00	1.00	.00
142	.00	1.00	1.00	.00	1.00	.00
143	.00	1 00	1.00	.00	1.00	1.00
144	1 00	1 00	1.00	.00	1.00	.00
145	1.00	1.00	1.00	.00	1.00	1.00
146	00	1.00	1.00	1.00	.00	.00
147	1.00	1.00	.00	.00	1.00	1.00
148	1.00	1.00	1.00	1.00	1.00	1.00
149	1.00	1.00	1.00	1.00	.00	1.00
150	1.00	1.00	1.00	.00	1.00	1.00

	pls01	pls02	pls03	pls04	pls05
121	4.00	2.00	2.00	4.00	4.00
122	4.00	3.00	2.00	5.00	2.00
123	4.00	2.00	4.00	3.00	4.00
124	5.00	2.00	3.00	2.00	5.00
125	4.00	2.00	3.00	2.00	4.00
126	4.00	2.00	4.00	1.00	3.00
127	4.00	3.00	3.00	4.00	4.00
128	5.00	2.00	2.00	2.00	4.00
129	5.00	4.00	3.00	1.00	5.00
130	4.00	4.00	3.00	4.00	2.00
131	4.00	4.00	3.00	2.00	3.00
132	2.00	2.00	2.00	4.00	2.00
133	5.00	4.00	3.00	4.00	3.00
134	4.00	5.00	3.00	4.00	2.00
135	4.00	2.00	5.00	2.00	4.00
136	3.00	4.00	2.00	5.00	1.00
137	5.00	2.00	1.00	4.00	4.00
138	5.00	2.00	4.00	3.00	3.00
139	4.00	3.00	3.00	2.00	4.00
140	4.00	3.00	3.00	2.00	.
141	.	2.00	3.00	2.00	2.00
142	2.00	3.00	3.00	4.00	4.00
143	5.00	2.00	4.00	3.00	3.00
144	1.00	2.00	2.00	4.00	1.00
145	4.00	2.00	4.00	2.00	4.00
146	1.00	4.00	3.00	4.00	2.00
147	4.00	4.00	3.00	4.00	4.00
148	4.00	1.00	5.00	1.00	3.00
149	4.00	2.00	4.00	3.00	4.00
150	5.00	2.00	4.00	2.00	4.00

	pls06	pls07	pls08	pls09	pls10
121	2.00	3.00	4.00	2.00	4.00
122	3.00	1.00	5.00	1.00	4.00
123	4.00	3.00	4.00	4.00	2.00
124	2.00	3.00	2.00	4.00	3.00
125	4.00	3.00	2.00	2.00	4.00
126	1.00	3.00	1.00	3.00	2.00
127	1.00	4.00	4.00	4.00	2.00
128	2.00		2.00	2.00	2.00
129	2.00	1.00	2.00	1.00	1.00
130	2.00	3.00	2.00	3.00	2.00
131	2.00	2.00	5.00	1.00	5.00
132	2.00	2.00	2.00	4.00	2.00
133	2.00	1.00	2.00	3.00	1.00
134	4.00	3.00	2.00	4.00	2.00
135	2.00	2.00	4.00	4.00	2.00
136	4.00	3.00	3.00	3.00	4.00
137	4.00	1.00	2.00	2.00	4.00
138	3.00	3.00	2.00	2.00	4.00
139	2.00	3.00	2.00	2.00	5.00
140	2.00	3.00	3.00	2.00	2.00
141	2.00	5.00	2.00	3.00	4.00
142	4.00	2.00	2.00	4.00	2.00
143	2.00	2.00	3.00	3.00	2.00
144	3.00	4.00	2.00	1.00	4.00
145	4.00	3.00	2.00	2.00	4.00
146	2.00	2.00	1.00	4.00	4.00
147	3.00	1.00	5.00	3.00	2.00
148	2.00	3.00	1.00	1.00	5.00
149	2.00	4.00	2.00	4.00	2.00
150	2.00	3.00	2.00	4.00	2.00

	pls11	pls12	pls13	pls14	pls15
121	4.00	4.00	4.00	2.00	4.00
122	3.00	4.00	1.00	3.00	1.00
123	4.00	2.00	2.00	4.00	4.00
124	4.00	2.00	2.00	3.00	4.00
125	4.00	5.00	2.00	3.00	4.00
126	4.00	2.00	4.00	2.00	5.00
127	4.00	4.00	2.00	2.00	4.00
128	4.00	2.00	2.00	2.00	4.00
129	3.00	2.00	3.00	1.00	5.00
130	4.00	4.00	4.00	2.00	4.00
131	3.00	4.00	2.00	3.00	3.00
132	4.00	2.00	4.00	2.00	4.00
133	4.00	1.00	4.00	3.00	4.00
134	4.00	5.00	2.00	3.00	4.00
135	4.00	2.00	2.00	3.00	4.00
136	3.00	5.00	2.00	2.00	3.00
137	2.00	4.00	2.00	4.00	3.00
138	3.00	4.00	2.00	2.00	4.00
139	4.00	4.00	2.00		4.00
140	4.00	3.00	4.00	3.00	4.00
141	3.00	4.00	1.00	5.00	5.00
142	4.00	4.00	2.00	2.00	3.00
143	4.00	2.00	2.00	2.00	4.00
144	4.00	2.00	2.00	3.00	4.00
145	3.00	2.00	2.00	2.00	4.00
146	4.00	4.00	1.00	4.00	4.00
147	4.00	2.00	4.00	3.00	2.00
148	5.00	1.00	1.00	1.00	5.00
149	4.00	2.00	4.00	2.00	4.00
150	4.00	2.00	4.00	2.00	4.00

	pls16	pls17	pls18	pls19	pls20
121	2.00	2.00	4.00	4.00	4.00
122	5.00	3.00	3.00	4.00	5.00
123	3.00	3.00	5.00	5.00	3.00
124	3.00	4.00	5.00	2.00	2.00
125	5.00	4.00	5.00	4.00	2.00
126	2.00	2.00	4.00	2.00	2.00
127	2.00	2.00	5.00	4.00	
128	2.00	2.00	4.00	2.00	2.00
129	4.00	2.00	5.00	1.00	1.00
130	4.00	2.00	4.00	2.00	4.00
131	4.00	4.00	4.00	4.00	4.00
132	4.00	2.00	4.00	4.00	3.00
133	4.00	4.00	4.00	4.00	3.00
134	3.00	4.00	4.00	2.00	4.00
135	2.00	2.00	1.00	4.00	2.00
136	4.00	2.00	5.00	4.00	4.00
137	2.00	4.00	4.00	2.00	4.00
138	2.00	2.00	5.00	4.00	2.00
139	4.00	2.00	4.00	2.00	2.00
140	4.00	3.00	4.00	3.00	3.00
141	1.00	2.00	5.00	4.00	1.00
142	2.00	2.00	4.00	4.00	2.00
143	2.00	2.00	5.00	2.00	3.00
144	4.00	2.00	4.00	4.00	2.00
145	4.00	2.00	4.00	4.00	2.00
146	2.00	4.00	5.00	3.00	2.00
147	3.00	3.00	4.00	3.00	3.00
148	1.00	1.00	5.00	4.00	2.00
149	2.00	4.00	4.00	3.00	3.00
150	3.00	2.00	4.00	3.00	2.00

	py0	py2	py4	pyothr	pthis_y	pn_class
151	1	.	.	.	.0	28.00
152	1	.	.	.	.0	27.00
153	.	.	1	.	4.0	35.00
154	1	.	.	.	.0	30.00
155	.	1	.	.	2.0	29.00
156	1	.	.	.	.0	27.00
157	.	1	.	.	2.0	24.00
158	1	.	.	.	.0	27.00
159	1	.	.	.	.0	24.00
160	1	.	.	.	.0	29.00
161	.	1	.	.	2.0	28.00
162	.	.	.	.	.0	14.00
163	.	1	.	.	2.0	30.00
164	.	.	1	.	3.5	.
165	.	.	.	.	.5	21.00
166	1	.	.	.	.5	31.00
167	.	.	1	.	2.0	32.00
168	.	.	1	.	4.0	28.00
169	.	.	1	.	3.5	34.00
170	.	.	1	.	4.5	32.00
171	1	.	.	.	.0	20.00
172	.	1	.	.	.0	24.00
173	1	.	.	.	1.0	36.00
174	1	.	.	.	.0	.
175	.	.	1	.	4.0	33.00
176	.	.	1	.	4.0	35.00
177	.	.	.	1	4.0	35.00
178	.	.	1	.	4.0	37.00
179	.	.	1	.	.	30.00
180	.	.	1	.	3.5	38.00

	pn_oth	pn_snr	padults	pyrs_tea	pcom_hme
151	.	1.00	1	7.00	0
152	.	.00	1	4.00	0
153	.	.00	1	30.00	1
154	.00	.00	1	2.00	1
155	.	.00	1	12.00	1
156	.	1.00	1	4.00	1
157	.	3.00	1	8.00	1
158	.	.00	1	28.00	0
159	.	.00	1	14.00	0
160	.	.00	1	16.00	0
161	.	5.00	1	22.00	1
162	.	.00	0	.	0
163	.	.00	1	15.00	1
164	14.00	1.00	1	5.00	0
165	.	.00	1	1.00	1
166	10.00	.00	1	3.00	1
167	.	3.00	1	9.00	1
168	.	5.00	1	23.00	1
169	16.00	6.00	0	12.00	0
170	17.00	10.00	1	16.00	0
171	.	.00	1	26.00	1
172	.	.00	1	21.00	1
173	.	2.00	1	28.00	0
174	.	.00	.	.	0
175	.	2.00	1	2.00	0
176	.	.00	0	.	1
177	.	12.00	1	6.00	1
178	18.00	1.00	3	28.00	1
179	.	3.00	1	4.00	1
180	18.00	.	1	8.00	0

	pc_h_wrk	pinset_l	pinset_n	pinset_g	pinset_c
151	0	0	0	0	0
152	0	0	0	0	0
153	1	0	0	0	0
154	0	0	0	0	0
155	0	1	0	0	0
156	0	0	0	0	0
157	1	1	0	0	0
158	0	1	0	0	0
159	1	1	0	0	0
160	0	0	0	1	0
161	1	0	0	0	0
162	0	0	0	0	0
163	1	1	1	0	0
164	0	0	0	0	1
165	1	0	0	0	0
166	1	0	0	0	0
167	1	1	0	0	0
168	1	0	0	0	0
169	0	0	0	0	0
170	0	0	0	0	0
171	1	0	0	0	0
172	1	0	0	0	0
173	0	1	0	0	0
174	0	0	0	0	0
175	0	0	0	0	0
176	1	1	0	0	0
177	1	0	0	0	1
178	1	6	1	0	1
179	1	0	1	0	0
180	0	0	0	0	0

	pinset_o	pitcoord	pc_com_u	pp_com_u	ptim_pup
151	0	0	2	3	17.00
152	0	0	1	2	30.00
153	5	1	1	2	15.00
154	1	0	2	2	10.00
155	0	0	2	3	15.00
156	1	0	1	2	.
157	0	0	1	3	30.00
158	0	0	1	2	30.00
159	0	0	1	1	15.00
160	0	0	1	2	22.00
161	0	0	1	3	30.00
162	1	0	2	2	35.00
163	0	0	1	4	.
164	0	0	2	3	.
165	1	0	1	2	60.00
166	0	0	2	3	30.00
167	0	0	.	3	15.00
168	1	0	1	3	30.00
169	0	0	1	3	60.00
170	0	0	1	4	60.00
171	0	0	1	2	40.00
172	1	0	2	3	20.00
173	0	0	3	3	.
174	0	0	.	2	7.00
175	1	0	1	3	30.00
176	1	0	2	3	15.00
177	0	0	2	3	15.00
178	.	1	1	4	15.00
179	0	0	1	1	15.00
180	1	0	2	3	20.00

	pown	prequest	pmonit	psuperv	psenplan
151	1	0	0	0	0
152	0	1	0	1	0
153	0	1	0	0	0
154	1	1	1	0	0
155	0	0	1	0	1
156	1	1	0	0	0
157	0	0	1	1	1
158	0	0	0	1	0
159	1	1	0	0	0
160	1	1	1	1	0
161	0	0	1	0	1
162	1	1	1	0	0
163	1	1	0	0	1
164	1	1	1	0	0
165	1	1	1	0	0
166	1	0	0	0	1
167	1	1	1	0	1
168	1	1	1	0	1
169	0	1	1	0	1
170	1	1	0	0	0
171	0	1	1	0	0
172	1	1	1	1	0
173	0	0	0	1	0
174	1	1	1	0	0
175	1	1	1	0	0
176	1	1	1	0	0
177	0	1	0	0	0
178	1	1	1	0	0
179	1	0	0	0	1
180	1	1	0	0	1

	psenadpt	pp_hm_pc	pc01	pc02	pc03
151	0	50.00	0	0	0
152	1	.	0	0	1
153	0	70.00	2	0	1
154	0	20.00	1	1	0
155	1	50.00	0	1	0
156	0	10.00	1	0	0
157	1	50.00	0	1	0
158	0	.	1	0	0
159	0	.	1	1	0
160	1	30.00	1	1	0
161	1	25.00	1	1	0
162	0	30.00	1	0	1
163	0	50.00	0	0	1
164	0	25.00	1	1	0
165	0	.	1	1	0
166	0	35.00	0	0	0
167	0	30.00	1	0	0
168	1	50.00	0	0	0
169	0	50.00	0	0	1
170	1	40.00	0	0	1
171	0	.	0	0	0
172	1	.	1	0	0
173	0	20.00	1	0	0
174	0	.	1	0	0
175	0	75.00	0	0	0
176	0	48.00	0	0	1
177	0	10.00	0	0	1
178	0	25.00	0	0	2
179	1	5.00	2	0	0
180	1	55.00	0	0	1

	pc04	pc05	pc06	pc07	pc08
151	0	0	0	0	1
152	0	0	0	0	1
153	0	0	0	0	0
154	0	0	0	0	0
155	0	0	1	0	0
156	0	0	0	0	1
157	0	0	0	1	0
158	0	0	0	0	1
159	0	0	0	0	0
160	0	0	0	0	0
161	0	0	0	0	0
162	0	0	0	0	0
163	0	0	0	0	0
164	0	0	0	0	2
165	0	0	0	0	0
166	0	0	0	0	0
167	0	0	0	0	0
168	0	0	1	0	0
169	0	0	0	0	0
170	0	0	0	0	0
171	0	0	1	0	0
172	0	0	0	0	0
173	0	0	0	0	1
174	0	0	0	0	0
175	0	0	0	0	0
176	0	0	1	0	0
177	0	0	0	0	0
178	0	0	0	0	0
179	0	0	0	0	0
180	0	0	0	1	0

	pc09	pc10	pc11	pc12	pc13
151	1	0	0	0	0
152	0	0	0	0	0
153	0	0	0	0	0
154	0	0	0	0	0
155	0	0	0	0	0
156	0	0	0	0	0
157	0	0	0	0	1
158	0	0	0	0	0
159	0	0	0	0	0
160	0	0	0	0	0
161	0	0	1	0	0
162	0	0	0	0	0
163	0	0	0	0	0
164	0	0	0	0	0
165	0	0	0	0	0
166	0	0	0	1	0
167	1	0	0	0	0
168	0	0	0	0	0
169	0	0	0	1	0
170	0	0	0	0	0
171	0	0	0	0	0
172	0	0	0	0	0
173	0	0	0	0	0
174	0	0	0	0	0
175	1	0	0	1	0
176	0	0	0	0	0
177	0	0	0	0	0
178	2	0	0	0	0
179	0	0	1	1	4
180	0	0	0	0	0

	pc14	pc15	pc16	pc17	pc18
151	1	1	0	0	0
152	1	0	0	0	0
153	0	0	0	0	0
154	0	0	0	0	0
155	0	0	0	0	0
156	1	0	0	0	0
157	0	0	0	0	0
158	1	0	0	0	0
159	0	0	0	0	0
160	0	0	0	0	0
161	0	0	0	0	0
162	0	0	0	0	0
163	0	0	0	0	0
164	3	0	0	0	0
165	0	0	0	0	0
166	0	0	0	0	0
167	0	2	0	0	0
168	0	0	0	0	0
169	0	0	0	0	0
170	0	0	0	0	0
171	0	0	0	0	0
172	0	0	0	0	0
173	0	0	0	0	0
174	0	0	0	0	0
175	0	1	0	0	12
176	0	0	0	0	0
177	0	0	0	0	0
178	0	3	0	0	0
179	0	0	0	4	4
180	0	0	0	0	0

	ph01	ph02	ph03	ph04	ph05
151	.00	.00	1.00	.00	.00
152	.00	.00	1.00	.00	.00
153	1.00	.00	.00	.00	.00
154	1.00	1.00	.00	.00	.00
155	1.00	5.00	1.00	.00	.00
156	1.00	.00	.00	.00	.00
157	1.00	1.00	.00	.00	.00
158	1.00	1.00	.00	.00	.00
159	1.00	1.00	.00	.00	.00
160	1.00	.00	.00	.00	.00
161	1.00	1.00	.00	.00	.00
162	1.00	.00	.00	.00	.00
163	.00	.00	1.00	.00	.00
164	.00	1.00	.00	.00	.00
165	1.00	1.00	.00	.00	.00
166	.00	.00	.00	.00	.00
167	3.00	.00	4.00	.00	.00
168	.00	.00	.00	.00	.00
169	.00	.00	1.00	.00	.00
170	6.00	.00	1.00	.00	.00
171	.00	1.00	1.00	.00	1.00
172	1.00	.00	.00	.00	.00
173	1.00	1.00	.00	.00	.00
174	1.00	.00	.00	.00	.00
175	.00	.00	14.00	.00	.00
176	.00	.00	1.00	.00	.00
177	.00	.00	1.00	.00	.00
178	.00	.00	4.00	.00	.00
179	1.00	1.00	.00	.00	.00
180	.00	.00	1.00	.00	.00

	ph06	ph07	ph08	ph09	ph10
151	.00	.00	.00	1.00	.00
152	.00	.00	.00	1.00	.00
153	.00	.00	.00	1.00	.00
154	.00	.00	.00	.00	.00
155	.00	.00	.00	2.00	.00
156	.00	.00	.00	.00	.00
157	.00	.00	1.00	.00	.00
158	.00	.00	1.00	.00	.00
159	.00	.00	.00	.00	.00
160	.00	.00	.00	.00	.00
161	.00	.00	.00	.00	.00
162	.00	.00	.00	.00	.00
163	.00	.00	.00	1.00	.00
164	.00	.00	.00	.00	.00
165	.00	.00	.00	.00	.00
166	5.00	.00	.00	.00	.00
167	.00	.00	.00	3.00	.00
168	1.00	.00	.00	2.00	.00
169	.00	.00	.00	.00	.00
170	.00	.00	.00	1.00	.00
171	.00	.00	.00	2.00	.00
172	.00	.00	.00	.00	.00
173	.00	.00	1.00	.00	.00
174	.00	.00	.00	.00	.00
175	.00	.00	.00	2.00	.00
176	1.00	.00	.00	1.00	.00
177	.00	.00	.00	1.00	.00
178	.00	.00	.00	4.00	.00
179	.00	.00	.00	1.00	.00
180	.00	.00	.00	1.00	.00

	ph11	ph12	ph13	ph14	ph15
151	.00	.00	.00	1.00	1.00
152	.00	.00	.00	.00	1.00
153	.00	.00	.00	.00	1.00
154	.00	.00	.00	.00	.00
155	.00	.00	.00	5.00	.00
156	.00	.00	.00	.00	.00
157	.00	.00	.00	1.00	.00
158	.00	.00	.00	1.00	.00
159	.00	.00	.00	.00	.00
160	.00	.00	1.00	1.00	.00
161	.00	.00	.00	1.00	.00
162	.00	.00	.00	.00	.00
163	.00	.00	.00	.00	1.00
164	.00	.00	.00	1.00	.00
165	.00	.00	.00	.00	.00
166	.00	3.00	.00	.00	.00
167	.00	.00	.00	.00	4.00
168	.00	.00	.00	.00	2.00
169	.00	.00	.00	.00	.00
170	.00	.00	.00	.00	3.00
171	.00	.00	.00	.00	2.00
172	.00	.00	.00	.00	.00
173	.00	.00	.00	.00	.00
174	.00	.00	.00	.00	.00
175	.00	.00	.00	.00	14.00
176	.00	.00	.00	.00	1.00
177	.00	.00	.00	.00	1.00
178	.00	.00	.00	.00	4.00
179	.00	.00	1.00	1.00	1.00
180	.00	.00	.00	.00	.00

	ph16	ph17	ph18	ph19	ph20
151	.00	.00	.00	.00	.00
152	.00	.00	.00	.00	.00
153	.00	.00	.00	.00	.00
154	.00	.00	.00	.00	.00
155	.00	.00	.00	.00	.00
156	.00	.00	.00	.00	.00
157	.00	.00	.00	.00	.00
158	.00	.00	.00	.00	.00
159	.00	.00	.00	.00	.00
160	.00	.00	.00	.00	.00
161	.00	.00	.00	.00	.00
162	.00	.00	.00	.00	.00
163	.00	.00	.00	.00	.00
164	.00	.00	.00	.00	.00
165	.00	.00	.00	.00	.00
166	.00	.00	5.00	.00	.00
167	.00	.00	.00	.00	.00
168	.00	.00	.00	.00	.00
169	.00	.00	.00	.00	.00
170	.00	.00	.00	.00	.00
171	.00	.00	.00	.00	.00
172	.00	.00	.00	.00	.00
173	.00	.00	.00	.00	.00
174	.00	.00	.00	.00	.00
175	.00	.00	.00	.00	.00
176	.00	.00	1.00	.00	.00
177	.00	.00	.00	.00	.00
178	.00	.00	.00	.00	.00
179	.00	1.00	.00	.00	.00
180	.00	.00	.00	.00	.00

	ph21	ph22	ph23	ph24	ph25
151	.00	.00	.00	.00	.00
152	.00	.00	.00	.00	.00
153	.00	.00	.00	.00	.00
154	.00	.00	.00	.00	.00
155	.00	.00	.00	.00	.00
156	.00	.00	.00	.00	.00
157	.00	.00	.00	.00	.00
158	.00	.00	.00	.00	.00
159	.00	.00	.00	.00	.00
160	.00	.00	.00	.00	.00
161	.00	.00	.00	.00	.00
162	.00	.00	.00	.00	.00
163	.00	.00	.00	.00	.00
164	.00	.00	.00	.00	.00
165	.00	.00	.00	.00	.00
166	.00	.00	.00	.00	.00
167	.00	.00	.00	.00	.00
168	.00	.00	.00	.00	.00
169	.00	.00	.00	.00	.00
170	.00	.00	.00	.00	.00
171	.00	.00	.00	.00	.00
172	.00	.00	.00	.00	.00
173	.00	.00	.00	.00	.00
174	.00	.00	.00	.00	.00
175	.00	.00	.00	.00	.00
176	.00	.00	.00	.00	.00
177	.00	.00	.00	.00	.00
178	.00	.00	.00	.00	.00
179	.00	.00	.00	.00	.00
180	.00	.00	.00	.00	.00

	ph26	ph27	ph28	ph29	ph30
151	.00	.00	.00	.00	.00
152	.00	.00	.00	.00	.00
153	.00	.00	.00	.00	.00
154	.00	.00	.00	.00	.00
155	.00	.00	.00	.00	.00
156	.00	.00	.00	.00	.00
157	.00	.00	.00	.00	.00
158	.00	.00	.00	.00	.00
159	.00	.00	.00	.00	.00
160	.00	.00	.00	.00	.00
161	.00	.00	.00	.00	.00
162	.00	.00	.00	.00	.00
163	.00	.00	.00	.00	.00
164	.00	.00	.00	.00	.00
165	.00	.00	.00	.00	.00
166	.00	.00	.00	.00	.00
167	.00	.00	.00	.00	.00
168	.00	.00	.00	.00	.00
169	.00	.00	.00	.00	.00
170	.00	.00	.00	.00	.00
171	.00	.00	.00	.00	.00
172	.00	.00	.00	.00	.00
173	.00	.00	.00	.00	.00
174	.00	.00	.00	.00	.00
175	.00	.00	.00	.00	.00
176	.00	.00	.00	.00	.00
177	.00	.00	.00	.00	.00
178	.00	.00	.00	.00	.00
179	.00	.00	.00	.00	.00
180	.00	.00	.00	.00	.00

	pcalcul	pspell_c	pturtle	pcon_k	pcamera
151	10.00	.00	1.00	1.00	1.00
152	15.00	.00	2.00	.00	1.00
153	16.00	.00	1.00	.00	1.00
154	.00	.00	1.00	1.00	.00
155	20.00	.00	1.00	.00	.00
156	27.00	.00	1.00	1.00	.00
157	20.00	.00	1.00	1.00	.00
158	20.00	.00	1.00	1.00	.00
159	.00	.00	.00	1.00	.00
160	.00	.00	1.00	1.00	.00
161	28.00	.00	1.00	1.00	.00
162	.00	.00	.00	1.00	.00
163	10.00	.00	2.00	.00	.00
164	34.00	.00	2.00	1.00	.00
165	.00	.00	2.00	1.00	.00
166	4.00	.00	1.00	1.00	.00
167	8.00	.00	1.00	1.00	.00
168	20.00	.00	1.00	1.00	.00
169	36.00	.00	1.00	1.00	.00
170	44.00	.00	1.00	2.00	.00
171	30.00	.00	2.00	.00	.00
172	24.00	.00	2.00	1.00	.00
173	10.00	.00	1.00	1.00	.00
174	3.00	.00	1.00	1.00	.00
175	.00	.00	2.00	.00	.00
176	30.00	.00	1.00	1.00	1.00
177	30.00	.00	3.00	.00	.00
178	37.00	.00	2.00	.00	.00
179	30.00	2.00	1.00	.00	.00
180	38.00	.00	1.00	1.00	.00

	pmus_k	pfax	pcu01	pcu02	pcu03
151	2.00	.00	1.00	1.00	1.00
152	2.00	.00	2.00	1.00	1.00
153	3.00	5.00	1.00	4.00	.00
154	1.00	.00	1.00	.00	.00
155	4.00	.00	1.00	.00	.00
156	.00	.00	1.00	1.00	1.00
157	1.00	.00	2.00	.00	1.00
158	1.00	.00	3.00	.00	.00
159	.00	.00	3.00	.00	.00
160	.00	.00	1.00	3.00	.
161	.00	.00	1.00	.00	.00
162	.00	.00	2.00	3.00	.00
163	1.00	.00	1.00	1.00	.
164	1.00	.00	1.00	1.00	4.00
165	.00	.00	1.00	.00	.00
166	.00	.00	1.00	1.00	1.00
167	2.00	.00	3.00	.	1.00
168	1.00	.00	1.00	.00	.00
169	00	.00	.00	1.00	3.00
170	.00	.00	1.00	5.00	.
171	1.00	.00	1.00	.	.
172	.00	.00	1.00	1.00	2.00
173	.00	.00	1.00	1.00	1.00
174	.00	.00	1.00	1.00	1.00
175	1.00	.00	1.00	4.00	.00
176	3.00	.00	1.00	1.00	1.00
177	.00	.00	1.00	1.00	3.00
178	9.00	8.00	1.00	5.00	3.00
179	1.00	.00	3.00	.00	3.00
180	1.00	.00	1.00	1.00	.

	pcu04	pcu05	pcu06	pcu07	pcu08
151	1.00	1.00	1.00	1.00	3.00
152	1.00	1.00	1.00	.00	5.00
153	.00	.00	1.00	1.00	4.00
154	3.00	.00	.00	.00	.00
155	1.00	2.00	.00	.00	3.00
156	1.00	1.00	1.00	1.00	5.00
157	2.00	3.00	1.00	.00	4.00
158	.00	3.00	.00	.00	4.00
159	4.00	.00	.00	.00	.00
160	5.00	3.00	.	.	5.00
161	3.00	4.00	3.00	.00	5.00
162	.00	.00	.00	.00	3.00
163	.	1.00	.	.	5.00
164	3.00	3.00	1.00	1.00	5.00
165	.00	.00	.00	.00	3.00
166	3.00	3.00	1.00	1.00	3.00
167	1.00	1.00	1.00	1.00	2.00
168	1.00	4.00	1.00	1.00	1.00
169	3.00	3.00	1.00	1.00	4.00
170	2.00	2.00	1.00	.	3.00
171	1.00	1.00	.	1.00	3.00
172	3.00	3.00	1.00	2.00	3.00
173	1.00	1.00	1.00	1.00	1.00
174	3.00	.00	.00	.00	.00
175	.00	.00	3.00	.00	3.00
176	1.00	1.00	1.00	.00	4.00
177	1.00	1.00	1.00	3.00	3.00
178	5.00	1.00	3.00	1.00	3.00
179	3.00	2.00	4.00	.00	2.00
180	.	1.00	.	4.00	4.00

	pcu09	pcu10	pcu11	pcu12	pcu13
151	1.00	1.00	3.00	3.00	1.00
152	3.00	5.00	5.00	1.00	1.00
153	4.00	.00	.00	.00	4.00
154	.00	5.00	.00	5.00	.00
155	.00	.00	3.00	3.00	.00
156	1.00	1.00	5.00	5.00	1.00
157	2.00	1.00	.00	.00	.00
158	.00	2.00	.00	3.00	.00
159	.00	4.00	4.00	.00	.00
160	5.00	5.00	5.00	5.00	.
161	5.00	4.00	4.00	.00	.00
162	3.00	3.00	.00	3.00	.00
163	5.00	1.00	.	.	2.00
164	2.00	4.00	5.00	5.00	2.00
165	3.00	.00	5.00	.00	.00
166	3.00	3.00	3.00	3.00	1.00
167	2.00	2.00	1.00	2.00	2.00
168	1.00	1.00	1.00	1.00	1.00
169	5.00	.00	3.00	.00	4.00
170	3.00	.	.	.	.
171	.	3.00	.	.	1.00
172	1.00	3.00	2.00	3.00	1.00
173	1.00	1.00	1.00	1.00	1.00
174	1.00	4.00	4.00	4.00	.00
175	3.00	3.00	.00	.00	.00
176	1.00	.00	.00	1.00	1.00
177	1.00	3.00	3.00	1.00	1.00
178	5.00	3.00	3.00	3.00	3.00
179	3.00	2.00	1.00	2.00	1.00
180	4.00	.	.	.	.

	pscheme	ppln_trm	ppln_wk	pactiv	precord	pls1a
151	1.00	1.00	.00	.00	.00	1.00
152	1.00	1.00	1.00	.00	.00	1.00
153	1.00	1.00	1.00	.00	1.00	1.00
154	.00	1.00	.00	.00	.00	.00
155	1.00	1.00	1.00	.00	1.00	.00
156	.00	1.00	1.00	.00	1.00	1.00
157	1.00	1.00	1.00	1.00	1.00	1.00
158	1.00	1.00	1.00	.00	1.00	1.00
159	1.00	1.00	1.00	.00	1.00	1.00
160	1.00	1.00	1.00	.00	.00	1.00
161	1.00	1.00	1.00	1.00	1.00	.00
162	.00	1.00	1.00	.00	.00	1.00
163	1.00	1.00	1.00	.00	1.00	1.00
164	.00	1.00	1.00	1.00	1.00	1.00
165	1.00	1.00	1.00	.00	1.00	.00
166	1.00	1.00	1.00	.00	.00	.00
167	1.00	1.00	1.00	1.00	1.00	1.00
168	1.00	1.00	1.00	.00	1.00	.00
169	1.00	1.00	1.00	1.00	1.00	.00
170	1.00	1.00	1.00	1.00	1.00	1.00
171	.00	1.00	1.00	1.00	1.00	1.00
172	1.00	1.00	1.00	.00	1.00	1.00
173	1.00	1.00	1.00	.00	.00	1.00
174	.00	1.00	.00	.00	1.00	1.00
175	1.00	1.00	.00	1.00	1.00	1.00
176	1.00	1.00	1.00	1.00	1.00	1.00
177	1.00	1.00	1.00	.00	1.00	1.00
178	1.00	1.00	1.00	1.00	1.00	1.00
179	1.00	1.00	.00	.00	1.00	1.00
180	.00	1.00	1.00	.00	1.00	1.00

	pls01	pls02	pls03	pls04	pls05
151	4.00	4.00	3.00	5.00	2.00
152	4.00	2.00	3.00	2.00	4.00
153	5.00	2.00	2.00	5.00	4.00
154	3.00	4.00	4.00	2.00	1.00
155	3.00	2.00	3.00	3.00	4.00
156	4.00	3.00	3.00	5.00	2.00
157	4.00	2.00	3.00	2.00	4.00
158	4.00	2.00	3.00	2.00	4.00
159	5.00	.	4.00	2.00	4.00
160	4.00	2.00	4.00	2.00	3.00
161	3.00	4.00	2.00	3.00	4.00
162	5.00	3.00	4.00	2.00	4.00
163	4.00	2.00	1.00	5.00	4.00
164	4.00	3.00	3.00	4.00	4.00
165	3.00	3.00	4.00	4.00	2.00
166	3.00	1.00	4.00	3.00	2.00
167	5.00	4.00	3.00	5.00	1.00
168	3.00	4.00	4.00	4.00	1.00
169	2.00	3.00	4.00	2.00	2.00
170	4.00	5.00	1.00	4.00	2.00
171	5.00	5.00	5.00	3.00	2.00
172	4.00	2.00	2.00	5.00	2.00
173	5.00	2.00	1.00	1.00	3.00
174	4.00	5.00	3.00	2.00	1.00
175	4.00	3.00	2.00	4.00	4.00
176	5.00	2.00	2.00	5.00	4.00
177	4.00	5.00	2.00	4.00	1.00
178	5.00	2.00	4.00	5.00	4.00
179	4.00	3.00	2.00	4.00	2.00
180	4.00	3.00	2.00	5.00	2.00

	pls06	pls07	pls08	pls09	pls10
151	3.00	2.00	3.00	3.00	5.00
152	2.00	3.00	2.00	4.00	2.00
153	3.00	4.00	1.00	5.00	2.00
154	2.00	4.00	1.00	3.00	2.00
155	2.00	3.00	3.00	1.00	1.00
156	3.00	2.00	2.00	2.00	2.00
157	2.00	3.00	2.00	4.00	4.00
158	2.00	3.00	2.00	4.00	4.00
159	2.00	1.00	1.00	4.00	2.00
160	3.00	2.00	3.00	3.00	4.00
161	2.00	3.00	2.00	1.00	2.00
162	3.00	2.00	2.00	3.00	2.00
163	4.00	1.00	1.00	4.00	2.00
164	4.00	2.00	2.00	1.00	2.00
165	5.00	3.00	2.00	4.00	2.00
166	2.00	4.00	1.00	3.00	4.00
167	2.00	4.00	2.00	3.00	4.00
168	3.00	3.00	4.00	1.00	2.00
169	2.00	4.00	2.00	2.00	2.00
170	2.00	3.00	4.00	1.00	2.00
171	1.00	5.00	1.00	4.00	1.00
172	4.00	2.00	5.00	2.00	4.00
173	1.00	1.00	1.00	1.00	5.00
174	5.00	3.00	1.00	2.00	5.00
175	2.00	3.00	2.00	4.00	4.00
176	2.00	2.00	4.00	3.00	5.00
177	3.00	1.00	4.00	2.00	1.00
178	4.00	4.00	3.00	3.00	5.00
179	2.00	2.00	2.00	2.00	2.00
180	3.00	2.00	3.00	2.00	2.00

	pls11	pls12	pls13	pls14	pls15
151	5.00	5.00	2.00	2.00	3.00
152	4.00	3.00	1.00	4.00	4.00
153	5.00	4.00	1.00	2.00	5.00
154	3.00	3.00	2.00	3.00	4.00
155	4.00	4.00	4.00	2.00	4.00
156	3.00	4.00	2.00	3.00	4.00
157	4.00	4.00	2.00	2.00	4.00
158	4.00	4.00	4.00	1.00	4.00
159	4.00	.	4.00	2.00	4.00
160	5.00	4.00	2.00	2.00	4.00
161	3.00	2.00	2.00	3.00	4.00
162	3.00	4.00	5.00	2.00	5.00
163	5.00	5.00	4.00	2.00	3.00
164	4.00	4.00	1.00	2.00	2.00
165	4.00	2.00	3.00	3.00	4.00
166	4.00	2.00	1.00	2.00	5.00
167	5.00	4.00	2.00	3.00	4.00
168	4.00	2.00	5.00	4.00	5.00
169	4.00	4.00	1.00	3.00	5.00
170	3.00	2.00	5.00	4.00	4.00
171	5.00	1.00	4.00	2.00	5.00
172	3.00	2.00	1.00	3.00	3.00
173	5.00	5.00	5.00	5.00	3.00
174	4.00	2.00	1.00	2.00	4.00
175	5.00	2.00	1.00	2.00	4.00
176	3.00	4.00	4.00	2.00	4.00
177	5.00	4.00	4.00	3.00	4.00
178	4.00	4.00	5.00	1.00	5.00
179	4.00	2.00	2.00	2.00	4.00
180	3.00	4.00	2.00	3.00	3.00

	pls16	pls17	pls18	pls19	pls20
151	4.00	2.00	4.00	5.00	5.00
152	3.00	2.00	5.00	3.00	4.00
153	2.00	2.00	5.00	3.00	2.00
154	3.00	3.00	4.00	4.00	3.00
155	4.00	2.00	4.00	3.00	2.00
156	4.00	4.00	4.00	3.00	3.00
157	2.00	2.00	4.00	3.00	2.00
158	2.00	2.00	4.00	3.00	2.00
159	4.00	4.00	4.00		
160	2.00	2.00	4.00	4.00	4.00
161	4.00	2.00	3.00	3.00	2.00
162	4.00	2.00	4.00	4.00	4.00
163	4.00	2.00	5.00	2.00	3.00
164	4.00	4.00	4.00	4.00	3.00
165	2.00	4.00	4.00	2.00	2.00
166	4.00	1.00	5.00	4.00	2.00
167	3.00	3.00	4.00	4.00	4.00
168	4.00	2.00	5.00	5.00	3.00
169	2.00	2.00	5.00	4.00	3.00
170	22.00	3.00	4.00	4.00	4.00
171	4.00	4.00	5.00	1.00	1.00
172	4.00	2.00	4.00	4.00	2.00
173	5.00	5.00	5.00	4.00	4.00
174	4.00	2.00	5.00	3.00	2.00
175	3.00	2.00	5.00	2.00	2.00
176	5.00	2.00	5.00	2.00	3.00
177	2.00	3.00	4.00	4.00	4.00
178	4.00	1.00	5.00	2.00	2.00
179	4.00	2.00	5.00	4.00	2.00
180	4.00	2.00	5.00	4.00	3.00

	py0	py2	py4	pyothr	pthis_y	pn_class
181	.	.	.	1	4.0	16.00
182	1	.	.	.	.0	21.00
183	.	.	1	.	4.0	34.00
184	.	.	1	.	4.0	34.00
185	.	1	.	.	4.0	34.00
186	.	.	.	5	5.0	25.00
187	1	.	.	.	.0	31.00
188	1	.	.	.	.0	29.00
189	.	.	1	.	4.0	34.00
190	.	.	.	1	6.0	34.00
191	.	.	.	1	4.0	33.00
192	.	.	1	.	4.0	30.00
193	.	.	1	.	4.0	31.00
194	.	.	1	.	4.0	36.00
195	.	.	.	5	4.0	36.00
196	1	.	.	.	4.0	21.00
197	.	.	1	.	4.0	34.00
198	1	.	.	.	.0	23.00
199	.	.	1	.	4.5	35.00
200	1	.	.	.	.0	27.00
201	.	.	.	.	4.0	31.00
202	1	.	.	.	.0	28.00
203	1	.	.	.	4.0	35.00
204	.	.	1	.	4.0	37.00
205	1	.	.	.	.0	27.00
206	.	.	.	1	4.0	34.00
207	.	.	1	.	3.5	35.00
208	.	.	1	.	4.0	30.00
209	.	.	1	.	4.0	32.00
210	.	.	.	1	4.5	34.00

	pn_oth	pn_snr	padults	pyrs_tea	pcom_hme
181	.	3.00	1	4.00	1
182	.00	2.00	1	17.00	1
183	1.00	4.00	1	15.00	1
184	.	4.00	1	4.00	0
185	.	5.00	1	3.00	1
186	.	3.00	1	3.00	1
187	.	.00	1	19.00	0
188	.	2.00	1	12.00	0
189	.	.00	0	9.00	1
190	.00	8.00	1	.	0
191	.	5.00	1	18.00	1
192	.	.00	0	3.00	0
193	.	6.00	0	15.00	1
194	.	.00	1	9.00	1
195	3.00	.00	1	10.00	1
196	.	1.00	1	26.00	1
197	.	1.00	1	11.00	0
198	.	2.00	1	16.00	0
199	19.00	.00	.	4.00	1
200	.	.00	1	21.00	0
201	.	7.00	1	1.00	0
202	.	1.00	1	18.00	0
203	.	1.00	1	7.00	1
204	.	5.00	1	15.00	1
205	.	.00	1	25.00	0
206	.	1.00	1	21.00	1
207	17.00	.00	0	21.00	1
208	.	6.00	1	18.00	1
209	.	1.00	1	31.00	0
210	21.00	2.00	1	5.00	1

	pc_h_wrk	pinset_l	pinset_n	pinset_g	pinset_c
181	1	1	1	0	0
182	1	0	0	0	0
183	1	2	1	0	0
184	1	1	0	0	0
185	0	1	0	0	0
186	1	0	0	0	0
187	0	1	0	0	0
188	0	1	0	0	0
189	1	1	1	0	0
190	0	0	0	0	0
191	1	0	0	0	0
192	0	1	1	0	0
193	1	0	0	0	0
194	1	0	0	0	0
195	1	1	1	0	0
196	1	0	0	0	0
197	0	0	0	0	0
198	0	0	0	0	0
199	1	0	0	0	0
200	0	1	1	0	0
201	0	0	0	0	0
202	0	0	0	0	0
203	1	1	0	1	0
204	1	0	0	0	0
205	0	1	1	0	0
206	0	1	1	0	1
207	1	2	0	0	0
208	1	0	0	0	1
209	0	0	0	0	0
210	1	0	0	1	0

	pinset_o	pitcoord	pc_com_u	pp_com_u	ptim_pup
181	0	0	1	1	30.00
182	1	0	2	3	30.00
183	0	1	1	2	30.00
184	0	0	1	4	60.00
185	0	0	1	3	30.00
186	6	1	2	4	60.00
187	0	0	3	3	10.00
188	0	0	1	2	60.00
189	0	0	1	3	.
190	0	0	.	2	60.00
191	0	0	1	2	40.00
192	0	0	2	3	15.00
193	0	0	2	4	30.00
194	1	0	2	3	30.00
195	1	0	1	3	30.00
196	2	0	1	2	30.00
197	1	0	1	3	30.00
198	1	0	2	3	10.00
199	0	0	2	3	30.00
200	0	0	2	2	45.00
201	0	1	.	3	20.00
202	0	0	.	4	.
203	0	0	3	3	60.00
204	1	0	1	3	45.00
205	0	0	3	4	5.00
206	0	1	3	4	5.00
207	1	0	2	4	30.00
208	0	0	2	3	45.00
209	1	0	1	4	30.00
210	1	1	1	3	37.00

	pown	prequest	pmonit	psuperv	psenplan
181	0	0	1	0	1
182	0	0	1	0	0
183	1	1	1	0	1
184	1	0	0	0	0
185	0	0	0	0	0
186	1	1	1	0	1
187	0	1	0	2	0
188	1	1	0	1	0
189	0	1	0	0	1
190	0	0	1	0	1
191	1	1	1	0	1
192	1	1	1	0	0
193	0	1	1	0	0
194	0	0	1	1	0
195	0	0	1	0	1
196	1	1	1	1	0
197	1	1	1	0	0
198	1	0	0	1	1
199	1	1	1	0	1
200	0	0	0	1	1
201	1	1	1	0	0
202	1	1	1	1	0
203	1	1	1	0	0
204	0	1	1	1	0
205	0	0	0	1	0
206	1	1	1	1	1
207	0	0	1	0	1
208	0	0	1	0	1
209	1	1	1	0	1
210	0	0	1	0	1

	psenadpt	pp_hm_pc	pc01	pc02	pc03
181	1	50.00	0	0	1
182	0	20.00	0	0	0
183	1	35.00	2	0	0
184	0	50.00	0	0	1
185	0	50.00	0	0	1
186	1	40.00	0	1	1
187	0	15.00	0	0	0
188	0	75.00	1	0	0
189	1	30.00	0	0	1
190	1	80.00	0	0	1
191	1	.00	0	10	0
192	0	80.00	0	0	0
193	1	30.00	0	0	1
194	1	70.00	0	0	0
195	0	50.00	0	0	1
196	0	33.00	0	0	2
197	0	50.00	0	0	1
198	0	.	1	0	0
199	0	50.00	0	0	1
200	0	50.00	0	0	0
201	0	10.00	0	0	0
202	0	50.00	0	0	0
203	0	55.00	0	0	1
204	0	.	0	1	1
205	0	33.00	0	0	1
206	1	15.00	0	0	1
207	1	72.00	0	0	1
208	0	33.00	0	0	0
209	0	50.00	0	0	0
210	1	.	0	0	0

	pc04	pc05	pc06	pc07	pc08
181	0	0	0	0	0
182	0	0	0	0	0
183	0	0	0	0	0
184	0	0	0	0	0
185	0	0	0	0	0
186	0	0	1	0	0
187	0	0	0	1	0
188	0	0	0	0	0
189	0	0	0	0	0
190	0	0	0	0	0
191	0	10	0	0	0
192	1	0	0	0	0
193	0	0	0	0	0
194	0	1	0	0	4
195	0	0	0	0	0
196	0	0	0	0	0
197	0	0	0	0	0
198	0	0	0	0	1
199	0	0	0	0	0
200	0	0	1	0	0
201	0	1	1	0	0
202	0	0	0	1	0
203	0	0	0	0	0
204	0	0	0	0	0
205	0	0	0	0	0
206	0	0	0	0	0
207	0	0	0	0	0
208	0	0	0	1	0
209	0	0	0	0	0
210	1	0	0	0	1

	pc09	pc10	pc11	pc12	pc13
181	0	0	1	0	0
182	1	0	0	0	0
183	2	0	0	0	0
184	1	1	0	0	0
185	1	1	0	0	0
186	0	0	0	0	0
187	1	0	0	0	0
188	1	0	0	0	0
189	0	0	0	0	0
190	2	0	0	0	0
191	0	0	0	0	0
192	0	0	0	0	0
193	0	0	0	0	0
194	4	0	0	5	0
195	0	0	0	0	0
196	8	0	0	0	0
197	0	0	0	0	0
198	0	0	0	1	0
199	0	0	0	0	0
200	0	0	0	0	0
201	0	0	0	0	0
202	0	0	0	0	2
203	2	0	0	0	0
204	0	0	0	0	0
205	2	0	0	0	0
206	0	0	0	0	0
207	0	0	0	0	0
208	2	0	0	3	1
209	1	0	0	0	0
210	1	0	0	0	0

	pc14	pc15	pc16	pc17	pc18
181	0	0	0	0	0
182	0	1	0	0	0
183	0	3	0	0	0
184	0	8	8	0	0
185	0	2	8	0	0
186	0	0	0	0	0
187	0	0	0	0	0
188	0	1	0	0	0
189	0	0	0	0	0
190	0	6	0	0	0
191	0	0	0	0	0
192	0	0	0	0	0
193	0	0	0	0	0
194	3	3	0	0	3
195	0	0	0	0	0
196	0	0	0	0	0
197	0	0	0	0	0
198	0	0	0	0	5
199	0	0	0	0	0
200	0	0	0	0	0
201	0	0	0	0	0
202	0	0	0	0	0
203	0	0	0	0	0
204	0	0	0	0	0
205	0	0	0	0	0
206	0	0	0	0	0
207	0	0	0	0	0
208	0	1	0	0	1
209	0	0	0	0	0
210	0	0	0	0	0

	ph01	ph02	ph03	ph04	ph05
181	.00	.00	7.00	.00	1.00
182	.00	.00	.00	.00	.00
183	.00	2.00	9.00	.00	1.00
184	.00	.00	1.00	.00	.00
185	.00	.00	2.00	.00	.00
186	.00	1.00	1.00	.00	.00
187	1.00	.00	1.00	.00	.00
188	1.00	.00	1.00	.00	.00
189	.00	.00	1.00	.00	.00
190	.00	.00	8.00	.00	.00
191	.00	.00	.00	.00	.00
192	.00	.00	1.00	.00	.00
193	.00	.00	1.00	.00	.00
194	.00	4.00	4.00	.00	1.00
195	.00	.00	1.00	.00	.00
196	.00	.00	1.00	.00	.00
197	.00	.00	1.00	.00	.00
198	3.00	2.00	2.00	.00	.00
199	.00	.00	1.00	.00	.00
200	.00	.00	.00	.00	.00
201	1.00	.00	.00	.00	.00
202	1.00	.00	6.00	.00	.00
203	.00	.00	1.00	.00	.00
204	.00	1.00	1.00	.00	.00
205	.00	.00	1.00	.00	.00
206	.00	.00	4.00	.00	.00
207	.00	.00	1.00	.00	.00
208	1.00	.00	2.00	.00	.00
209	.00	.00	1.00	.00	.00
210	1.00	1.00	2.00	4.00	1.00

	ph06	ph07	ph08	ph09	ph10
181	.00	.00	.00	7.00	.00
182	.00	.00	.00	.00	.00
183	.00	.00	.00	6.00	.00
184	.00	.00	.00	.00	.00
185	.00	.00	.00	1.00	.00
186	.00	.00	.00	1.00	.00
187	1.00	.00	.00	1.00	.00
188	.00	.00	.00	.00	.00
189	.00	.00	.00	1.00	.00
190	.00	.00	.00	4.00	.00
191	1.00	.00	.00	1.00	.00
192	.00	.00	.00	1.00	.00
193	.00	.00	.00	1.00	.00
194	5.00	.00	.00	4.00	.00
195	.00	.00	.00	1.00	.00
196	.00	.00	.00	1.00	.00
197	.00	.00	.00	1.00	.00
198	.00	.00	.00	.00	.00
199	.00	.00	.00	1.00	.00
200	7.00	.00	.00	.00	.00
201	1.00	.00	.00	.00	.00
202	.00	.00	.00	2.00	.00
203	.00	.00	.00	1.00	.00
204	.00	.00	.00	1.00	.00
205	.00	.00	.00	1.00	.00
206	.00	.00	.00	4.00	.00
207	.00	.00	.00	1.00	.00
208	3.00	.00	.00	2.00	.00
209	.00	.00	.00	1.00	.00
210	1.00	.00	.00	2.00	4.00

	ph11	ph12	ph13	ph14	ph15
181	1.00	.00	.00	.00	7.00
182	.00	.00	.00	.00	.00
183	1.00	.00	.00	.00	6.00
184	.00	.00	.00	.00	1.00
185	.00	.00	.00	.00	2.00
186	.00	.00	.00	1.00	1.00
187	.00	.00	1.00	.00	1.00
188	.00	.00	1.00	.00	.00
189	.00	.00	.00	.00	1.00
190	.00	.00	.00	.00	8.00
191	.00	.00	.00	.00	1.00
192	.00	.00	.00	.00	1.00
193	.00	.00	.00	.00	1.00
194	1.00	.00	.00	.00	4.00
195	.00	.00	.00	.00	1.00
196	.00	.00	.00	.00	1.00
197	.00	.00	.00	.00	1.00
198	.00	1.00	.00	1.00	.00
199	.00	.00	.00	.00	1.00
200	.00	8.00	.00	.00	.00
201	.00	1.00	.00	.00	.00
202	.00	.00	.00	.00	.00
203	.00	.00	.00	.00	1.00
204	.00	.00	.00	.00	1.00
205	.00	.00	.00	.00	1.00
206	.00	.00	.00	.00	4.00
207	.00	.00	.00	.00	1.00
208	.00	.00	.00	.00	.00
209	.00	.00	.00	.00	.00
210	.00	1.00	.00	1.00	2.00

	ph16	ph17	ph18	ph19	ph20
181	.00	1.00	.00	.00	.00
182	.00	.00	.00	.00	.00
183	.00	.00	.00	.00	.00
184	.00	.00	.00	.00	.00
185	.00	.00	.00	.00	.00
186	.00	.00	.00	.00	.00
187	.00	1.00	.00	.00	1.00
188	.00	.00	.00	.00	.00
189	.00	.00	.00	.00	.00
190	.00	.00	.00	.00	.00
191	.00	.00	.00	.00	.00
192	.00	.00	.00	.00	.00
193	.00	.00	.00	.00	.00
194	.00	1.00	.00	.00	.00
195	.00	.00	.00	.00	.00
196	.00	.00	.00	.00	.00
197	.00	.00	.00	.00	.00
198	.00	.00	1.00	.00	.00
199	.00	.00	.00	.00	.00
200	.00	.00	8.00	.00	.00
201	.00	.00	1.00	.00	.00
202	60.00	.00	.00	.00	.00
203	.00	.00	.00	.00	.00
204	.00	.00	.00	.00	.00
205	.00	.00	.00	.00	.00
206	.00	.00	.00	.00	.00
207	.00	.00	.00	.00	.00
208	.00	.00	.00	.00	.00
209	.00	.00	.00	.00	.00
210	4.00	.00	1.00	.00	.00

	ph21	ph22	ph23	ph24	ph25
181	.00	.00	.00	.00	.00
182	.00	.00	.00	.00	.00
183	1.00	.00	.00	.00	.00
184	.00	.00	.00	.00	.00
185	.00	.00	.00	.00	.00
186	.00	.00	.00	.00	.00
187	.00	.00	.00	.00	.00
188	.00	.00	.00	.00	.00
189	.00	.00	.00	.00	.00
190	.00	.00	.00	.00	.00
191	.00	.00	.00	.00	.00
192	.00	.00	.00	.00	.00
193	.00	.00	.00	.00	.00
194	.00	.00	1.00	.00	.00
195	.00	.00	.00	.00	.00
196	1.00	.00	.00	.00	.00
197	.00	.00	.00	.00	.00
198	.00	.00	.00	.00	.00
199	.00	.00	.00	.00	.00
200	.00	.00	.00	.00	.00
201	.00	.00	.00	.00	.00
202	.00	.00	.00	.00	.00
203	.00	.00	.00	.00	.00
204	.00	.00	.00	.00	.00
205	.00	.00	.00	.00	.00
206	.00	.00	.00	.00	.00
207	.00	.00	.00	.00	.00
208	.00	.00	.00	.00	.00
209	.00	.00	.00	.00	.00
210	.00	.00	.00	.00	.00

	ph26	ph27	ph28	ph29	ph30
181	.00	.00	.00	.00	.00
182	.00	.00	.00	.00	.00
183	.00	.00	.00	.00	.00
184	.00	.00	.00	.00	.00
185	.00	.00	.00	.00	.00
186	.00	.00	.00	.00	.00
187	.00	.00	.00	.00	.00
188	.00	.00	.00	.00	.00
189	.00	.00	.00	.00	.00
190	.00	.00	.00	.00	.00
191	.00	1.00	.00	.00	.00
192	.00	.00	.00	.00	.00
193	.00	.00	.00	.00	.00
194	.00	.00	.00	.00	.00
195	.00	.00	.00	.00	.00
196	.00	.00	.00	.00	.00
197	.00	.00	.00	.00	.00
198	.00	.00	.00	.00	.00
199	.00	.00	.00	.00	.00
200	.00	.00	.00	.00	.00
201	.00	.00	.00	.00	.00
202	.00	.00	.00	.00	.00
203	.00	1.00	.00	.00	.00
204	.00	.00	.00	.00	.00
205	.00	.00	.00	.00	.00
206	.00	.00	.00	.00	.00
207	.00	.00	.00	.00	.00
208	.00	.00	.00	.00	.00
209	.00	.00	.00	.00	.00
210	.00	2.00	4.00	.00	.00

	pcalcul	pspell_c	pturtle	pcon_k	pcamera
181	30.00	5.00	1.00	1.00	.00
182	10.00	.00	1.00	.00	.00
183	25.00	.00	1.00	1.00	.00
184	30.00	.00	1.00	.00	.00
185	30.00	.00	1.00	.00	.00
186	15.00	.00	1.00	.00	.00
187	30.00	.00	1.00	.00	.00
188	10.00	.00	1.00	1.00	1.00
189	25.00	2.00	.00	.00	1.00
190	40.00	2.00	2.00	1.00	.00
191	25.00	.00	.00	.00	.00
192	30.00	.00	1.00	.00	.00
193	.00	.00	.00	.00	.00
194	40.00	.00	1.00	.00	.00
195	40.00	.00	2.00	.00	.00
196	10.00	2.00	.00	.00	.00
197	35.00	.00	2.00	.00	.00
198	12.00	.00	1.00	2.00	.00
199	20.00	.00	1.00	.00	.00
200	30.00	.00	1.00	1.00	.00
201	32.00	.00	2.00	1.00	.00
202	8.00	.00	1.00	1.00	.00
203	35.00	.00	1.00	1.00	.00
204	40.00	.00	1.00	.00	.00
205	35.00	.00	1.00	.00	.00
206	35.00	.00	1.00	1.00	.00
207	15.00	1.00	1.00	1.00	.00
208	30.00	.00	1.00	.00	.00
209	32.00	1.00	1.00	.00	.00
210	40.00	.00	1.00	1.00	.00

	pmus_k	pfax	pcu01	pcu02	pcu03
181	4.00	.00	2.00	1.00	1.00
182	.00	.00	2.00	.00	.00
183	.00	.00	1.00	3.00	1.00
184	.00	.00	1.00	1.00	1.00
185	.00	.00	1.00	3.00	.00
186	.00	.00	1.00	1.00	2.00
187	.00	.00	1.00	.00	.00
188	1.00	.00	2.00	1.00	1.00
189	.00	.00	2.00	5.00	1.00
190	1.00	.00	3.00	4.00	.00
191	.00	.00	2.00	.00	.00
192	2.00	.00	1.00	.	2.00
193	1.00	.00	1.00	.00	.00
194	.00	.00	1.00	1.00	1.00
195	6.00	.00	1.00	3.00	3.00
196	.00	.00	2.00	4.00	4.00
197	1.00	.00	2.00	1.00	1.00
198	.00	.00	3.00	2.00	3.00
199	1.00	.00	1.00	1.00	1.00
200	.00	.00	1.00	.	2.00
201	1.00	.00	1.00	3.00	3.00
202	1.00	.00	1.00	.	.
203	1.00	.00	1.00	.00	.00
204	.00	.00	1.00	3.00	4.00
205	.00	.00	1.00	.00	.00
206	.00	.00	1.00	1.00	1.00
207	4.00	.00	3.00	.00	.00
208	1.00	.00	1.00	4.00	.00
209	2.00	.00	3.00	.	.
210	1.00	.00	1.00	1.00	1.00

	pcu04	pcu05	pcu06	pcu07	pcu08
181	1.00	1.00	3.00	5.00	3.00
182	3.00	.00	.00	.00	.00
183	1.00	3.00	2.00	1.00	4.00
184	1.00	2.00	1.00	1.00	5.00
185	.00	1.00	1.00	1.00	2.00
186	1.00	3.00	1.00	1.00	4.00
187	3.00	.00	.00	.00	2.00
188	5.00	1.00	3.00	3.00	5.00
189	3.00	3.00	3.00	1.00	4.00
190	2.00	3.00	1.00	.00	.00
191	5.00	.00	.00	5.00	.00
192	1.00	1.00	3.00	1.00	4.00
193	1.00	1.00	1.00	.00	1.00
194	.00	.00	2.00	.00	.00
195	3.00	4.00	3.00	2.00	3.00
196	4.00	3.00	5.00	3.00	4.00
197	2.00	2.00	3.00	1.00	3.00
198	1.00	2.00	.00	3.00	3.00
199	2.00	3.00	2.00	1.00	1.00
200	3.00	3.00	.	.	4.00
201	1.00	2.00	1.00	3.00	3.00
202	1.00	1.00	.	.	1.00
203	1.00	1.00	2.00	.00	.00
204	.00	4.00	2.00	1.00	3.00
205	1.00	.00	1.00	.00	1.00
206	3.00	1.00	1.00	1.00	1.00
207	4.00	3.00	.00	.00	5.00
208	1.00	1.00	4.00	3.00	5.00
209	.	3.00	3.00	.	3.00
210	2.00	3.00	3.00	1.00	3.00

7-18

	pcu09	pcu10	pcu11	pcu12	pcu13
181	5.00	1.00	1.00	1.00	1.00
182	.00	.00	3.00	.00	3.00
183	3.00	4.00	1.00	1.00	1.00
184	5.00	1.00	3.00	2.00	1.00
185	4.00	1.00	3.00	3.00	1.00
186	4.00	1.00	3.00	1.00	1.00
187	2.00	2.00	.00	.00	2.00
188	1.00	5.00	5.00	1.00	1.00
189	4.00	3.00	1.00	1.00	3.00
190	4.00	3.00	.00	.00	2.00
191	.00	.00	.00	5.00	.00
192	3.00	1.00	3.00	3.00	3.00
193	1.00	.00	.00	.00	1.00
194	3.00	.00	.00	.00	.00
195	4.00	3.00	2.00	1.00	3.00
196	4.00	1.00	4.00	3.00	3.00
197	3.00	2.00	1.00	1.00	2.00
198	1.00	3.00	5.00	5.00	1.00
199	3.00	1.00	1.00	2.00	1.00
200	4.00	4.00	.	3.00	3.00
201	3.00	1.00	1.00	.00	3.00
202	.	1.00	1.00	1.00	.
203	3.00	2.00	.00	.00	2.00
204	3.00	4.00	.00	3.00	1.00
205	1.00	1.00	.00	.00	.00
206	3.00	2.00	1.00	1.00	1.00
207	5.00	1.00	.00	4.00	5.00
208	5.00	.00	.00	.00	3.00
209	3.00	3.00	.	.	3.00
210	4.00	1.00	1.00	1.00	3.00

	pscheme	ppln_trm	ppln_wk	pactiv	precord	pls1a
181	1.00	1.00	1.00	.00	1.00	1.00
182	.00	1.00	1.00	1.00	1.00	.00
183	1.00	1.00	.00	.00	1.00	1.00
184	1.00	1.00	1.00	.00	1.00	1.00
185	1.00	1.00	1.00	.00	1.00	1.00
186	.00	1.00	1.00	1.00	1.00	1.00
187	.00	1.00	1.00	1.00	1.00	1.00
188	1.00	1.00	1.00	1.00	1.00	1.00
189	1.00	1.00	1.00	.00	1.00	1.00
190	1.00	1.00	1.00	1.00	1.00	1.00
191	.	1.00	1.00	1.00	1.00	1.00
192	00	.00	1.00	1.00	1.00	.00
193	.00	1.00	1.00	1.00	1.00	.00
194	1.00	1.00	1.00	00	1.00	1.00
195	1.00	1.00	1.00	.00	.00	.00
196	00	1.00	1.00	1.00	1.00	1.00
197	1.00	1.00	1.00	1.00	.00	1.00
198	00	1.00	1.00	1.00	1.00	1.00
199	00	1.00	1.00	.00	1.00	.00
200	1.00	1.00	1.00	1.00	1.00	.00
201	1.00	1.00	.00	.00	.00	1.00
202	1.00	1.00	1.00	.00	1.00	1.00
203	00	1.00	1.00	1.00	.00	1.00
204	1.00	1.00	.00	1.00	1.00	1.00
205	1.00	1.00	1.00	1.00	1.00	1.00
206	1.00	1.00	.00	1.00	.00	.00
207	1.00	1.00	1.00	1.00	1.00	1.00
208	1.00	1.00	.00	1.00	1.00	1.00
209	.00	1.00	1.00	1.00	1.00	1.00
210	.00	1.00	1.00	1.00	1.00	1.00

	pls01	pls02	pls03	pls04	pls05
181	4.00	2.00	4.00	2.00	4.00
182	3.00	4.00	3.00	2.00	2.00
183	4.00	5.00	3.00	4.00	2.00
184	5.00	3.00	3.00	2.00	2.00
185	5.00	3.00	3.00	2.00	3.00
186	4.00	.	1.00	4.00	4.00
187	4.00	4.00	3.00	5.00	4.00
188	5.00	2.00	3.00	4.00	4.00
189	5.00	5.00	4.00	4.00	4.00
190	5.00	4.00	3.00	4.00	2.00
191	5.00	4.00	3.00	4.00	4.00
192	3.00	4.00	3.00	5.00	2.00
193	3.00	4.00	4.00	2.00	2.00
194	5.00	1.00	3.00	4.00	5.00
195	3.00	2.00	2.00	3.00	4.00
196	5.00	2.00	4.00	2.00	4.00
197	5.00	2.00	.	5.00	4.00
198	5.00	2.00	4.00	4.00	5.00
199	2.00	4.00	2.00	4.00	2.00
200	1.00	4.00	4.00	4.00	2.00
201	5.00	1.00	4.00	2.00	4.00
202	5.00	2.00	1.00	5.00	4.00
203	4.00	3.00	3.00	2.00	3.00
204	4.00	2.00	1.00	4.00	2.00
205	5.00	1.00	4.00	5.00	4.00
206	1.00	1.00	3.00	5.00	4.00
207	4.00	4.00	3.00	3.00	3.00
208	4.00	3.00	3.00	4.00	4.00
209	4.00	4.00	3.00	5.00	2.00
210	4.00	2.00	3.00	2.00	3.00

	pls06	pls07	pls08	pls09	pls10
181	2.00	4.00	2.00	4.00	2.00
182	4.00	2.00	2.00	2.00	2.00
183	3.00	3.00	2.00	1.00	4.00
184	4.00	1.00	4.00	3.00	3.00
185	4.00	2.00	4.00	4.00	3.00
186	2.00	.	5.00	2.00	2.00
187	3.00	2.00	2.00	1.00	5.00
188	2.00	1.00	5.00	2.00	2.00
189	2.00	2.00	1.00	4.00	5.00
190	4.00	5.00	2.00	1.00	5.00
191	5.00	3.00	4.00	2.00	2.00
192	2.00	2.00	2.00	2.00	3.00
193	4.00	4.00	2.00	2.00	5.00
194	1.00	3.00	4.00	3.00	1.00
195	2.00	2.00	3.00	2.00	4.00
196	2.00	3.00	2.00	3.00	1.00
197	1.00	1.00	2.00	2.00	4.00
198	4.00	5.00	2.00	4.00	2.00
199	4.00	2.00	2.00	2.00	4.00
200	2.00	2.00	2.00	4.00	1.00
201	4.00	4.00	2.00	5.00	1.00
202	2.00	2.00	5.00	1.00	5.00
203	2.00	2.00	3.00	4.00	2.00
204	2.00	1.00	2.00	2.00	2.00
205	3.00	2.00	2.00	4.00	2.00
206	4.00	2.00	2.00	1.00	5.00
207	3.00	4.00	2.00	2.00	4.00
208	2.00	4.00	2.00	4.00	2.00
209	2.00	3.00	3.00	4.00	.
210	3.00	4.00	4.00	4.00	2.00

	pls11	pls12	pls13	pls14	pls15
181	4.00	2.00	4.00	2.00	4.00
182	4.00	4.00	2.00	3.00	4.00
183	3.00	3.00	5.00	4.00	4.00
184	4.00	4.00	2.00	2.00	2.00
185	3.00	4.00	5.00	2.00	2.00
186	5.00	3.00	2.00	2.00	5.00
187	2.00	2.00	.	1.00	2.00
188	4.00	2.00	4.00	3.00	3.00
189	4.00	2.00	5.00	4.00	5.00
190	3.00	2.00	1.00	2.00	5.00
191	4.00	2.00	1.00	2.00	4.00
192	4.00	4.00	1.00	2.00	4.00
193	5.00	4.00	1.00	2.00	4.00
194	4.00	4.00	2.00	3.00	4.00
195	4.00	4.00	2.00	2.00	4.00
196	5.00	2.00	4.00	2.00	4.00
197	4.00	5.00	5.00	2.00	2.00
198	4.00	2.00	4.00	2.00	5.00
199	3.00	4.00	1.00	3.00	4.00
200	2.00	2.00	1.00	3.00	4.00
201	3.00	4.00	4.00	2.00	4.00
202	4.00	2.00	1.00	3.00	4.00
203	4.00	2.00	3.00	4.00	2.00
204	4.00	4.00	1.00	4.00	3.00
205	5.00	2.00	4.00	2.00	3.00
206	5.00	4.00	4.00	1.00	5.00
207	4.00	4.00	2.00	2.00	4.00
208	4.00	4.00	2.00	2.00	4.00
209	3.00	3.00	2.00	2.00	4.00
210	3.00	2.00	4.00	2.00	4.00

	pls16	pls17	pls18	pls19	pls20
181	4.00	2.00	5.00	2.00	2.00
182	4.00	3.00	4.00	4.00	3.00
183	4.00	3.00	4.00	4.00	3.00
184	4.00	2.00	4.00	5.00	5.00
185	4.00	2.00	5.00	4.00	5.00
186	2.00	2.00	5.00	4.00	3.00
187	4.00	3.00	4.00	4.00	2.00
188	3.00	5.00	4.00	4.00	5.00
189	2.00	1.00	5.00	1.00	2.00
190	4.00	2.00	4.00	1.00	2.00
191	4.00	2.00	5.00	3.00	3.00
192	3.00	2.00	5.00	4.00	3.00
193	2.00	1.00	4.00	4.00	2.00
194	4.00	2.00	5.00	4.00	3.00
195	2.00	2.00	5.00	4.00	3.00
196	2.00	2.00	5.00	2.00	2.00
197	4.00	2.00	5.00	5.00	5.00
198	1.00	2.00	5.00	2.00	2.00
199	5.00	2.00	5.00	4.00	4.00
200	2.00	2.00	4.00	2.00	2.00
201	2.00	1.00	5.00	4.00	2.00
202	4.00	2.00	4.00	4.00	1.00
203	2.00	2.00	5.00	2.00	4.00
204	2.00	2.00	4.00	4.00	3.00
205	3.00	4.00	5.00	4.00	4.00
206	5.00	2.00	5.00	2.00	2.00
207	3.00	2.00	4.00	2.00	2.00
208	3.00	2.00	4.00	2.00	2.00
209	3.00	2.00	4.00	2.00	3.00
210	4.00	2.00	4.00	2.00	4.00

	py0	py2	py4	pyothr	pthis_y	pn_class
211	.	.	1	.	4.0	27.00
212	1	.	.	.	.0	28.00
213	1	.	.	.	.0	23.00
214	.	1	.	.	2.0	28.00
215	1	.	.	.	.0	24.00
216	1	.	.	.	.0	34.00
217	1	.	.	.	1.5	26.00
218	1	.	.	.	.0	24.00
219	.	1	.	.	2.0	31.00
220	1	.	.	.	.0	30.00
221	1	.	.	.	.0	30.00
222	1	1	.	.	2.0	32.00
223	.	1	.	.	2.0	29.00
224	.	1	.	.	.0	27.00
225	1	.	.	.	.5	27.00
226	1	.	.	.	.0	23.00
227	1	.	.	.	.0	23.00
228	.	.	.	1	.5	29.00
229	.	.	1	.	6.0	27.00
230	.	.	1	.	4.0	30.00
231	.	.	1	.	4.0	31.00
232	.	1	.	.	2.0	29.00
233	.	.	1	.	4.0	33.00
234	.	.	1	.	4.0	33.00
235	1	1	.	1	.0	36.00
236	.	.	.	1	5.5	36.00
237	1	.	.	.	1.0	28.00
238	1	.	.	.	.0	27.00
239	.	.	1	.	4.0	.
240	.	.	1	.	4.5	23.00

	pn_oth	pn_snr	padults	pyrs_tea	pcom_hme
211	.	5.00	1	5.00	1
212	.	.00	1	20.00	1
213	.	.00	1	24.00	0
214	.	.00	1	16.00	0
215	.	.00	1	20.00	1
216	.	.00	1	15.00	1
217	.	1.00	1	12.00	1
218	.	2.00	1	19.00	1
219	.	3.00	1	11.00	1
220	.	9.00	1	22.00	1
221	.	.00	1	27.00	0
222	.	3.00	1	7.00	1
223	.	.00	1	28.00	0
224	.	.00	1	7.00	1
225	12.00	.00	1	5.00	1
226	.	1.00	1	6.00	1
227	.	.00	1	14.00	1
228	11.00	.00	1	15.00	1
229	.	.00	1	20.00	1
230	.	1.00	1	5.00	1
231	.	1.00	1	5.00	1
232	.	2.00	1	24.00	1
233	.	2.00	0	21.00	0
234	.	3.00	1	20.00	0
235	18.00	1.00	1	7.00	0
236	.	.00	1	27.00	1
237	.	.00	1	20.00	1
238	.	.00	1	13.00	1
239	.	.00	.	.	0
240	.	1.00	1	22.00	1

	pc_h_wrk	pinset_l	pinset_n	pinset_g	pinset_c
211	1	0	0	0	0
212	1	1	0	0	0
213	0	0	0	0	0
214	0	0	0	0	0
215	1	0	0	0	0
216	1	0	0	0	0
217	0	1	1	0	0
218	0	1	1	0	0
219	0	0	0	0	0
220	1	0	0	0	0
221	0	0	0	0	0
222	1	0	0	0	0
223	0	0	0	0	0
224	1	0	1	0	0
225	1	1	1	0	0
226	1	1	0	0	0
227	1	1	1	0	0
228	1	0	0	0	0
229	1	0	0	0	0
230	1	0	0	0	0
231	1	0	0	0	0
232	1	0	1	0	0
233	1	0	0	0	0
234	0	0	1	0	0
235	0	0	0	0	0
236	1	1	1	0	1
237	1	0	0	0	0
238	1	0	0	0	0
239	0	0	0	0	0
240	1	1	0	0	0

	pinset_o	pitcoord	pc_com_u	pp_com_u	ptim_pup
211	1	0	1	3	60.00
212	0	0	4	4	5.00
213	1	0	.	2	10.00
214	0	0	2	3	30.00
215	0	0	3	4	7.00
216	0	0	1	2	35.00
217	0	0	2	3	10.00
218	0	0	1	3	5.00
219	0	0	2	3	15.00
220	0	0	1	2	40.00
221	1	0	3	3	20.00
222	0	1	2	3	10.00
223	1	0	2	3	20.00
224	3	0	1	2	35.00
225	0	0	1	2	45.00
226	0	0	3	3	10.00
227	0	0	1	2	30.00
228	0	0	1	1	30.00
229	1	0	1	3	60.00
230	0	0	1	3	30.00
231	0	0	1	3	20.00
232	0	1	1	2	20.00
233	1	1	2	3	30.00
234	1	0	2	3	30.00
235	1	0	1	2	60.00
236	1	1	1	4	120.00
237	0	0	1	3	.
238	2	0	1	2	20.00
239	0	0	.	.	
240	0	0	1	2	35.00

	pown	prequest	pmonit	psuperv	psenplan
211	0	1	0	0	1
212	0	0	0	1	0
213	1	1	1	1	1
214	1	1	1	0	0
215	0	0	1	1	1
216	1	1	1	0	1
217	1	1	1	1	0
218	1	1	1	1	0
219	0	0	1	1	0
220	1	0	1	0	1
221	0	0	0	0	0
222	0	0	1	0	1
223	1	1	1	0	1
224	1	1	0	1	0
225	1	1	1	1	1
226	0	1	0	0	0
227	1	1	0	1	1
228	1	1	0	0	0
229	0	0	1	0	1
230	1	1	1	0	0
231	1	1	1	0	0
232	1	1	0	0	1
233	1	1	1	0	0
234	1	1	1	0	1
235	1	1	0	1	1
236	0	0	1	0	1
237	1	1	0	0	1
238	1	1	1	0	0
239	1	1	1	0	1
240	1	1	1	0	1

	psenadpt	pp_hm_pc	pc01	pc02	pc03
211	1	50.00	0	1	0
212	0	10.00	0	0	0
213	1	.	0	0	1
214	0	.	0	1	0
215	1	50.00	1	0	0
216	1	30.00	1	1	0
217	0	50.00	0	0	0
218	0	50.00	0	0	0
219	0	.	0	1	0
220	1	10.00	0	1	0
221	0	15.00	0	1	0
222	1	5.00	0	1	0
223	0	.	1	0	0
224	1	.	0	1	0
225	0	15.00	0	1	0
226	0	5.00	0	1	0
227	1	10.00	0	1	0
228	0	2.00	1	0	0
229	1	50.00	0	1	0
230	1	50.00	2	1	0
231	1	50.00	0	1	0
232	0	.	1	1	0
233	1	50.00	1	1	0
234	0	25.00	1	1	0
235	1	25.00	1	0	0
236	1	.	0	0	1
237	1	25.00	0	1	0
238	1	20.00	1	0	0
239	1	.	2	0	0
240	1	65.00	2	0	0

	pc04	pc05	pc06	pc07	pc08
211	0	0	0	0	0
212	0	0	0	0	1
213	0	0	0	0	0
214	0	0	0	0	0
215	0	0	0	0	0
216	0	0	0	1	0
217	0	0	0	0	1
218	0	0	0	0	1
219	0	0	0	0	0
220	0	0	0	1	0
221	0	0	0	0	1
222	0	0	0	0	0
223	0	0	0	0	0
224	0	0	0	0	0
225	0	0	0	0	0
226	0	0	0	0	0
227	1	0	0	0	0
228	0	0	0	1	1
229	0	0	0	0	0
230	0	0	0	0	0
231	0	0	0	1	0
232	0	0	0	0	0
233	0	0	0	0	0
234	0	0	0	0	0
235	0	0	0	0	7
236	0	0	0	0	0
237	0	0	0	0	0
238	0	0	0	0	0
239	0	0	0	0	0
240	2	0	0	0	0

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	pc09	pc10	pc11	pc12	pc13
211	1	0	0	0	0
212	0	0	0	0	0
213	1	0	0	0	0
214	0	0	0	0	0
215	0	0	0	0	0
216	0	0	0	0	0
217	0	0	0	0	0
218	0	0	0	0	0
219	0	0	0	0	0
220	0	0	0	0	2
221	0	0	0	0	0
222	0	0	0	0	0
223	0	0	0	0	0
224	1	0	0	0	0
225	1	0	0	0	0
226	1	0	0	0	0
227	0	0	1	0	0
228	0	0	0	0	0
229	0	0	0	0	0
230	0	0	0	0	0
231	0	0	0	0	0
232	0	0	0	0	0
233	0	0	0	0	0
234	0	0	0	0	0
235	0	0	0	0	0
236	0	0	0	0	0
237	0	0	0	1	0
238	0	0	0	0	0
239	2	0	0	0	0
240	0	1	1	0	0

	pc14	pc15	pc16	pc17	pc18
211	0	3	0	0	0
212	1	0	0	0	0
213	0	2	0	0	0
214	0	0	0	0	0
215	0	0	0	0	0
216	0	0	0	0	0
217	1	0	0	0	0
218	0	0	0	0	0
219	0	0	0	0	0
220	0	0	0	0	0
221	1	0	0	0	0
222	0	0	0	0	0
223	0	0	0	0	0
224	0	3	0	0	0
225	0	3	0	0	0
226	0	4	0	0	0
227	0	0	0	0	0
228	0	0	0	0	0
229	0	0	0	0	0
230	0	0	0	0	0
231	0	0	0	0	0
232	0	0	0	0	0
233	0	0	0	0	0
234	0	0	0	0	0
235	7	0	0	0	0
236	0	0	0	0	0
237	0	0	0	0	7
238	0	0	0	0	0
239	0	0	0	0	0
240	0	0	0	0	0

	ph01	ph02	ph03	ph04	ph05
211	.00	1.00	1.00	.00	.00
212	.00	.00	.00	.00	.00
213	.00	.00	1.00	.00	.00
214	.00	3.00	10.00	.00	.00
215	1.00	.00	.00	.00	.00
216	.00	1.00	.00	.00	.00
217	.00	1.00	.00	.00	.00
218	.00	1.00	.00	.00	.00
219	.00	1.00	.00	.00	.00
220	.00	.00	.00	.00	.00
221	.00	1.00	.00	.00	.00
222	.00	1.00	.00	.00	.00
223	1.00	.00	.00	.00	.00
224	.00	1.00	1.00	.00	.00
225	.00	1.00	.00	.00	.00
226	.00	1.00	.00	.00	.00
227	.00	1.00	.00	1.00	1.00
228	2.00	1.00	.00	.00	.00
229	.00	1.00	.00	.00	.00
230	2.00	1.00	.00	.00	.00
231	.00	1.00	.00	.00	.00
232	1.00	1.00	.00	.00	.00
233	.00	1.00	.00	.00	.00
234	1.00	.00	.00	.00	.00
235	1.00	7.00	.00	.00	.00
236	.00	.00	.00	.00	.00
237	.00	10.00	.00	.00	.00
238	1.00	.00	.00	.00	.00
239	.00	2.00	6.00	.00	1.00
240	1.00	.00	.00	1.00	.00

	ph06	ph07	ph08	ph09	ph10
211	.00	.00	.00	1.00	.00
212	.00	.00	.00	.00	.00
213	.00	.00	.00	1.00	.00
214	.00	.00	.00	7.00	.00
215	.00	.00	.00	.00	.00
216	.00	.00	.00	.00	.00
217	.00	.00	.00	.00	.00
218	.00	.00	.00	.00	.00
219	.00	.00	1.00	.00	.00
220	1.00	.00	.00	.00	.00
221	.00	.00	.00	.00	.00
222	.00	.00	.00	.00	.00
223	.00	.00	.00	.00	.00
224	.00	.00	.00	1.00	.00
225	.00	.00	1.00	.00	.00
226	.00	.00	.00	1.00	.00
227	.00	.00	.00	.00	1.00
228	.00	.00	.00	.00	.00
229	.00	.00	.00	.00	.00
230	.00	.00	.00	.00	.00
231	.00	.00	.00	.00	.00
232	.00	.00	1.00	.00	.00
233	.00	.00	1.00	.00	.00
234	.00	.00	.00	.00	.00
235	.00	.00	1.00	.00	.00
236	.00	.00	.00	.00	.00
237	.00	.00	1.00	.00	.00
238	.00	.00	.00	.00	.00
239	3.00	.00	.00	6.00	.00
240	.00	.00	.00	.00	2.00

	ph11	ph12	ph13	ph14	ph15
211	.00	.00	.00	.00	1.00
212	.00	.00	.00	.00	.00
213	.00	.00	.00	.00	.00
214	.00	.00	.00	.00	7.00
215	.00	.00	.00	.00	.00
216	.00	.00	.00	.00	.00
217	.00	.00	1.00	.00	.00
218	.00	.00	.00	1.00	.00
219	.00	.00	.00	1.00	.00
220	.00	.00	.00	1.00	.00
221	.00	.00	.00	1.00	.00
222	.00	.00	.00	1.00	.00
223	.00	.00	.00	.00	.00
224	.00	.00	.00	1.00	1.00
225	.00	.00	.00	1.00	.00
226	.00	.00	.00	.00	.00
227	.00	.00	.00	.00	.00
228	.00	.00	.00	.00	.00
229	.00	.00	.00	1.00	.00
230	.00	.00	.00	.00	.00
231	.00	.00	.00	.00	.00
232	.00	.00	.00	1.00	.00
233	.00	.00	.00	1.00	.00
234	.00	.00	.00	1.00	.00
235	.00	.00	.00	4.00	.00
236	.00	.00	.00	.00	.00
237	.00	.00	.00	1.00	.00
238	.00	.00	.00	.00	.00
239	.00	.00	.00	.00	6.00
240	.00	.00	.00	.00	.00

	ph16	ph17	ph18	ph19	ph20
211	.00	.00	.00	.00	.00
212	.00	.00	.00	.00	.00
213	.00	.00	.00	.00	.00
214	.00	.00	.00	.00	.00
215	.00	.00	.00	.00	.00
216	.00	.00	.00	.00	.00
217	.00	.00	.00	.00	.00
218	.00	.00	.00	.00	.00
219	.00	.00	.00	.00	.00
220	.00	.00	.00	.00	.00
221	.00	.00	.00	.00	.00
222	.00	.00	.00	.00	.00
223	.00	.00	.00	.00	.00
224	.00	.00	.00	.00	.00
225	.00	.00	.00	.00	.00
226	.00	.00	.00	.00	.00
227	1.00	1.00	.00	.00	.00
228	.00	.00	.00	.00	.00
229	.00	.00	.00	.00	.00
230	.00	.00	.00	.00	.00
231	.00	.00	.00	.00	.00
232	.00	.00	.00	.00	.00
233	.00	.00	.00	.00	.00
234	.00	.00	.00	.00	.00
235	.00	.00	.00	.00	.00
236	.00	.00	.00	.00	.00
237	.00	.00	.00	.00	.00
238	.00	.00	.00	.00	.00
239	.00	1.00	.00	.00	.00
240	2.00	.00	.00	.00	.00

	ph21	ph22	ph23	ph24	ph25
211	.00	.00	.00	.00	.00
212	.00	.00	.00	.00	.00
213	.00	.00	.00	.00	.00
214	.00	.00	.00	.00	.00
215	.00	.00	.00	.00	.00
216	.00	.00	.00	.00	.00
217	.00	.00	.00	.00	.00
218	.00	.00	.00	.00	.00
219	.00	.00	.00	.00	.00
220	.00	.00	.00	.00	.00
221	.00	.00	.00	.00	.00
222	.00	.00	.00	.00	.00
223	.00	.00	.00	.00	.00
224	.00	.00	.00	.00	.00
225	.00	.00	.00	.00	.00
226	.00	.00	.00	.00	.00
227	.00	.00	.00	.00	.00
228	.00	.00	.00	.00	.00
229	.00	.00	.00	.00	.00
230	.00	.00	.00	.00	.00
231	.00	.00	.00	.00	.00
232	.00	.00	.00	.00	.00
233	.00	.00	.00	.00	.00
234	.00	.00	.00	.00	.00
235	.00	.00	.00	.00	.00
236	.00	.00	.00	.00	.00
237	.00	.00	.00	.00	.00
238	.00	.00	.00	.00	.00
239	1.00	.00	.00	.00	.00
240	.00	.00	.00	.00	.00

	ph26	ph27	ph28	ph29	ph30
211	.00	.00	.00	.00	.00
212	.00	.00	.00	.00	.00
213	.00	.00	.00	.00	.00
214	.00	7.00	.00	.00	.00
215	.00	.00	.00	.00	.00
216	.00	.00	.00	.00	.00
217	.00	.00	.00	.00	.00
218	.00	.00	.00	.00	.00
219	.00	.00	.00	.00	.00
220	.00	.00	.00	.00	.00
221	.00	.00	.00	.00	.00
222	.00	.00	.00	.00	.00
223	.00	.00	.00	.00	.00
224	1.00	.00	.00	.00	.00
225	.00	.00	.00	.00	.00
226	.00	.00	.00	.00	.00
227	.00	.00	.00	.00	.00
228	.00	.00	.00	.00	.00
229	.00	.00	.00	.00	.00
230	.00	.00	.00	.00	.00
231	.00	.00	.00	.00	.00
232	.00	.00	.00	.00	.00
233	.00	.00	.00	.00	.00
234	.00	.00	.00	.00	.00
235	.00	.00	.00	.00	.00
236	.00	.00	.00	.00	.00
237	.00	.00	.00	.00	.00
238	.00	.00	.00	.00	.00
239	.00	.00	.00	.00	.00
240	.00	.00	.00	.00	.00

	pcalcul	pspell_c	pturtle	pcon_k	pcamera
211	20.00	.00	1.00	.00	.00
212	.00	.00	2.00	.00	.00
213	.00	.00	2.00	.00	1.00
214	10.00	.00	1.00	.00	.00
215	20.00	.00	2.00	1.00	1.00
216	6.00	.00	2.00	2.00	.00
217	.00	.00	3.00	1.00	.00
218	2.00	.00	3.00	1.00	.00
219	.00	.00	1.00	.00	.00
220	6.00	.00	2.00	1.00	.00
221	2.00	.00	2.00	1.00	.00
222	32.00	.00	2.00	.00	.00
223	.00	.00	3.00	3.00	.00
224	27.00	.00	1.00	1.00	.00
225	6.00	.00	1.00	1.00	.00
226	6.00	.00	2.00	1.00	.00
227	15.00	.00	1.00	1.00	1.00
228	15.00	.00	2.00	1.00	.00
229	20.00	2.00	1.00	.00	.00
230	30.00	2.00	1.00	.00	.00
231	32.00	2.00	1.00	.00	.00
232	15.00	.00	4.00	2.00	.00
233	40.00	.00	1.00	.00	.00
234	40.00	.00	1.00	.00	.00
235	20.00	.00	1.00	1.00	.00
236	20.00	.00	1.00	.00	.00
237	10.00	.00	4.00	1.00	.00
238	6.00	.00	2.00	1.00	.00
239	25.00	.00	1.00	1.00	.00
240	30.00	.00	1.00	1.00	1.00

	pmus_k	pfax	pcu01	pcu02	pcu03
211	16.00	.00	1.00	3.00	3.00
212	.00	.00	1.00	.00	.00
213	.00	.00	1.00	1.00	5.00
214	10.00	.00	2.00	.00	.00
215	8.00	.00	1.00	.00	.00
216	.00	.00	3.00	.00	.00
217	1.00	.00	1.00	.00	.00
218	1.00	.00	1.00	.	.
219	1.00	.00	1.00	1.00	3.00
220	1.00	.00	1.00	1.00	2.00
221	.00	.00	1.00	1.00	1.00
222	1.00	.00	1.00	.00	2.00
223	.00	.00	1.00	1.00	1.00
224	1.00	.00	1.00	1.00	1.00
225	.00	.00	1.00	.	5.00
226	9.00	.00	3.00	.00	1.00
227	8.00	.00	5.00	1.00	1.00
228	1.00	.00	1.00	1.00	1.00
229	3.00	.00	1.00	2.00	2.00
230	2.00	.00	2.00	2.00	2.00
231	3.00	.00	2.00	1.00	1.00
232	1.00	.00	1.00	.00	.00
233	1.00	.00	1.00	.00	.00
234	1.00	.00	1.00	1.00	1.00
235	.00	.00	1.00	.00	.00
236	2.00	.00	1.00	4.00	.00
237	.00	.00	2.00	.00	1.00
238	.00	.00	1.00	.00	.00
239	.00	.00	1.00	3.00	1.00
240	4.00	.00	1.00	5.00	1.00

	pcu04	pcu05	pcu06	pcu07	pcu08
211	4.00	3.00	4.00	2.00	2.00
212	.00	.00	.00	.00	3.00
213	5.00	4.00	1.00	1.00	5.00
214	2.00	.00	.00	.00	2.00
215	.00	2.00	.00	.00	2.00
216	.00	3.00	.00	.00	5.00
217	.00	2.00	.00	.00	2.00
218	.	1.00	.	.	2.00
219	.00	1.00	1.00	1.00	4.00
220	2.00	2.00	1.00	1.00	3.00
221	2.00	2.00	.	1.00	2.00
222	3.00	2.00	1.00	1.00	1.00
223	2.00	3.00	1.00	1.00	3.00
224	1.00	1.00	1.00	1.00	3.00
225	4.00	5.00	.	.	5.00
226	.00	.00	.00	.00	3.00
227	5.00	5.00	5.00	.00	5.00
228	1.00	4.00	.	5.00	5.00
229	2.00	1.00	1.00	1.00	1.00
230	1.00	1.00	.00	.00	3.00
231	1.00	1.00	.00	1.00	2.00
232	3.00	3.00	1.00	1.00	3.00
233	2.00	2.00	1.00	.00	3.00
234	2.00	3.00	1.00	.00	3.00
235	.00	3.00	.00	.00	5.00
236	3.00	3.00	.00	1.00	3.00
237	.00	2.00	1.00	.00	1.00
238	.00	.00	.00	.00	5.00
239	1.00	3.00	2.00	1.00	4.00
240	4.00	3.00	3.00	.00	4.00

	pcu09	pcu10	pcu11	pcu12	pcu13
211	3.00	2.00	3.00	3.00	1.00
212	.00	3.00	3.00	.00	.00
213	1.00	1.00	5.00	5.00	1.00
214	2.00	2.00	.00	.00	2.00
215	2.00	2.00	.00	.00	.00
216	1.00	5.00	5.00	5.00	4.00
217	1.00	1.00	2.00	.00	.00
218	2.00	2.00	3.00	.	.
219	1.00	1.00	3.00	3.00	1.00
220	1.00	1.00	4.00	4.00	1.00
221	1.00	.	4.00	2.00	1.00
222	1.00	1.00	1.00	1.00	1.00
223	1.00	3.00	1.00	1.00	1.00
224	3.00	4.00	1.00	3.00	2.00
225	3.00	5.00	3.00	4.00	1.00
226	.00	.00	.00	.00	.00
227	5.00	5.00	5.00	.00	.00
228	5.00	5.00	5.00	1.00	1.00
229	3.00	3.00	1.00	1.00	2.00
230	4.00	1.00	.00	1.00	1.00
231	1.00	1.00	.00	.00	1.00
232	3.00	3.00	3.00	2.00	3.00
233	3.00	.00	.00	3.00	4.00
234	3.00	4.00	.00	3.00	4.00
235	.00	5.00	5.00	5.00	.00
236	3.00	3.00	.00	.00	3.00
237	1.00	1.00	4.00	1.00	.00
238	1.00	.00	5.00	.00	.00
239	3.00	4.00	1.00	1.00	1.00
240	4.00	4.00	5.00	5.00	3.00

	pscheme	ppln_trm	ppln_wk	pactiv	precord	pls1a
211	.00	1.00	1.00	1.00	1.00	1.00
212	1.00	1.00	1.00	.00	.00	1.00
213	1.00	1.00	1.00	1.00	.00	1.00
214	1 00	1.00	1.00	1.00	1.00	1.00
215	1.00	1.00	1.00	.00	1.00	1.00
216	1.00	1.00	1.00	.00	.00	.00
217	1 00	1.00	1.00	.00	.00	1.00
218	1.00	1.00	1.00	.00	.00	1.00
219	1 00	1.00	1.00	.00	1.00	1.00
220	1.00	1.00	1.00	.00	1.00	1.00
221	1.00	1.00	1.00	1.00	1.00	1.00
222	1 00	1.00	.00	1.00	1.00	1.00
223	.00	1.00	1.00	.00	1.00	1.00
224	1 00	1.00	1.00	.00	.00	1.00
225	1 00	1.00	1.00	.00	1.00	.00
226	.00	1.00	1.00	.00	1.00	1.00
227	1 00	1.00	1.00	1.00	1.00	1.00
228	1 00	1.00	1.00	.00	1.00	1.00
229	1 00	1.00	1 00	1.00	1.00	1.00
230	1 00	1.00	1 00	1.00	1.00	1.00
231	1 00	1.00	1.00	1.00	1.00	.00
232	1 00	1.00	1.00	1.00	1.00	1.00
233	1 00	1.00	1.00	1.00	1.00	1.00
234	1 00	1.00	1.00	1.00	1.00	1.00
235	1.00	1.00	1.00	1.00	1.00	1.00
236	.00	1.00	1.00	.00	.00	1.00
237	1.00	1.00	1.00	.00	1.00	1.00
238	1.00	1.00	1.00	1.00	1.00	1.00
239	1 00	1.00	.00	.00	1.00	1.00
240	.00	.00	.00	.00	.00	.00

8-20

	pls01	pls02	pls03	pls04	pls05
211	4.00	3.00	4.00	2.00	4.00
212	4.00	4.00	4.00	4.00	3.00
213	4.00	5.00	3.00	4.00	2.00
214	4.00	2.00	5.00	4.00	4.00
215	4.00	4.00	2.00	5.00	2.00
216	.	2.00	4.00	3.00	4.00
217	4.00	2.00	1.00	2.00	4.00
218	4.00	2.00	1.00	2.00	4.00
219	5.00	3.00	3.00	4.00	4.00
220	4.00	2.00	3.00	2.00	2.00
221	4.00	2.00	2.00	4.00	4.00
222	5.00	3.00	3.00	5.00	4.00
223	4.00	3.00	3.00	4.00	2.00
224	5.00	2.00	5.00	4.00	5.00
225	3.00	2.00	5.00	3.00	4.00
226	4.00	2.00	4.00	4.00	2.00
227	5.00	2.00	4.00	2.00	5.00
228	4.00	3.00	3.00	4.00	3.00
229	4.00	4.00	1.00	2.00	2.00
230	4.00	4.00	3.00	2.00	4.00
231	1 00	3.00	2.00	4.00	3.00
232	5.00	4.00	4.00	1.00	4.00
233	4.00	2.00	2.00	5.00	.
234	4.00	2.00	2.00	5.00	2.00
235	4.00	2.00	1.00	2.00	4.00
236	5.00	3.00	4.00	4.00	2.00
237	4.00	2.00	2.00	4.00	4.00
238	4.00	4.00	.	2.00	2.00
239	4.00	.	.	.	.
240	2.00	2.00	4.00	2.00	.

	pls06	pls07	pls08	pls09	pls10
211	2.00	4.00	2.00	5.00	4.00
212	4.00	3.00	3.00	4.00	4.00
213	2.00	3.00	4.00	2.00	3.00
214	1.00	4.00	3.00	4.00	4.00
215	2.00	2.00	4.00	3.00	5.00
216	2.00	4.00	2.00	4.00	2.00
217	2.00	1.00	5.00	1.00	5.00
218	2.00	1.00	5.00	1.00	1.00
219	2.00	2.00	4.00	3.00	2.00
220	4.00	2.00	2.00	4.00	3.00
221	4.00	3.00	3.00	2.00	3.00
222	4.00	2.00	1.00	2.00	3.00
223	2.00	2.00	2.00	1.00	5.00
224	4.00	3.00	2.00	5.00	2.00
225	2.00	3.00	2.00	4.00	1.00
226	4.00	2.00	2.00	2.00	2.00
227	5.00	5.00	2.00	2.00	1.00
228	4.00	3.00	3.00	4.00	3.00
229	5.00	3.00	3.00	2.00	5.00
230	2.00	4.00	2.00	2.00	4.00
231	2.00	2.00	3.00	3.00	3.00
232	1.00	5.00	1.00	4.00	2.00
233	2.00	2.00	4.00	2.00	4.00
234	2.00	1.00	4.00	3.00	4.00
235	5.00	1.00	2.00	1.00	1.00
236	2.00	3.00	2.00	4.00	3.00
237	2.00	1.00	2.00	4.00	2.00
238	.	3.00	2.00	1.00	2.00
239	.	.	.	.	.
240	2.00	2.00	2.00	4.00	4.00

	pls11	pls12	pls13	pls14	pls15
211	4.00	4.00	2.00	3.00	4.00
212	3.00	4.00	2.00	2.00	3.00
213	3.00	4.00	3.00	3.00	3.00
214	5.00	4.00	4.00	2.00	4.00
215	5.00	5.00	2.00	3.00	3.00
216	4.00	4.00	4.00	2.00	4.00
217	4.00	3.00	1.00	2.00	4.00
218	4.00	3.00	1.00	2.00	1.00
219	3.00	2.00	2.00	2.00	3.00
220	4.00	4.00	2.00	3.00	3.00
221	3.00	2.00	2.00		4.00
222	4.00	4.00	2.00	4.00	4.00
223	4.00	2.00	2.00	3.00	3.00
224	4.00	4.00	4.00	4.00	5.00
225	4.00	4.00	4.00	2.00	5.00
226	4.00	2.00	4.00	3.00	4.00
227	4.00	2.00	1.00	2.00	5.00
228	4.00	4.00	4.00	3.00	4.00
229	3.00	4.00	4.00	4.00	3.00
230	3.00	2.00	4.00	2.00	5.00
231	3.00	2.00	1.00	2.00	4.00
232	5.00	2.00	4.00	2.00	5.00
233	4.00	4.00	1.00	3.00	4.00
234	3.00	5.00	1.00	3.00	3.00
235	2.00	1.00	5.00	2.00	5.00
236	3.00	3.00	1.00	3.00	4.00
237	3.00	2.00	4.00	4.00	4.00
238	4.00	4.00	2.00	2.00	4.00
239					
240	4.00	2.00	4.00	2.00	4.00

	pls16	pls17	pls18	pls19	pls20
211	4.00	2.00	4.00	4.00	2.00
212	3.00	3.00	4.00	3.00	3.00
213	4.00	4.00	4.00	3.00	3.00
214	4.00	2.00	5.00	4.00	2.00
215	3.00	2.00	4.00	4.00	4.00
216	4.00	2.00	5.00	3.00	2.00
217	2.00	2.00	5.00	3.00	2.00
218	3.00	1.00	5.00	3.00	2.00
219	3.00	2.00	5.00	3.00	3.00
220	4.00	2.00	4.00	3.00	3.00
221	2.00	2.00	4.00	2.00	2.00
222	4.00	3.00	5.00	2.00	2.00
223	5.00	3.00	4.00	4.00	2.00
224	2.00	5.00	5.00	4.00	2.00
225	1.00	2.00	4.00	4.00	2.00
226	4.00	2.00	4.00	4.00	3.00
227	2.00	2.00	5.00	2.00	2.00
228	4.00	5.00	4.00	4.00	3.00
229	5.00	3.00	4.00	4.00	2.00
230	2.00	2.00	5.00	2.00	2.00
231	2.00	2.00	4.00	2.00	4.00
232	2.00	2.00	5.00	2.00	1.00
233	5.00	2.00	5.00	4.00	2.00
234	5.00	2.00	5.00	4.00	3.00
235	5.00	1.00	5.00	2.00	2.00
236	3.00	2.00	4.00	3.00	3.00
237	4.00	2.00	4.00	4.00	4.00
238	2.00	4.00	5.00	2.00	2.00
239					
240	4.00	2.00	4.00	2.00	2.00

	py0	py2	py4	pyothr	pthis_y	pn_class
241	.	1	.	.	2.0	27.00
242	.	.	1	.	4.0	24.00
243	.	.	1	.	3.0	23.00
244	1	.	.	.	.0	20.00
245	1	.	.	.	.0	21.00
246	.	1	.	.	2.0	25.00
247	1	.	.	.	.0	21.00
248	.	1	.	.	2.0	26.00
249	1	.	.	.	.0	54.00
250	.	.	.	1	.0	21.00
251	.	.	1	.	4.0	20.00

	pn_oth	pn_snr	padults	pyrs_tea	pcom_hme
241	.	.00	1	2.00	1
242	.	4.00	0	3.00	0
243	.	.00	1	8.00	1
244	.	.00	1	20.00	1
245	.	.00	1	25.00	0
246	.	.00	1	25.00	1
247	.	.00	1	32.00	0
248	.	.00	1	30.00	1
249	.	.00	1	4.00	1
250	.	.00	1	32.00	0
251	.	2.00	0	25.00	0

	pc_h_wrk	pinset_l	pinset_n	pinset_g	pinset_c
241	1	1	1	0	0
242	0	1	1	0	0
243	1	1	1	0	0
244	1	1	1	0	0
245	0	1	1	0	0
246	1	1	1	0	0
247	0	0	0	0	1
248	1	1	0	0	0
249	1	0	0	0	0
250	0	0	0	0	0
251	0	0	2	0	0

	pinset_o	pitcoord	pc_com_u	pp_com_u	ptim_pup
241	1	0	1	3	30.00
242	0	0	2	3	30.00
243	0	0	1	2	45.00
244	0	0	1	2	30.00
245	0	0	1	2	10.00
246	0	0	3	3	10.00
247	1	0	1	2	10.00
248	0	0	4	1	15.00
249	1	0	1	2	50.00
250	1	0	1	4	.00
251	0	0	1	1	10.00

	pown	prequest	pmonit	psuperv	psenplan
241	1	1	1	0	0
242	1	1	0	0	0
243	0	1	1	0	0
244	1	1	1	0	0
245	1	1	1	1	0
246	1	1	0	0	0
247	1	1	1	1	0
248	1	1	1	1	1
249	0	0	1	0	1
250	4	0	0	0	0
251	1	0	1	0	1

	psenadpt	pp_hm_pc	pc01	pc02	pc03
241	0	90.00	0	0	0
242	1	75.00	0	.	0
243	0	50.00	0	0	0
244	0	50.00	1	0	0
245	0	.	1	0	0
246	0	50.00	0	0	0
247	0	50.00	1	0	0
248	1	50.00	1	0	0
249	1	50.00	1	0	0
250	1	.00	0	10	0
251	1	30.00	1	0	0

	pc04	pc05	pc06	pc07	pc08
241	1	0	0	0	0
242	1	0	0	0	0
243	2	1	0	0	0
244	1	0	0	0	0
245	1	0	0	0	0
246	1	0	0	0	0
247	1	0	0	0	0
248	2	0	0	0	0
249	3	0	0	0	0
250	0	0	0	0	0
251	1	0	1	0	0

	pc09	pc10	pc11	pc12	pc13
241	0	1	0	0	0
242	0	0	0	0	0
243	0	3	1	0	0
244	0	0	0	0	0
245	0	0	0	0	0
246	0	0	0	0	0
247	0	0	0	0	0
248	0	0	0	0	0
249	0	0	0	0	0
250	0	0	0	0	0
251	0	0	0	0	0

	pc14	pc15	pc16	pc17	pc18
241	0	0	5	0	0
242	0	0	0	0	0
243	0	0	0	0	0
244	0	0	0	0	0
245	0	0	0	0	0
246	0	0	0	0	0
247	0	0	0	0	0
248	0	0	0	0	0
249	0	0	0	0	0
250	0	0	0	0	0
251	0	0	0	0	0

	ph01	ph02	ph03	ph04	ph05
241	.00	.00	.00	2.00	.00
242	.00	.00	.00	1.00	.00
243	.00	.00	.00	2.00	.00
244	2.00	.00	.00	10.00	.00
245	.00	.00	.00	1.00	.00
246	.00	.00	.00	1.00	.00
247	1.00	.00	.00	1.00	.00
248	1.00	.00	.00	.00	.00
249	1.00	.00	.00	3.00	.00
250	1.00	.00	.00	.00	.00
251	1.00	.00	.00	1.00	.00

	ph06	ph07	ph08	ph09	ph10
241	.00	.00	.00	.00	2.00
242	.00	.00	.00	.00	1.00
243	.00	.00	.00	.00	2.00
244	.00	.00	.00	.00	6.00
245	.00	.00	.00	.00	1.00
246	.00	.00	.00	.00	.00
247	.00	.00	.00	.00	1.00
248	.00	.00	.00	.00	1.00
249	.00	.00	.00	.00	.00
250	.00	1.00	.00	.00	.00
251	.00	.00	.00	.00	.00

	ph11	ph12	ph13	ph14	ph15
241	.00	.00	.00	.00	.00
242	.00	.00	.00	.00	.00
243	.00	.00	.00	.00	.00
244	.00	.00	.00	.00	.00
245	.00	.00	.00	.00	.00
246	.00	.00	.00	.00	.00
247	.00	.00	.00	.00	.00
248	.00	.00	1.00	.00	.00
249	.00	.00	.00	.00	.00
250	.00	.00	.00	.00	.00
251	.00	.00	.00	.00	.00

	ph16	ph17	ph18	ph19	ph20
241	2.00	.00	.00	.00	.00
242	1.00	.00	.00	.00	.00
243	.00	.00	.00	.00	.00
244	10.00	.00	.00	.00	.00
245	.00	.00	.00	.00	.00
246	1.00	.00	.00	.00	.00
247	1.00	.00	.00	.00	.00
248	1.00	.00	.00	.00	.00
249	3.00	.00	.00	.00	.00
250	.00	.00	.00	.00	.00
251	.00	.00	.00	.00	.00

	ph21	ph22	ph23	ph24	ph25
241	.00	.00	.00	.00	.00
242	.00	.00	.00	.00	.00
243	.00	.00	.00	.00	.00
244	.00	.00	.00	.00	.00
245	.00	.00	.00	.00	.00
246	.00	.00	.00	.00	.00
247	.00	.00	.00	.00	.00
248	.00	.00	.00	.00	.00
249	.00	.00	.00	.00	.00
250	.00	.00	.00	.00	.00
251	.00	.00	.00	.00	.00

	ph26	ph27	ph28	ph29	ph30
241	.00	.00	.00	.00	.00
242	.00	.00	.00	.00	.00
243	.00	.00	.00	.00	.00
244	.00	.00	.00	.00	.00
245	.00	.00	.00	.00	.00
246	.00	.00	.00	.00	.00
247	.00	.00	.00	.00	.00
248	.00	.00	.00	.00	.00
249	.00	.00	3.00	.00	.00
250	.00	.00	.00	.00	.00
251	.00	.00	.00	.00	.00

	pcalcul	pspell_c	pturtle	pcon_k	pcamera
241	12.00	.00	1.00	.00	1.00
242	.00	1.00	.00	.00	1.00
243	25.00	.00	1.00	1.00	.00
244	.00	.00	1.00	2.00	1.00
245	6.00	.00	.00	1.00	.00
246	25.00	.00	1.00	2.00	1.00
247	6.00	.00	.00	1.00	.00
248	12.00	.00	1.00	8.00	1.00
249	12.00	.00	1.00	1.00	1.00
250	6.00	.00	.00	1.00	.00
251	.00	.00	1.00	1.00	1.00

	pmus_k	pfax	pcu01	pcu02	pcu03
241	1.00	.00	1.00	.00	5.00
242	.00	.00	2.00	2.00	.00
243	.00	.00	2.00	4.00	1.00
244	4.00	.00	2.00	.00	5.00
245	.00	.00	1.00	.00	.00
246	.00	.00	1.00	1.00	3.00
247	.00	.00	1.00	.00	.00
248	1.00	.00	1.00	3.00	.00
249	1.00	.00	2.00	1.00	1.00
250	1.00	.00	.00	.00	.00
251	1.00	.00	1.00	3.00	3.00

	pcu04	pcu05	pcu06	pcu07	pcu08
241	5.00	3.00	3.00	1.00	2.00
242	.00	2.00	.00	2.00	2.00
243	3.00	3.00	1.00	1.00	4.00
244	.00	.00	.00	.00	4.00
245	.00	3.00	.00	.00	.00
246	1.00	1.00	1.00	1.00	2.00
247	4.00	.00	.00	.00	.00
248	5.00	4.00	1.00	.00	.00
249	1.00	3.00	1.00	1.00	4.00
250	.00	.00	.00	.00	4.00
251	3.00	3.00	.00	4.00	4.00

	pcu09	pcu10	pcu11	pcu12	pcu13
241	5.00	5.00	3.00	4.00	1.00
242	.00	2.00	.00	2.00	.00
243	4.00	1.00	1.00	3.00	1.00
244	.00	4.00	4.00	4.00	.00
245	.00	3.00	3.00	3.00	.00
246	2.00	1.00	3.00	3.00	1.00
247	.00	4.00	3.00	3.00	.00
248	3.00	3.00	3.00	3.00	3.00
249	1.00	4.00	1.00	1.00	1.00
250	.00	.00	4.00	.00	.00
251	4.00	4.00	1.00	1.00	1.00

	pscheme	ppln_trm	ppln_wk	pactiv	precord	pls1a
241	1.00	1.00	1.00	.00	1.00	1.00
242	.00	1.00	1.00	1.00	1.00	.00
243	.00	1.00	1.00	.00	.00	.00
244	1.00	1.00	1.00	1.00	.00	1.00
245	.00	1.00	.00	.00	1.00	.00
246	.00	1.00	.00	.00	1.00	.00
247	.00	1.00	1.00	.00	1.00	.00
248	1.00	1.00	1.00	1.00	1.00	.00
249	1.00	1.00	1.00	.00	1.00	1.00
250	1.00	1.00	1.00	.00	.00	.00
251	1.00	1.00	1.00	.00	1.00	1.00

	pls01	pls02	pls03	pls04	pls05
241	4.00	3.00	4.00	4.00	2.00
242	3.00	3.00	4.00	3.00	3.00
243	3.00	2.00	4.00	3.00	4.00
244	4.00	3.00	4.00	4.00	4.00
245	3.00	4.00	3.00	5.00	5.00
246	3.00	2.00	3.00	5.00	4.00
247	3.00	4.00	3.00	5.00	5.00
248	1.00	2.00	3.00	4.00	4.00
249	5.00	2.00	3.00	1.00	3.00
250	.	.	.	.	.
251	4.00	2.00	2.00	4.00	3.00

	pls06	pls07	pls08	pls09	pls10
241	3.00	2.00	1.00	3.00	4.00
242	2.00	3.00	3.00	4.00	2.00
243	3.00	3.00	2.00	4.00	2.00
244	1.00	4.00	3.00	4.00	4.00
245	5.00	2.00	3.00	2.00	5.00
246	4.00	2.00	2.00	1.00	2.00
247	5.00	2.00	3.00	2.00	5.00
248	2.00	3.00	2.00	1.00	4.00
249	2.00	4.00	1.00	2.00	1.00
250	.	.	.	.	.
251	2.00	3.00	4.00	2.00	4.00

	pls11	pls12	pls13	pls14	pls15
241	4.00	2.00	2.00	2.00	4.00
242	4.00	3.00	3.00	2.00	4.00
243	4.00	4.00	3.00	3.00	4.00
244	4.00	4.00	5.00	2.00	4.00
245	5.00	5.00	5.00	3.00	3.00
246	2.00	4.00	2.00	4.00	4.00
247	5.00	5.00	5.00	3.00	3.00
248	3.00	3.00	2.00	3.00	3.00
249	4.00	2.00	4.00	3.00	4.00
250	.	.	.	.	.
251	3.00	4.00	5.00	2.00	4.00

	pls16	pls17	pls18	pls19	pls20
241	3.00	2.00	4.00	3.00	4.00
242	3.00	2.00	5.00	3.00	3.00
243	3.00	2.00	4.00	4.00	3.00
244	4.00	1.00	5.00	4.00	3.00
245	4.00	4.00	4.00	5.00	3.00
246	4.00	4.00	4.00	4.00	4.00
247	4.00	5.00	4.00	5.00	3.00
248	3.00	4.00	5.00	4.00	2.00
249	3.00	2.00	4.00	2.00	1.00
250	.	.	.	.	.
251	4.00	4.00	4.00	4.00	4.00

Keys/Remark for appendix 2-H:

PY0 py0: R taught last year 96/97
 PY2 py2: Y2 taught last year 96/97
 PY4 py4: Y4 taught last year 96/97
 PYOTHR pyothr: Other group taught last year 96/97
 PTHIS Y pthis_y: Year group taught this year 97/98
 Value Label
 -1.0 Nursery
 .0 Reception
 .5 Rec.-Y1
 1.0 Y1
 1.5 Y1-Y2
 2.0 Y2
 2.5 Y2-Y3
 3.0 Y3
 3.5 Y3-Y4
 4.0 Y4
 4.5 Y4-Y5
 5.0 Y5
 5.5 Y5-Y6
 6.0 Y6
 PN_CLASS pn_class number of pupils in class
 PN_OTH pn_oth Number in class from older or younger year groups
 PN SNR p n snr No on Code of Practice 3-5
 PADULTS padults Adult(s) help regularly
 Value Label
 0 no
 1 yes
 PYRS_TEA pyrs_tea teaching experience
 PCOM_HME pcom_hme Computer used at home
 Value Label
 0 no
 1 yes
 PC_H WRK pc h wrk Computer at home used for school work
 Value Label
 0 no
 1 yes
 PINSET_L pinset_l: Literacy twilight session
 PINSET_N pinset_n: Numeracy twilight session
 PINSET_G pinset_g GEST course (5 days)
 PINSET_C pinset_c: IT co-ordinators' course
 PINSET_O pinset_o: Other course
 PITCOORD pitcoord IT co-ordinator?
 Value Label
 0 no
 1 yes
 PC_COM U pc_com_u: Frequency of class computer usage
 Value Label
 1 every day
 2 several times a week
 3 several times a month
 4 very infrequently
 PP_COM_U pp_com_u: Frequency of pupil computer usage
 Value Label
 1 daily
 2 several times a week
 3 several times a month
 4 very infrequently
 PTIM_PUP ptim_pup Mins. / week / pupil (estimate)
 POWN pown: Pupils usually work on their own

Value Label
 0 no
 1 yes
 PREQUEST prequest: Pupils usually helped on request
 Value Label
 0 no
 1 yes
 PMONIT pmonit: Pupils usually monitored intermittently
 Value Label
 0 no
 1 yes
 PSUPERV psuperv: Pupils usually closely supervised
 Value Label
 0 no
 1 yes
 PSENPLAN psenplan: Specific computer activities for SEN
 Value Label
 0 no
 1 yes
 PSENADPT psenadpt: Programs adapted for SEN
 Value Label
 0 no
 1 yes
 PP_HM_PC pphm_pc: Percentage of pupils using computer at home (estima
 PC01 pc01: BBC always available
 Value Label
 1 yes
 PC02 pc02: Acorn always available
 Value Label
 1 yes
 PC03 pc03: PC/RM always available
 Value Label
 1 yes
 PC04 pc04: Apple always available
 Value Label
 1 yes
 PC05 pc05: Portable always available
 Value Label
 1 yes
 PC06 pc06: Other computer always available
 Value Label
 1 yes
 PC07 pc07: BBC sometimes available
 Value Label
 1 yes
 PC08 pc08: Acorn sometimes available
 Value Label
 1 yes
 PC09 pc09: PC/RM sometimes available
 Value Label
 1 yes
 PC10 pc10: Apple sometimes available
 Value Label
 1 yes
 PC11 pc11: Portable sometimes available
 Value Label
 1 yes
 PC12 pc12: Other computer sometimes available
 PC13 pc13: No. classes sharing BBC
 PC14 pc14: No. classes sharing Acorn

PC15	pc15: No. classes sharing PC/RM	5.00	>daily
PC16	pc16: No. classes sharing Apple	PCU04	pcu04: Use for extension work
PC17	pc17: No. classes sharing portable	Value	Label
PC18	pc18: No. classes sharing other computer	1.00	<fortnightly
PH01	h01: No. BBC's linked to printer	2.00	fortnightly
PH02	ph02: No. Acorns linked to printer	3.00	weekly
PH03	ph03: No. PC's/RM's linked to printer	4.00	daily
PH04	ph04: No. Apples linked to printer	5.00	>daily
PH05	ph05: No. portables linked to printer	PCU05	pcu05: Use as support for some
PH06	ph06: No. other computers linked to printer	Value	Label
PH07	ph07: No. BBC's with CD drive	1.00	<fortnightly
PH08	ph08: No. Acorns with CD drive	2.00	fortnightly
PH09	ph09: No. PC's/RM's with CD drive	3.00	weekly
PH10	ph10: No. Apples with CD drive	4.00	daily
PH11	ph11: No. portables with CD drive	5.00	>daily
PH12	ph12: No. other computers with CD drive	PCU06	pcu06: Use for information-retrieval
PH13	ph13: No. BBC's with hard disc	Value	Label
PH14	ph14: No. Acorns with hard disc	1.00	<fortnightly
PH15	ph15: No. PC's/RM's with hard disc	2.00	fortnightly
PH16	ph16: No. Apples with hard drive	3.00	weekly
PH17	ph17: No. portables with hard drive	4.00	daily
PH18	ph18: No. other computers with hard drive	5.00	>daily
PH19	ph19: No. BBC's on-line	PCU07	pcu07: Use for analysing patterns/connections
PH20	ph20: No. Acorns on-line	Value	Label
PH21	ph21: No. PC's/RM's on-line	1.00	<fortnightly
PH22	ph22: No. Apples on-line	2.00	fortnightly
PH23	ph23: No. portables on-line	3.00	weekly
PH24	ph24: No. other computers on-line	4.00	daily
PH25	ph25: No. BBC's with ILS	5.00	>daily
PH26	ph26: No. Acorns with ILS	PCU08	pcu08: Use to practise basic skills
PH27	ph27: No. PC's/RM's with ILS	Value	Label
PH28	ph28: No. Apples with ILS	1.00	<fortnightly
PH29	ph29: No. portables with ILS	2.00	fortnightly
PH30	ph30: No. other computers with ILS	3.00	weekly
PCALCUL	pcalcul. how many calculators	4.00	daily
PSPELL	C pspell c: how many spell checkers	5.00	>daily
PTURTLE	pturtle: how many turtle	PCU09	pcu09: Use for word-processing
PCON_K	pccon_k: how many concept keyboards	Value	Label
PCAMERA	pcamera: how many digital cameras	1.00	<fortnightly
PMUS_K	pmus k: how many music keyboards	2.00	fortnightly
PFAX	pfax: No. children sending a fax this term	3.00	weekly
PCU01	pcu01: Use for class demo	4.00	daily
Value	Label	5.00	>daily
1.00	<fortnightly	PCU10	pcu10: Use for number work
2.00	fortnightly	Value	Label
3.00	weekly	1.00	<fortnightly
4.00	daily	2.00	fortnightly
5.00	>daily	3.00	weekly
PCU02	pcu02: Use at playtime	4.00	daily
Value	Label	5.00	>daily
1.00	<fortnightly	PCU11	pcu11: Use as free choice activity
2.00	fortnightly	Value	Label
3.00	weekly	1.00	<fortnightly
4.00	daily	2.00	fortnightly
5.00	>daily	3.00	weekly
PCU03	pcu03: Use as reward	4.00	daily
Value	Label	5.00	>daily
1.00	<fortnightly	PCU12	pcu12: Use when pupils have finished work
2.00	fortnightly	Value	Label
3.00	weekly	1.00	<fortnightly
4.00	daily	2.00	fortnightly

3.00	weekly	5.00	strongly agree
4.00	daily	PLS05	pls05: Teachers often talk about ICT?
5.00	>daily	Value	Label
PCU13	pcu13: Use for major project work	1.00	strongly disagree
Value	Label	2.00	disagree
1.00	<fortnightly	3.00	not sure
2.00	fortnightly	4.00	agree
3.00	weekly	5.00	strongly agree
4.00	daily	PLS06	pls06: Inadequate keyboard skills?
5.00	>daily	Value	Label
PScheme	pscheme: Scheme of work for IT?	1.00	strongly disagree
Value	Label	2.00	disagree
1.00	yes	3.00	not sure
2.00	no	4.00	agree
PPLN_TRM	ppln_trm: IT specified in plan for term	5.00	strongly agree
Value	Label	PLS07	pls07: Computers make you feel you teach well?
1.00	yes	Value	Label
2.00	no	1.00	strongly disagree
PPLN_WK	ppln_wk: IT specified in plan for week	2.00	disagree
Value	Label	3.00	not sure
1.00	yes	4.00	agree
2.00	no	5.00	strongly agree
PACTIV	pactiv: Activities to support programs?	PLS08	pls08: Too much technical knowledge needed?
Value	Label	Value	Label
0.00	no	1.00	strongly disagree
1.00	yes	2.00	disagree
PRECORD	p: Records of usage/skills?	3.00	not sure
Value	Label	4.00	agree
0.00	no	5.00	strongly agree
1.00	yes	PLS09	pls09: Non-functioning equipment gets fixed quickly?
PLS1A	pls1a: ICT curric plan	Value	Label
Value	Label	1.00	strongly disagree
0.00	No plan	2.00	disagree
1.00	Have a plan	3.00	not sure
PLS01	pls01: School plan for ITC across the curriculum?	4.00	agree
Value	Label	5.00	strongly agree
1.00	strongly disagree	PLS10	pls10: School layout limits ICT usage?
2.00	disagree	Value	Label
3.00	not sure	1.00	strongly disagree
4.00	agree	2.00	disagree
5.00	strongly agree	3.00	not sure
PLS02	pls02: Insufficient software info ?	4.00	agree
Value	Label	5.00	strongly agree
1.00	strongly disagree	PLS11	pls11: Parents are positive about computers?
2.00	agree	Value	Label
3.00	not sure	1.00	strongly disagree
4.00	agree	2.00	disagree
5.00	strongly agree	3.00	not sure
PLS03	pls03: ICT cost-effective?	4.00	agree
Value	Label	5.00	strongly agree
1.00	strongly disagree	PLS12	pls12: Hard to monitor pupil learning?
2.00	disagree	Value	Label
3.00	not sure	1.00	strongly disagree
4.00	agree	2.00	disagree
5.00	strongly agree	3.00	not sure
PLS04	pls04: Hard to include computer work?	4.00	agree
Value	Label	5.00	strongly agree
1.00	strongly disagree	PLS13	pls13: Enough computers?
2.00	disagree	Value	Label
3.00	not sure	1.00	strongly disagree
4.00	agree	2.00	disagree

	3.00	not sure
	4.00	agree
	5.00	strongly agree
PLS14	pls14: Most software inappropriate for N.C.?	
Value	Label	
	1.00	strongly disagree
	2.00	disagree
	3.00	not sure
	4.00	agree
	5.00	strongly agree
PLS15	pls15: Keen on ICT in education?	
Value	Label	
	1.00	strongly disagree
	2.00	disagree
	3.00	not sure
	4.00	agree
	5.00	strongly agree
PLS16	pls16: You don't need ICT to be effective?	
Value	Label	
	1.00	strongly disagree
	2.00	disagree
	3.00	not sure
	4.00	agree
	5.00	strongly agree
PLS17	pls17: Most software is too complicated for pupils?	
Value	Label	
	1.00	strongly disagree
	2.00	disagree
	3.00	not sure
	4.00	agree
	5.00	strongly agree
PLS18	pls18: Pupils like learning with computers?	
Value	Label	
	1.00	strongly disagree
	2.00	disagree
	3.00	not sure
	4.00	agree
	5.00	strongly agree
PLS19	pls19: Difficult to plan follow-up work?	
Value	Label	
	1.00	strongly disagree
	2.00	disagree
	3.00	not sure
	4.00	agree
	5.00	strongly agree
PLS20	pls20: Takes too long to plan computer-supported lessons?	
Value	Label	
	1.00	strongly disagree
	2.00	disagree
	3.00	not sure
	4.00	agree
	5.00	strongly agree

Appendix 2-I: Data collected from the teacher questionnaire 1998/99 and from parts of the extended and the follow up teacher questionnaires 1998/99

	qy0#	qy2#	qy4#	qyothr#	qn_class	qn_oth	qn_otha
1	1.00	.	.	.	30	.	
2	.	1 00	.	.	28	.	
3	.	1 00	.	.	30	.00	
4	1.00	.	.	.	29	.	
5	.	.	.	1.00	32	.	
6	.	.	.	1 00	32	.	all Year 5
7	.	.	1 00	.	27	.	
8	.	.	.	1 00	.	.	
9	.	.	.	1 00	26	11.00	15 (Yr.6) 11 (Yr.5)
10	1.00	.	.	.	22	.	
11	.	1 00	.	.	25	.	1
12	.	.	.	1 00	26	12.00	12-y5, 14-y6
13	.	1 00	.	.	32	.	
14	.	.	.	1 00	30	.00	
15	1 00	.	.	.	23	.	
16	1 00	.	.	.	30	.	
17	.	.	.	1 00	30	.	
18	.	.	.	1.00	31	.00	yr6
19	.	.	1 00	.	30	.	
20	.	1 00	.	.	29	.	
21	.	.	.	1 00	33	.	All year 3
22	1.00	.	.	.	30	.	
23	.	.	1.00	.	26	.	
24	1.00	.	.	.	23	.	
25	.	1.00	.	.	24	.	
26	.	.	.	.	29	.	
27	.	1.00	.	.	25	.	
28	1.00	.	.	.	28	.	
29	.	.	1.00	.	29	.	
30	.	.	.	1.00	18	7.00	7 (year 5) & 11 (year 6)

1-1

	qthis_y	qn_snr	qadults	qitcoord	qelcoord	qmcoord	qq_cert
1	.00	3.00	1.00	.00	.	.	.
2	2.00	1.00	1.00	1.00	.	.	.
3	2.00	4.00	.00	.00	.	.	.
4	.00	2.00	1.00	.00	.00	1.00	.
5	5.00	2.00	1.00	.00	.00	.00	1.00
6	5.00	3.00	.	1.00	.00	.00	.
7	4.00	1.00	1.00	.00	.00	.00	1.00
8	.	.	.	.00	.00	.00	1.00
9	5.50	.00	.00	.00	.00	1.00	1.00
10	.00	1.00	1.00	.00	.00	.00	.
11	2.00	8.00	1.00	.00	1.00	.00	1.00
12	5.50	1.00	.00	.00	.	.	.
13	2.00	.00	1.00	.00	.	.	.
14	.	3.00	1.00	.00	.	.	.
15	.00	.	1.00	.00	.00	.00	.
16	.00	4.00	1.00	.00	1.00	.00	1.00
17	1.00	1.00	1.00	.00	.00	.00	1.00
18	6.00	.00	.00	.00	.	.	.
19	4.00	1.00	.00	1.00	.00	.00	.
20	2.00	1.00	1.00	.00	.00	1.00	.
21	3.00	3.00	.00	.00	.00	.00	1.00
22	.00	1.00	1.00	.00	.00	.00	1.00
23	4.00	.	1.00	.00	1.00	.00	.
24	.00	.	1.00	.00	1.00	.00	.
25	2.00	1.00	1.00	.00	.00	1.00	.
26	3.00	1.00	.00	.00	.	.	.
27	2.00	.00	1.00	1.00	.00	.00	1.00
28	.00	1.00	1.00	.00	.00	.00	.
29	4.00	.00	1.00	.00	1.00	.00	1.00
30	5.50	8.00	1.00	.00	.00	1.00	1.00

	qq_bed	qq_pgce	qq_mast	qq_othr	qchm_no	qchm_dat	qchm_cd
1	.	.	.	.	.	.	.
2	.	.	.	1.00	.00	.00	.00
3	.	.	.	.	.	.	.
4	1.00	.	.	.	.00	.00	1.00
5	.	.	.	.	.00	.00	1.00
6	1.00	.	.	.	.00	.00	.00
7	.	.	.	.	.00	.00	1.00
8	.	.	.	.	.00	.00	1.00
9	.	.	.	1.00	.00	.00	1.00
10	1.00	.	.	.	1.00	.00	.00
11	.	.	.	.	.00	.00	1.00
12	.	.	.	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	1.00	.	.	.	.00	.00	1.00
16	.	.	.	.	.00	1.00	.00
17	.	.	.	.	.00	1.00	.00
18	.	.	.	.	.	.	.
19	.	.	.	1.00	1.00	.00	1.00
20	.	1.00	.	.	1.00	.00	1.00
21	.	.	.	.	.00	1.00	.00
22	.	.	.	.	.00	.00	1.00
23	1.00	.	.	.	.00	.00	.00
24	1.00	.	.	.	1.00	.00	.00
25	.	1.00	.	.	.00	.00	1.00
26	.	.	.	.	.	.	.
27	.	.	.	1.00	.00	.00	1.00
28	1.00	.	.	.	.00	.00	1.00
29	.	.	.	.	.00	.00	1.00
30	.	.	.	.	.00	.00	1.00

	qchm_in	qchm_prt	qcsh_no	qcsh_dat	qcsh_cd	qcsh_in	qcsh_prt
1	.	.	.	.	.	.	.
2	.00	.00	.00	.00	1.00	1.00	1.00
3	.	.	.	.	.	.	.
4	1.00	.00	.00	.00	1.00	1.00	.00
5	.00	1.00	.00	.00	.00	1.00	1.00
6	1.00	.00	.00	.00	.00	1.00	.00
7	.00	1.00	.00	.00	1.00	1.00	1.00
8	1.00	1.00	.00	.00	1.00	1.00	1.00
9	.00	.00	.00	.00	1.00	1.00	.00
10	.00	.00	.00	.00	1.00	1.00	1.00
11	1.00	1.00	.00	1.00	.00	.00	1.00
12	.	.	.	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.00	1.00	.00	.00	1.00	.00	.00
16	.00	.00	.00	.00	1.00	.00	.00
17	.00	.00	.00	1.00	1.00	.00	.00
18	.	.	.	.	.	.	.
19	1.00	1.00	1.00	.00	1.00	.00	1.00
20	1.00	.00	.00	.00	1.00	.00	.00
21	.00	1.00	.00	.00	1.00	1.00	1.00
22	1.00	.00	.00	.00	1.00	1.00	1.00
23	.00	.00	.00	.00	1.00	1.00	1.00
24	.00	.00	.00	.00	1.00	.00	.00
25	1.00	.00	.00	1.00	1.00	.00	1.00
26	.	.	.	.	.	.	.
27	1.00	.00	.00	.00	1.00	1.00	1.00
28	.00	.00	.00	1.00	.00	.00	.00
29	1.00	1.00	.00	.00	1.00	1.00	1.00
30	1.00	.00	.00	.00	1.00	1.00	1.00

	qitsk_b1	qitsk_b2	qitsk_b3	qitsk_b4	qitsk_w1	qitsk_w2	qitsk_w3
1	1.00	1.00	1.00	1.00	2.00	3.00	1.00
2	3.00	1.00	1.00	1.00	4.00	4.00	4.00
3	5.00	3.00	3.00	2.00	3.00	3.00	3.00
4	4.00	2.00	3.00	2.00	2.00	5.00	5.00
5	2.00	2.00	1.00	2.00	4.00	4.00	3.00
6	5.00	5.00	5.00	3.00	5.00	5.00	5.00
7	4.00	3.00	2.00	1.00	2.00	5.00	3.00
8	5.00	5.00	5.00	4.00	5.00	5.00	5.00
9	4.00	4.00	4.00	4.00	4.00	4.00	4.00
10	2.00	5.00	2.00	3.00	3.00	3.00	3.00
11	5.00	4.00	3.00	3.00	4.00	3.00	3.00
12	5.00	4.00	3.00	3.00	5.00	5.00	5.00
13	4.00	5.00	3.00	5.00	5.00	5.00	5.00
14	2.00	5.00	5.00	4.00	5.00	5.00	4.00
15	3.00	3.00	3.00	3.00	3.00	3.00	3.00
16	3.00	2.00	3.00	1.00	3.00	3.00	2.00
17	3.00	3.00	1.00	1.00	1.00	1.00	1.00
18	1.00	4.00	1.00	2.00	5.00	3.00	5.00
19	5.00	5.00	5.00	5.00	5.00	5.00	5.00
20	3.00	2.00	3.00	2.00	2.00	3.00	3.00
21	5.00	5.00	4.00	5.00	4.00	4.00	4.00
22	2.00	2.00	2.00	2.00	4.00	4.00	3.00
23	1.00	2.00	1.00	1.00	3.00	3.00	3.00
24	1.00	2.00	1.00	1.00	2.00	3.00	3.00
25	1.00	1.00	1.00	1.00	2.00	2.00	1.00
26	4.00	4.00	4.00	4.00	4.00	4.00	4.00
27	3.00	3.00	3.00	2.00	3.00	4.00	3.00
28	1.00	1.00	1.00	1.00	1.00	1.00	1.00
29	3.00	1.00	1.00	1.00	3.00	4.00	3.00
30	3.00	4.00	4.00	1.00	5.00	5.00	5.00

	qitsk_w4	qitsk_s1	qitsk_s2	qitsk_s3	qitsk_s4	qitsk_d1	qitsk_d2
1	1.00	1.00	1.00	1.00	3.00	1.00	1.00
2	4.00	3.00	4.00	4.00	4.00	2.00	1.00
3	3.00	1.00	2.00	1.00	2.00	2.00	1.00
4	3.00	1.00	2.00	1.00	1.00	2.00	1.00
5	2.00	1.00	1.00	2.00	2.00	2.00	1.00
6	5.00	1.00	1.00	1.00	5.00	2.00	3.00
7	2.00	1.00	1.00	2.00	4.00	2.00	2.00
8	5.00	2.00	1.00	1.00	5.00	4.00	4.00
9	4.00	2.00	2.00	1.00	4.00	3.00	1.00
10	3.00	2.00	3.00	3.00	3.00	2.00	2.00
11	3.00	1.00	1.00	1.00	1.00	2.00	1.00
12	5.00	4.00	5.00	3.00	5.00	5.00	3.00
13	5.00	3.00	1.00	3.00	5.00	1.00	3.00
14	3.00	5.00	5.00	3.00	5.00	.	.
15	3.00	1.00	1.00	1.00	1.00	1.00	1.00
16	2.00	1.00	1.00	1.00	1.00	1.00	1.00
17	1.00	1.00	1.00	1.00	1.00	3.00	.
18	4.00	1.00	1.00	1.00	1.00	1.00	2.00
19	5.00	5.00	5.00	4.00	4.00	4.00	3.00
20	2.00	1.00	2.00	1.00	2.00	1.00	1.00
21	3.00	1.00	3.00	1.00	5.00	1.00	1.00
22	3.00	2.00	2.00	1.00	3.00	2.00	1.00
23	1.00	1.00	1.00	1.00	3.00	1.00	1.00
24	1.00	1.00	1.00	1.00	1.00	1.00	1.00
25	1.00	1.00	2.00	1.00	1.00	2.00	1.00
26	2.00	2.00	2.00	2.00	4.00	2.00	3.00
27	1.00	1.00	1.00	1.00	1.00	1.00	1.00
28	1.00	1.00	1.00	1.00	1.00	1.00	1.00
29	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	4.00	3.00	3.00	1.00	3.00	3.00	2.00

	qitsk_d3	qitsk_d4	qitsk_i1	qitsk_i2	qitsk_i3	qitsk_i4	mc_com_u
1	1.00	3.00	1.00	2.00	2.00	1.00	1.00
2	3.00	3.00	1.00	1.00	1.00	1.00	1.00
3	1.00	2.00	1.00	1.00	1.00	1.00	1.00
4	4.00	2.00	2.00	1.00	1.00	1.00	2.00
5	1.00	1.00	1.00	1.00	1.00	1.00	2.00
6	5.00	5.00	3.00	4.00	5.00	1.00	2.00
7	2.00	2.00	1.00	1.00	1.00	1.00	3.00
8	3.00	5.00	4.00	3.00	5.00	1.00	.
9	2.00	2.00	1.00	1.00	1.00	1.00	3.00
10	3.00	3.00	2.00	2.00	2.00	2.00	1.00
11	1.00	1.00	2.00	1.00	3.00	1.00	4.00
12	1.00	3.00	1.00	1.00	1.00	1.00	1.00
13	1.00	1.00	1.00	1.00	1.00	1.00	1.00
14	5.00	4.00	1.00	3.00	1.00	1.00	2.00
15	1.00	1.00	1.00	1.00	1.00	1.00	3.00
16	1.00	1.00	1.00	1.00	1.00	1.00	2.00
17	.	.	1.00	1.00	1.00	1.00	1.00
18	2.00	2.00	2.00	1.00	1.00	1.00	1.00
19	4.00	4.00	5.00	5.00	5.00	1.00	1.00
20	1.00	1.00	2.00	2.00	2.00	1.00	2.00
21	5.00	4.00	1.00	1.00	1.00	1.00	3.00
22	3.00	3.00	2.00	2.00	2.00	1.00	1.00
23	1.00	1.00	1.00	1.00	1.00	1.00	1.00
24	1.00	1.00	1.00	1.00	1.00	1.00	1.00
25	1.00	1.00	1.00	1.00	1.00	1.00	2.00
26	3.00	4.00	3.00	3.00	4.00	1.00	2.00
27	1.00	2.00	2.00	1.00	2.00	1.00	1.00
28	1.00	1.00	1.00	1.00	1.00	1.00	2.00
29	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	2.00	2.00	2.00	1.00	2.00	1.00	1.00
1-7							

	mp_com_u	mtim_pup	qsenplan	qsenadpt	qcu01	qcu02	qcu03
1	3.00	15.00	1.00	1.00	2	0	2
2	2.00	22.50	1.00	1.00	3	1	3
3	2.00	52.50	1.00	.00	3	1	1
4	3.00	15.00	1.00	1.00	1	0	3
5	2.00	80.00	.00	.00	0	1	1
6	2.00	150.00	1.00	.00	3	1	1
7	3.00	60.00	.00	.00	3	1	1
8	.	.	.00	.	3	0	0
9	3.00	30.00	1.00	.00	1	1	1
10	2.00	40.00	1.00	1.00	3	1	3
11	4.00	10.00	.00	1.00	1	1	1
12	3.00	15.00	.	1.00	1	3	3
13	3.00	15.00	.00	1.00	2	0	3
14	2.00	75.00	1.00	.00	1	1	0
15	2.00	50.00	1.00	1.00	1	1	0
16	3.00	12.50	.00	.00	2	0	0
17	3.00	20.00	1.00	1.00	1	0	4
18	3.00	15.00	1.00	1.00	2	1	1
19	3.00	120.00	1.00	.00	2	1	1
20	3.00	20.00	.00	1.00	1	2	0
21	4.00	30.00	.00	.00	2	1	2
22	3.00	10.00	.00	1.00	1	1	4
23	2.00	60.00	.00	.00	4	0	3
24	2.00	90.00	1.00	1.00	1	0	1
25	2.00	10.00	.00	.00	1	1	2
26	2.00	120.00	1.00	1.00	3	4	0
27	3.00	30.00	1.00	1.00	3	0	0
28	2.00	10.00	.00	.00	1	1	3
29	3.00	30.00	.00	.00	1	1	3
30	1.00	17.50	.00	.00	2	0	0

	qcu04	qcu05	qcu06	qcu07	qcu08	qcu09	qcu10
1	1	2	1	1	5	3	5
2	3	3	4	2	3	3	3
3	1	2	1	1	4	4	4
4	3	3	1	1	4	3	3
5	1	1	1	1	3	3	1
6	1	4	2	1	3	3	3
7	1	1	2	1	3	3	1
8	4	4	0	0	3	3	3
9	1	2	1	1	1	1	1
10	3	3	1	3	4	3	4
11	1	1	1	3	3	1	3
12	1	3	3	1	1	3	1
13	3	2	1	1	4	3	2
14	3	3	0	0	2	2	1
15	0	1	0	0	3	2	0
16	3	3	1	1	2	1	3
17	3	0	0	0	3	3	0
18	2	3	2	0	3	2	1
19	1	2	2	2	4	4	4
20	0	0	1	1	2	2	2
21	1	2	3	0	2	2	2
22	5	4	1	1	5	2	4
23	3	0	0	0	5	4	4
24	1	1	1	1	5	1	4
25	2	1	0	0	3	3	3
26	3	3	0	1	4	3	0
27	5	5	3	0	5	5	5
28	3	3	1	1	4	3	4
29	2	2	1	1	5	5	1
30	0	5	0	0	4	4	0

	qcu11	qcu12	qcu13	qqca	qpln_wk	qactiv	qrecord
1	4	4	1	.00	1.00	1.00	.00
2	1	1	3	1.00	1.00	1.00	1.00
3	3	.	1	.00	1.00	1.00	1.00
4	4	2	1	.00	1.00	1.00	1.00
5	0	3	1	1.00	1.00	.00	.00
6	1	1	2	.	1.00	1.00	.00
7	1	1	2	.	1.00	.	.00
8	4	4	0	.00	1.00	.00	1.00
9	1	1	1	1.00	.00	1.00	.00
10	4	3	1	1.00	1.00	1.00	1.00
11	3	3	1	.	.00	.00	.00
12	2	1	1	1.00	.00	1.00	1.00
13	4	4	1	1.00	1.00	1.00	1.00
14	1	4	1	.00	1.00	.00	.00
15	5	0	0	.00	.00	.00	.00
16	3	3	1	1.00	1.00	.00	1.00
17	3	3	1	.00	1.00	1.00	1.00
18	1	1	1	1.00	1.00	1.00	.00
19	1	1	1	.00	1.00	.00	1.00
20	3	3	2	.	1.00	.00	.
21	2	2	2	1.00	1.00	.00	1.00
22	4	4	1	.00	1.00	1.00	.00
23	0	0	3	.	1.00	.00	1.00
24	4	1	1	.00	1.00	.00	1.00
25	0	1	0	1.00	1.00	.00	.00
26	1	1	1	1.00	1.00	1.00	1.00
27	4	4	5	1.00	1.00	.00	1.00
28	4	4	1	.00	1.00	.00	.00
29	3	3	5	.	.00	.00	.
30	0	0	2	1.00	1.00	1.00	1.00

1-10

	quse01	quse02	quse03	quse04	quse05	quse06	quse07
1	.	.	.	.	.	.	.
2	2.00	2.00	1.00	3.00	2.00	2.00	1.00
3	.	.	.	.	.	.	.
4	2.00	1.00	2.00	3.00	2.00	1.00	2.00
5	3.00	1.00	2.00	2.00	3.00	3.00	2.00
6	2.00	3.00	3.00	3.00	1.00	2.00	2.00
7	3.00	2.00	3.00	3.00	2.00	3.00	3.00
8	3.00	1.00	2.00	3.00	1.00	3.00	2.00
9	1.00	1.00	1.00	2.00	1.00	1.00	1.00
10	2.00	3.00	3.00	3.00	1.00	3.00	1.00
11	3.00	2.00	1.00	2.00	2.00	1.00	3.00
12	.	.	.	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	3.00	1.00	2.00	2.00	3.00	2.00	2.00
16	3.00	2.00	2.00	2.00	1.00	3.00	1.00
17	3.00	1.00	2.00	1.00	1.00	2.00	1.00
18	.	.	.	.	.	.	.
19	1.00	1.00	1.00	2.00	1.00	2.00	1.00
20	3.00	1.00	1.00	2.00	3.00	2.00	1.00
21	2.00	1.00	3.00	2.00	1.00	3.00	1.00
22	3.00	2.00	3.00	2.00	2.00	1.00	2.00
23	3.00	2.00	1.00	2.00	2.00	3.00	2.00
24	3.00	2.00	3.00	3.00	2.00	3.00	1.00
25	.	1.00	1.00	.	3.00	2.00	1.00
26	.	.	.	.	.	.	.
27	1.00	1.00	1.00	2.00	1.00	1.00	1.00
28	3.00	1.00	1.00	2.00	3.00	1.00	3.00
29	2.00	1.00	1.00	1.00	3.00	3.00	3.00
30	1.00	1.00	1.00	2.00	1.00	3.00	1.00
1-11							

	quse08	quse09	quse10	quse11	quse12	quse13	quse14
1	.	.	.	.	.	.	.
2	2.00	1.00	2.00	2.00	1.00	1.00	2.00
3	.	.	.	.	.	.	.
4	3.00	1.00	1.00	2.00	3.00	1.00	2.00
5	2.00	2.00	1.00	1.00	3.00	2.00	1.00
6	3.00	3.00	3.00	3.00	2.00	1.00	3.00
7	1.00	2.00	1.00	2.00	1.00	1.00	2.00
8	2.00	1.00	1.00	2.00	1.00	3.00	3.00
9	2.00	2.00	3.00	3.00	2.00	1.00	1.00
10	3.00	3.00	3.00	2.00	3.00	1.00	3.00
11	2.00	1.00	2.00	1.00	1.00	1.00	1.00
12	.	.	.	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	2.00	.	.	.	2.00	1.00	2.00
16	2.00	1.00	1.00	3.00	3.00	1.00	2.00
17	1.00	1.00	1.00	.	3.00	1.00	1.00
18	.	.	.	.	.	.	.
19	1.00	3.00	1.00	3.00	3.00	1.00	3.00
20	2.00	3.00	3.00	2.00	2.00	1.00	2.00
21	2.00	3.00	3.00	2.00	3.00	1.00	3.00
22	2.00	2.00	1.00	1.00	1.00	1.00	1.00
23	2.00	3.00	3.00	2.00	2.00	1.00	2.00
24	2.00	2.00	2.00	1.00	3.00	3.00	1.00
25	2.00	.	2.00	.	1.00	1.00	3.00
26	.	.	.	.	.	.	.
27	3.00	1.00	3.00	3.00	2.00	1.00	2.00
28	2.00	1.00	2.00	3.00	3.00	1.00	1.00
29	3.00	2.00	3.00	2.00	1.00	1.00	1.00
30	1.00	2.00	2.00	2.00	3.00	2.00	3.00

	quse15	quse16	quse17	quse18	quse19	quse20	quse21
1	.	.	.	.	.	.	.
2	2.00	1.00	1.00	2.00	1.00	1.00	3.00
3	.	.	.	.	.	.	.
4	1.00	1.00	1.00	3.00	2.00	1.00	3.00
5	3.00	1.00	1.00	2.00	2.00	2.00	3.00
6	1.00	3.00	1.00	3.00	1.00	1.00	3.00
7	1.00	1.00	1.00	3.00	1.00	1.00	2.00
8	3.00	1.00	3.00	3.00	1.00	1.00	2.00
9	3.00	1.00	1.00	3.00	3.00	2.00	3.00
10	1.00	3.00	1.00	3.00	2.00	1.00	3.00
11	3.00	1.00	2.00	3.00	1.00	1.00	2.00
12	.	.	.	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	2.00	.	.	.	1.00	1.00	.
16	1.00	2.00	1.00	2.00	2.00	3.00	3.00
17	2.00	1.00	1.00	3.00	2.00	1.00	1.00
18	.	.	.	.	.	.	.
19	3.00	1.00	3.00	3.00	1.00	1.00	3.00
20	2.00	1.00	1.00	2.00	2.00	1.00	2.00
21	1.00	2.00	1.00	3.00	2.00	1.00	3.00
22	2.00	2.00	1.00	3.00	2.00	2.00	3.00
23	3.00	1.00	1.00	3.00	1.00	1.00	3.00
24	1.00	3.00	1.00	3.00	2.00	1.00	3.00
25	3.00	1.00	1.00	3.00	2.00	1.00	2.00
26	.	.	.	.	.	.	.
27	2.00	2.00	1.00	3.00	3.00	1.00	3.00
28	2.00	2.00	1.00	3.00	3.00	2.00	2.00
29	3.00	1.00	1.00	3.00	2.00	1.00	2.00
30	3.00	1.00	1.00	1.00	3.00	1.00	1.00

	quse22	quse23	quse24	qfeedbk
1	.	.	.	.
2	1.00	3.00	2.00	1.00
3	.	.	.	.
4	1.00	3.00	3.00	1.00
5	1.00	2.00	3.00	.
6	1.00	3.00	3.00	1.00
7	1.00	3.00	1.00	1.00
8	1.00	3.00	3.00	1.00
9	1.00	1.00	1.00	1.00
10	1.00	3.00	3.00	1.00
11	1.00	1.00	1.00	1.00
12	.	.	.	.
13	.	.	.	.
14	.	.	.	.
15	1.00	.	.	1.00
16	1 00	3.00	2 00	1.00
17	1 00	2 00	2 00	1.00
18	.	.	.	.
19	1 00	1.00	3 00	1.00
20	1.00	2.00	2.00	.
21	1.00	3.00	3.00	1.00
22	1.00	2.00	3 00	1.00
23	1.00	3.00	3.00	.
24	1.00	2 00	3.00	1.00
25	1.00	2.00	3.00	1.00
26	.	.	.	.
27	1.00	3.00	2.00	1.00
28	1.00	2.00	1.00	.
29	1.00	1.00	1.00	1.00
30	1.00	1.00	3.00	.

Keys/Remakfor appendix 2I:

QY0# qy0#: R taught THIS year - 98/99
 QY2# qy2#: Y2 taught THIS year - 98/99
 QY4# qy4#: Y4 taught THIS year - 98/99
 QYOTIR# qyotr#: Other group taught THIS year - 98/99
 QN CLASS qn class: number of pupils in class
 QN_OTH qn_oth: Number in class from older or younger groups: Autumn
 QN_OTH qn_oth: Other descriptions about teaching THIS year - 98/99
 QTHIS Y qthis y: Year group taught THIS year - 98/99
 QN SNR qn_snr: No. on Code of Practice 3-5
 QADULTS qadults: Regularly have other adults helping in your class
 Value Label
 .00 No
 1.00 Yes
 QITCOORD qitcoord: IT co-ordinator?
 Value Label
 .00 No
 1.00 Yes
 QELCOORD qelcoord: English/Literacy co-ordinator?
 Value Label
 .00 No
 1.00 Yes
 QMCOORD qmcoord: Maths co-ordinator?
 Value Label
 .00 No
 1.00 Yes
 QQ CERT qq_cert: qualif - cert
 Value Label
 1.00 ticked
 QQ BED qq_bed: qualif - Bed
 Value Label
 1.00 ticked
 QQ PGCE qq_pgce: qualif - PGCE
 Value Label
 1.00 ticked
 QQ MAST qq_mast: qualif - Master
 Value Label
 1.00 ticked
 QQ_OTHR qq_othr: qualif - other
 Value Label
 1.00 ticked
 QCHM_NO qchm_no: no access to a computer at home (for lesson prepara
 Value Label
 .00 not ticked - assigned as 0
 1.00 ticked
 QCHM_DAT qchm_dat: have access to a computer at home but the equipmen
 Value Label
 .00 not ticked - assigned as 0
 1.00 ticked
 QCHM_CD qchm_cd: have access to a computer at home which runs CD-
 ROM
 Value Label
 .00 not ticked - assigned as 0
 1.00 ticked
 QCHM_IN qchm_in: have access to a computer at home with internet con
 Value Label
 .00 not ticked - assigned as 0
 1.00 ticked
 QCHM_PRT qchm_prt: can work at home then print off work at school
 Value Label
 .00 not ticked - assigned as 0
 1.00 ticked
 QCSH_NO qesh_no: no access to a computer at school (for lesson prepa
 Value Label
 .00 not ticked - assigned as 0
 1.00 ticked
 QCSH_DAT qesh_dat: have access to a computer at school but the equipm
 Value Label
 .00 not ticked - assigned as 0
 1.00 ticked
 QCSH_CD qesh_cd: have access to a computer at school which runs CD-R
 Value Label
 .00 not ticked - assigned as 0
 1.00 ticked
 QCSH_IN qesh_in: have access to a computer at school with internet c
 Value Label
 .00 not ticked - assigned as 0

1.00 ticked
 QCSH_PRT qesh_prt: can work at school then print off work at school
 Value Label
 .00 not ticked - assigned as 0
 1.00 ticked
 QITSK_B1 qitsk_b1: installing software
 QITSK_B2 qitsk_b2: manipulating files
 QITSK_B3 qitsk_b3: formatting a disc
 QITSK_B4 qitsk_b4: creating directories & moving files
 QITSK_W1 qitsk_w1: cut & past
 QITSK_W2 qitsk_w2: spell checking
 QITSK_W3 qitsk_w3: adjust page layout
 QITSK_W4 qitsk_w4: creating tables
 QITSK_S1 qitsk_s1: using formulae
 QITSK_S2 qitsk_s2: creating graphs
 QITSK_S3 qitsk_s3: print spreadsheet section
 QITSK_S4 qitsk_s4: create list
 QITSK_D1 qitsk_d1: develop database
 QITSK_D2 qitsk_d2: import data
 QITSK_D3 qitsk_d3: use lib-catalog
 QITSK_D4 qitsk_d4: search info
 QITSK_I1 qitsk_i1: use search engine
 QITSK_I2 qitsk_i2: save to other software
 QITSK_I3 qitsk_i3: send email
 QITSK_I4 qitsk_i4: create web-page
 MC COM U qc_com_u: Frequency of class computer usage
 Value Label
 1.00 everyday
 2.00 several times a week
 3.00 several times a month
 4.00 very infrequently
 MP COM U qp_com_u: Frequency of pupil computer usage
 Value Label
 1.00 daily
 2.00 several times a week
 3.00 several times a month
 4.00 very infrequently
 MTIM_PUP qum_pup: Mins. /week /pupil (estimate)
 QSENPLAN qsenplan: Specific computer activities for SEN
 Value Label
 .00 no
 1.00 yes
 QSENADPT qsenadpt: Programs adapted for SEN
 Value Label
 .00 No
 1.00 yes
 QCU01 qcu01: Use for class demo.
 Value Label
 1 <fortnightly
 2 fortnightly
 3 weekly
 4 daily
 5 >daily
 QCU02 qcu02: Use at playtime
 Value Label
 1 <fortnightly
 2 fortnightly
 3 weekly
 4 daily
 5 >daily
 QCU03 qcu03: Use as reward
 Value Label
 1 <fortnightly
 2 fortnightly
 3 weekly
 4 daily
 5 >daily
 QCU04 qcu04: Use for extension work
 Value Label
 1 <fortnightly
 2 fortnightly
 3 weekly
 4 daily
 5 >daily
 QCU05 qcu05: Use as support for some
 Value Label

1 <fortnightly
 2 fortnightly
 3 weekly
 4 daily
 5 >daily
 QCU06 qcu06: Use for information-retrieval
 Value Label
 1 <fortnightly
 2 fortnightly
 3 weekly
 4 daily
 5 >daily
 QCU07 qcu07: Use for analysing patterns/connections
 Value Label
 1 <fortnightly
 2 fortnightly
 3 weekly
 4 daily
 5 >daily
 QCU08 qcu08: Use to practise basic skills
 Value Label
 1 <fortnightly
 2 fortnightly
 3 weekly
 4 daily
 5 >daily
 QCU09 qcu09: Use for word-processing
 Value Label
 1 <fortnightly
 2 fortnightly
 3 weekly
 4 daily
 5 >daily
 QCU10 qcu10: Use for number work
 Value Label
 1 <fortnightly
 2 fortnightly
 3 weekly
 4 daily
 5 >daily
 QCU11 qcu11: Use as free choice activity
 Value Label
 1 <fortnightly
 2 fortnightly
 3 weekly
 4 daily
 5 >daily
 QCU12 qcu12: Use when pupils have finished work
 Value Label
 1 <fortnightly
 2 fortnightly
 3 weekly
 4 daily
 5 >daily
 QCU13 qcu13: Use for major project work
 Value Label
 1 <fortnightly
 2 fortnightly
 3 weekly
 4 daily
 5 >daily
 QQCA qqca: adopted qca scheme
 Value Label
 .00 no
 1.00 yes
 QPLN_WK qpln_wk: IT specified in plan for week
 Value Label
 .00 no
 1.00 yes
 QACTIV qactiv: activities to support programs?
 Value Label
 .00 No
 1.00 Yes
 QRECORD qrecord: Records of usage/skills?
 Value Label
 .00 no

1.00 yes
 QUSE01 Using ICT in the classroom - question 1
 QUSE02 Using ICT in the classroom - question 2
 QUSE03 Using ICT in the classroom - question 3
 QUSE04 Using ICT in the classroom - question 4
 QUSE05 Using ICT in the classroom - question 5
 QUSE06 Using ICT in the classroom - question 6
 QUSE07 Using ICT in the classroom - question 7
 QUSE08 Using ICT in the classroom - question 8
 QUSE09 Using ICT in the classroom - question 9
 QUSE10 Using ICT in the classroom - question 10
 QUSE11 Using ICT in the classroom - question 11
 QUSE12 Using ICT in the classroom - question 12
 QUSE13 Using ICT in the classroom - question 13
 QUSE14 Using ICT in the classroom - question 14
 QUSE15 Using ICT in the classroom - question 15
 QUSE16 Using ICT in the classroom - question 16
 QUSE17 Using ICT in the classroom - question 17
 QUSE18 Using ICT in the classroom - question 18
 QUSE19 Using ICT in the classroom - question 19
 QUSE20 Using ICT in the classroom - question 20
 QUSE21 Using ICT in the classroom - question 21
 QUSE22 Using ICT in the classroom - question 22
 QUSE23 Using ICT in the classroom - question 23
 QUSE24 Using ICT in the classroom - question 24
 QFEEDBK qfeedbk: like to receive feedback?
 Value Label
 .00 no
 1.00 yes

Appendix 2-J: An example of the data collected from the follow up and the extended teacher questionnaires 1998/99

	x_foc_it	x_foc_sb	x_ch_ach	x_ch_att	x_af_wkl	x_at_com	x_chal97
1	1	1	2	2	2	.	.
2	1	2	4	4	3	.	.
3	2	2	2	1	3	.	.
4	1	4	2	2	2	.	.
5	1	2	2	1	2	.	.
6	2	2	2	2	3	.	.
7	3	3	4	1	2	.	.
8	2	2	2	2	2	.	.
9	1	1	2	2	1	.	.
10	2	2	4	4	2	.	.
11	2	2	1	1	2	.	.
12	1	1	2	2	2	4	2
13	2	3	4	2	2	.	.
14	1	1	4	4	6	.	.
15	1	3	4	4	3	.	.
16	1	1	2	2	3	4	1
17	4	2	4	1	3	5	2
18	2	4	4	4	3	.	.
19	3	2	3	2	2	.	.
20	3	3	2	2	2	5	2
21	2	2	2	2	3	2	3
22	4	2	4	1	3	4	2
23	1	1	2	2	2	.	.
24	1	1	2	2	3	5	2
25	1	4	1	1	2	4	2
26	2	2	1	2	2	.	.
27	1	1	4	2	3	.	.
28	1	1	2	2	3	4	4
29	2	2	1	1	3	4	2
30	1	1	4	4	2	2	3

	x_chal98	x_chl_01	x_chl_02	x_chl_03	x_chl_04	x_chl_05	x_chl_06
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	2	3	3	3	4	3	4
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	1	1	2	2	2	2	3
17	1	2	2	2	2	2	3
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	2	3	4	4	3	4	5
21	2	4	4	3	3	3	3
22	2	1	3	3	1	3	3
23	.	.	.	.	.	.	.
24	2	1	2	3	3	2	3
25	1	1	3	1	2	3	3
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	1	1	3	4	3	3	4
29	2	1	3	3	3	3	2
30	2	2	3	3	3	4	4

	x_chl_07	x_chl_08	x_chl_09	x_chl_10	x_chl_11	x_chl_12	x_chl_13
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	3	4	4	4	2	4	3
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	3	2	2	3	2	4	.
17	2	3	2	2	1	3	1
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	3	5	2	3	1	1	1
21	4	4	3	5	3	4	3
22	3	2	3	3	2	4	2
23	.	.	.	.	.	.	.
24	4	4	3	2	2	4	3
25	3	5	3	1	1	3	1
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	4	3	3	4	3	4	3
29	3	.	3	4	2	4	3
30	4	5	2	2	3	3	4

	x_chl_14	x_chl_15	x_chl_16	x_chl_17	x_chl_18	x_att01	x_att02
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	4	3	3	4	4	2	4
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	4	2	2	3	2	5	1
17	1	1	2	2	2	5	2
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	3	5	4	4	3	4	2
21	3	3	3	3	3	4	4
22	3	3	3	3	4	5	2
23	.	.	.	.	.	.	.
24	3	3	3	3	3	4	4
25	3	3	3	3	4	4	2
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	4	3	4	4	4	4	4
29	4	3	4	3	4	3	2
30	4	4	4	4	4	5	2

	x_att03	x_att04	x_att05	x_att06	x_att07	x_att08	x_att09
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	3	2	3	2	4	2	2
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	2	2	2	3	3	5	2
17	4	1	1	3	4	2	1
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	3	2	4	4	4	2	2
21	4	3	4	2	4	2	4
22	3	2	2	2	4	5	3
23	.	.	.	.	.	.	.
24	4	2	2	4	4	2	2
25	4	2	2	4	4	2	2
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	3	3	2	1	2	3	3
29	3	4	.	2	4	3	2
30	1	4	2	1	4	4	4

	x_att10	x_att11	x_att12	x_att13	x_pr_01	x_pr_02	x_pr_03
1	.	.	.	.	3	1	2
2	.	.	.	.	0	3	3
3	.	.	.	.	.	.	.
4	.	.	.	.	2	3	2
5	.	.	.	.	2	4	4
6	.	.	.	.	1	3	2
7	.	.	.	.	1	3	4
8	.	.	.	.	3	4	3
9	.	.	.	.	3	4	4
10	.	.	.	.	2	4	4
11	.	.	.	.	3	3	3
12	4	2	3	3	0	2	2
13	.	.	.	.	0	3	3
14	.	.	.	.	3	2	3
15	.	.	.	.	3	4	4
16	4	2	1	1	2	4	4
17	5	1	1	1	4	4	4
18	.	.	.	.	2	3	3
19	.	.	.	.	.	.	.
20	5	2	2	2	2	4	3
21	3	4	2	2	3	2	2
22	2	4	4	2	4	2	2
23	.	.	.	.	3	4	4
24	4	4	2	2	2	3	3
25	5	2	4	2	2	3	3
26	.	.	.	.	1	4	4
27	.	.	.	.	0	4	4
28	4	2	3	2	0	4	4
29	4	2	4	2	3	4	3
30	2	4	4	4	1	2	2

	x_pr_04	x_pr_05	x_pr_06	x_pr_07	x_pr_08	x_pr_09	x_pr_10
1	2	2	1	5	0	2	0
2	2	0	2	3	5	1	3
3	.	.	.	.	.	.	.
4	3	3	3	3	2	2	2
5	2	1	3	4	2	0	4
6	3	3	2	3	1	3	3
7	2	3	3	3	3	2	3
8	2	3	2	1	3	1	2
9	1	2	5	5	5	0	4
10	3	1	2	2	2	2	4
11	3	2	3	3	2	2	3
12	2	2	1	1	0	2	2
13	1	2	3	3	4	0	4
14	1	4	4	3	3	4	3
15	0	1	3	3	3	1	4
16	5	4	4	4	4	4	4
17	3	2	3	3	4	0	3
18	2	1	2	2	2	1	2
19	.	.	.	.	.	.	.
20	3	2	3	1	2	3	3
21	2	1	2	2	1	1	2
22	1	4	2	0	3	4	4
23	3	3	3	3	3	2	4
24	3	2	2	3	0	1	3
25	2	2	3	3	3	3	3
26	3	2	4	4	2	1	5
27	4	4	4	4	2	2	4
28	5	0	4	4	2	0	3
29	2	3	2	1	2	2	3
30	2	1	2	4	3	3	3

	x_pr_11	x_pr_12	x_pr_13	x_pr_14	x_pr_15	x_pr_16	x_pr_17
1	1	0	2	5	0	0	2
2	1	0	1	3	2	1	0
3	.	.	.	.	.	.	.
4	1	1	2	3	2	2	2
5	2	2	1	3	2	1	1
6	1	0	4	3	2	2	3
7	1	2	1	3	3	2	2
8	2	2	2	3	2	2	2
9	3	5	1	3	4	3	1
10	3	3	1	2	2	2	1
11	1	2	2	3	3	2	2
12	1	1	0	1	1	0	1
13	2	3	2	3	3	1	1
14	3	4	2	2	3	3	1
15	2	3	1	4	2	1	1
16	4	4	4	4	4	5	4
17	4	2	0	2	2	0	0
18	2	3	2	2	2	3	3
19	.	.	.	.	.	.	.
20	3	2	3	2	3	2	2
21	1	2	2	2	2	2	1
22	1	2	4	2	2	1	4
23	3	2	1	3	4	2	1
24	2	1	1	2	3	4	1
25	2	4	3	3	3	4	2
26	1	2	1	4	3	1	1
27	2	2	1	4	2	0	0
28	0	5	1	4	3	1	2
29	2	2	2	3	2	2	3
30	2	1	2	2	2	0	1

	x_pr_18	x_pr_19	x_pr_20	x_pr_21	x_pr_22	x_pr_23	x_pr_24
1	4	3	1	2	1	0	0
2	0	4	2	0	2	2	0
3	.	.	.	.	.	.	.
4	4	3	1	0	2	1	0
5	3	3	2	1	3	3	0
6	3	3	1	2	3	2	0
7	3	4	1	1	1	3	0
8	3	3	2	1	3	3	0
9	3	4	5	0	3	3	0
10	2	3	3	1	3	3	1
11	3	3	2	2	3	2	2
12	2	3	1	1	1	2	5
13	3	4	3	0	3	4	2
14	3	4	3	1	3	2	0
15	4	4	2	1	4	4	2
16	4	4	1	5	4	4	1
17	1	2	3	0	3	4	0
18	3	4	3	2	2	3	2
19	.	.	.	.	.	.	.
20	2	3	1	2	2	2	1
21	2	3	2	1	2	2	3
22	4	4	4	4	3	4	4
23	3	4	1	1	4	3	1
24	2	4	3	2	3	3	1
25	3	3	3	3	3	3	3
26	4	3	2	3	4	3	2
27	4	4	2	0	4	4	0
28	4	4	4	3	4	4	0
29	3	2	1	2	3	2	2
30	3	3	2	2	2	2	2

	x_pr_25	x_pr_26	x_pr_27	x_ls_01f	x_ls_01h	x_ls_01k	x_ls_01o
1	1	1	0	.	.	.	.
2	1	1	0	.	.	.	.
3	.	.	.	.	.	.	.
4	1	2	1	.	.	.	.
5	3	3	0	.	.	.	.
6	2	2	1	.	.	.	.
7	1	3	0	.	.	.	.
8	3	3	0	.	.	.	.
9	2	3	5	.	.	.	.
10	2	2	2	.	.	.	.
11	2	2	2	.	.	.	.
12	1	0	1	1	4	3	2
13	3	3	0	.	.	.	.
14	1	1	0	.	.	.	.
15	5	0	0	.	.	.	.
16	4	4	0	4	3	1	2
17	2	1	1	2	3	1	4
18	2	3	2	.	.	.	.
19	.	.	.	.	.	.	.
20	2	2	1	4	3	2	1
21	3	2	2	3	4	1	2
22	2	3	2	2	4	1	3
23	1	3	1	.	.	.	.
24	2	3	1	1	4	3	2
25	2	2	3	4	2	3	1
26	3	3	2	.	.	.	.
27	4	4	0	.	.	.	.
28	3	0	5	1	4	3	2
29	2	3	1	1	3	2	4
30	2	2	1	4	3	2	1

	x_ls_02f	x_ls_02h	x_ls_02k	x_ls_02o	x_ls_03f	x_ls_03h	x_ls_03k
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	2	4	1	3	1	4	2
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	4	3	1	2	3	4	1
17	2	3	1	4	3	1	4
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	4	3	2	1	2	4	1
21	3	4	1	2	1	4	2
22	3	4	1	2	2	4	1
23	.	.	.	.	.	.	.
24	1	4	3	2	2	1	3
25	3	2	4	1	2	4	1
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	2	4	1	3	2	4	1
29	3	4	2	1	4	1	3
30	4	2	3	1	1	4	3

	x_ls_03o	x_ls_04f	x_ls_04h	x_ls_04k	x_ls_04o	x_ls_05f	x_ls_05h
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	3	1	4	3	2	4	2
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	2	4	3	1	2	4	3
17	2	2	3	1	4	3	2
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	3	4	3	2	1	3	2
21	3	1	4	3	2	1	2
22	3	2	4	1	3	1	3
23	.	.	.	.	.	.	.
24	4	2	4	3	1	2	3
25	3	4	2	3	1	3	2
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	3	1	4	3	2	4	2
29	2	3	2	1	4	2	4
30	2	4	2	3	1	2	3
1-12							

	x_ls_05k	x_ls_05o	x_ls_06f	x_ls_06h	x_ls_06k	x_ls_06o	x_ls_07f
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	1	3	3	4	1	2	1
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	1	2	3	4	2	1	3
17	1	4	2	3	1	4	2
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	4	1	2	4	3	1	2
21	3	4	3	4	2	1	2
22	4	2	3	4	1	2	4
23	.	.	.	.	.	.	.
24	4	1	2	4	3	1	2
25	4	1	.	.	.	1	3
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	1	3	2	4	1	3	2
29	1	3	1	3	2	4	4
30	4	1	3	2	4	1	4

	x_ls_07h	x_ls_07k	x_ls_07o	x_ls_08f	x_ls_08h	x_ls_08k	x_ls_08o
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	4	2	3	3	4	1	2
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	2	4	1	2	3	4	1
17	3	1	4	3	2	1	4
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	3	4	1	2	4	3	1
21	3	1	4	3	4	2	1
22	3	1	2	3	4	1	2
23	.	.	.	.	.	.	.
24	4	3	1	2	4	3	1
25	2	4	1	2	3	4	1
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	4	1	3	4	2	1	3
29	2	1	3	4	2	1	3
30	2	3	1	3	2	4	1

	x_ls_09f	x_ls_09h	x_ls_09k	x_ls_09o	x_ls_10f	x_ls_10h	x_ls_10k
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	1	4	2	3	2	3	1
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	4	3	2	1	3	4	1
17	1	3	2	4	3	1	2
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	3	4	2	1	3	4	2
21	3	2	1	4	2	4	1
22	4	3	1	2	3	4	1
23	.	.	.	.	.	.	.
24	3	4	1	2	4	1	2
25	3	2	4	1	4	3	2
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	1	3	2	4	4	2	1
29	3	2	1	4	3	2	1
30	4	2	3	1	4	3	2
1-15							

	x_ls_10o	x_ls_11f	x_ls_11h	x_ls_11k	x_ls_11o	x_ls_12f	x_ls_12h
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	4	1	4	3	2	2	4
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	2	2	4	3	1	1	4
17	4	3	2	1	4	3	2
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	1	2	4	3	1	2	4
21	3	3	4	2	1	1	4
22	2	2	4	3	1	4	3
23	.	.	.	.	.	.	.
24	3	2	4	3	1	2	1
25	1	2	4	3	1	2	4
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	3	4	2	3	1	4	2
29	4	3	2	1	4	4	2
30	1	2	3	4	1	2	3

	x_ls_12k	x_ls_12o	x_ls_01p	x_ls_01q	x_ls_01r	x_ls_01s	x_ls_02p
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	1	3	2.00	-2.00	4.00	6.00	-1.00
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	3	2	-3.00	-1.00	5.00	5.00	-3.00
17	1	4	-1.00	1.00	3.00	7.00	-1.00
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	3	1	-2.00	-2.00	6.00	4.00	-2.00
21	2	3	-2.00	-2.00	4.00	6.00	-2.00
22	1	2	-1.00	-1.00	3.00	7.00	-2.00
23	.	.	.	.	.	.	.
24	4	3	2.00	-2.00	4.00	6.00	2.00
25	3	1	-1.00	-1.00	7.00	3.00	1.00
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	1	3	2.00	-2.00	4.00	6.00	-1.00
29	1	3	1.00	1.00	3.00	7.00	-1.00
30	4	1	-2.00	-2.00	6.00	4.00	-1.00

	x_ls_02q	x_ls_02r	x_ls_02s	x_ls_03p	x_ls_03q	x_ls_03r	x_ls_03s
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	-1.00	3.00	7.00	1.00	-1.00	3.00	7.00
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	-1.00	5.00	5.00	-2.00	-2.00	4.00	6.00
17	1.00	3.00	7.00	1.00	1.00	7.00	3.00
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	-2.00	6.00	4.00	-1.00	-1.00	3.00	7.00
21	-2.00	4.00	6.00	1.00	-1.00	3.00	7.00
22	-2.00	4.00	6.00	-1.00	-1.00	3.00	7.00
23	.	.	.	.	.	.	.
24	-2.00	4.00	6.00	1.00	3.00	5.00	5.00
25	-1.00	7.00	3.00	-1.00	-1.00	3.00	7.00
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	-1.00	3.00	7.00	-1.00	-1.00	3.00	7.00
29	-3.00	5.00	5.00	-1.00	1.00	7.00	3.00
30	-1.00	7.00	3.00	2.00	-2.00	4.00	6.00
1-18							

	x_ls_04p	x_ls_04q	x_ls_04r	x_ls_04s	x_ls_05p	x_ls_05q	x_ls_05r
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	2.00	-2.00	4.00	6.00	-3.00	1.00	5.00
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	-3.00	-1.00	5.00	5.00	-3.00	-1.00	5.00
17	-1.00	1.00	3.00	7.00	-2.00	2.00	4.00
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	-2.00	-2.00	6.00	4.00	1.00	-1.00	7.00
21	2.00	-2.00	4.00	6.00	2.00	2.00	4.00
22	-1.00	-1.00	3.00	7.00	3.00	-1.00	5.00
23	.	.	.	.	.	.	.
24	1.00	-3.00	5.00	5.00	2.00	-2.00	6.00
25	-1.00	-1.00	7.00	3.00	1.00	-1.00	7.00
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	2.00	-2.00	4.00	6.00	-3.00	1.00	5.00
29	-2.00	2.00	4.00	6.00	-1.00	-1.00	3.00
30	-1.00	-1.00	7.00	3.00	2.00	-2.00	6.00
1-19							

	x_ls_05s	x_ls_06p	x_ls_06q	x_ls_06r	x_ls_06s	x_ls_07p	x_ls_07q
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	5.00	-2.00	-2.00	4.00	6.00	1.00	-1.00
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	5.00	-1.00	-3.00	5.00	5.00	1.00	-1.00
17	6.00	-1.00	1.00	3.00	7.00	-1.00	1.00
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	3.00	1.00	-3.00	5.00	5.00	2.00	-2.00
21	6.00	-1.00	-3.00	5.00	5.00	-1.00	1.00
22	5.00	-2.00	-2.00	4.00	6.00	-3.00	-1.00
23	.	.	.	.	.	.	.
24	4.00	1.00	-3.00	5.00	5.00	1.00	-3.00
25	3.00	.	.	.	.	1.00	-1.00
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	5.00	-1.00	-1.00	3.00	7.00	-1.00	-1.00
29	7.00	1.00	1.00	3.00	7.00	-3.00	1.00
30	4.00	1.00	-1.00	7.00	3.00	-1.00	-1.00
1-20							

	x_ls_07r	x_ls_07s	x_ls_08p	x_ls_08q	x_ls_08r	x_ls_08s	x_ls_09p
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	3.00	7.00	-2.00	-2.00	4.00	6.00	1.00
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	7.00	3.00	2.00	-2.00	6.00	4.00	-2.00
17	3.00	7.00	-2.00	2.00	4.00	6.00	1.00
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	6.00	4.00	1.00	-3.00	5.00	5.00	-1.00
21	3.00	7.00	-1.00	-3.00	5.00	5.00	-2.00
22	5.00	5.00	-2.00	-2.00	4.00	6.00	-3.00
23	.	.	.	.	.	.	.
24	5.00	5.00	1.00	-3.00	5.00	5.00	-2.00
25	7.00	3.00	2.00	-2.00	6.00	4.00	1.00
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	3.00	7.00	-3.00	1.00	5.00	5.00	1.00
29	5.00	5.00	-3.00	1.00	5.00	5.00	-2.00
30	7.00	3.00	1.00	-1.00	7.00	3.00	-1.00

	x_ls_09q	x_ls_09r	x_ls_09s	x_ls_10p	x_ls_10q	x_ls_10r	x_ls_10s
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	-1.00	3.00	7.00	-1.00	1.00	3.00	7.00
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	-2.00	6.00	4.00	-2.00	-2.00	4.00	6.00
17	1.00	3.00	7.00	-1.00	3.00	5.00	5.00
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	-3.00	5.00	5.00	-1.00	-3.00	5.00	5.00
21	2.00	4.00	6.00	-1.00	-1.00	3.00	7.00
22	-1.00	5.00	5.00	-2.00	-2.00	4.00	6.00
23	.	.	.	.	.	.	.
24	-2.00	4.00	6.00	-2.00	2.00	6.00	4.00
25	-1.00	7.00	3.00	-2.00	-2.00	6.00	4.00
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	1.00	3.00	7.00	-3.00	1.00	5.00	5.00
29	2.00	4.00	6.00	-2.00	2.00	4.00	6.00
30	-1.00	7.00	3.00	-2.00	-2.00	6.00	4.00

1-22

	x_ls_11p	x_ls_11q	x_ls_11r	x_ls_11s	x_ls_12p	x_ls_12q	x_s_12r
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	2.00	-2.00	4.00	6.00	-1.00	-1.00	3.00
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	1.00	-3.00	5.00	5.00	2.00	-2.00	4.00
17	-2.00	2.00	4.00	6.00	-2.00	2.00	4.00
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	1.00	-3.00	5.00	5.00	1.00	-3.00	5.00
21	-1.00	-3.00	5.00	5.00	1.00	-1.00	3.00
22	1.00	-3.00	5.00	5.00	-3.00	-1.00	5.00
23	.	.	.	.	.	.	.
24	1.00	-3.00	5.00	5.00	2.00	2.00	6.00
25	1.00	-3.00	5.00	5.00	1.00	-3.00	5.00
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	-1.00	-1.00	7.00	3.00	-3.00	1.00	5.00
29	-2.00	2.00	4.00	6.00	-3.00	1.00	5.00
30	2.00	-2.00	6.00	4.00	2.00	-2.00	6.00

	x_ls_12s	x_gp_frd	x_gp_abi	x_gp_led	x_gp_soc	x_gp_ict	x_gp_sex
1	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.
12	7.00	2	1	3	4	5	6
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	.	.	.	.	.	.	.
16	6.00	3	3	.	.	3	3
17	6.00	1	.	.	.	.	.
18	.	.	.	.	.	.	.
19	.	.	.	.	.	.	.
20	5.00	4	3	1	2	5	6
21	7.00	.	1	.	3	2	.
22	5.00	5	2	4	1	3	6
23	.	.	.	.	.	.	.
24	4.00	3	2	.	.	1	.
25	5.00	3	2	.	.	1	.
26	.	.	.	.	.	.	.
27	.	.	.	.	.	.	.
28	5.00	.	.	.	.	.	.
29	5.00	1	5	4	2	3	1
30	4.00	4	2	3	6	1	5

	x_gp_ot	x_inet_t	x_inet_p
1		.	.
2		.	.
3		.	.
4		.	.
5		.	.
6		.	.
7		.	.
8		.	.
9		.	.
10		.	.
11		.	.
12		0	0
13		.	.
14		.	.
15		.	.
16	Variable depending of t	1	0
17	Many activities in class	2	1
18		.	.
19		.	.
20		0	0
21		1	1
22		0	0
23		.	.
24		0	0
25	Often use one child to	1	1
26		.	.
27		.	.
28	Grouping varies depen	0	0
29		0	0
30		2	2

1-25

Keys/Remark for appendix 2-J:

X_FOC_IT focus on ICT skills development

Value	Label
1	0-24% of the time
2	25-50% of the time
3	51-74% of the time
4	75-100% of the time

X_FOC_SB support subject teaching

Value	Label
1	0-24% of the time
2	25-50% of the time
3	51-74% of the time
4	75-100% of the time

X_CH_ACH change in academic achievement

Missing Values: 4

Value	Label
1	improved
2	no difference
3	declined
4 M	not sure or impossible to give an answer

X_CH_ATT change in attitude towards learning

Missing Values: 4

Value	Label
1	improved
2	no difference
3	declined
4 M	not sure or impossible to give an answer

X_AF_WKL affects teachers' workload

Missing Values: 6

Value	Label
1	increased a lot
2	increased
3	no difference
4	decreased
5	decreased a lot
6 M	not sure or impossible to give an answer

X_AT_COM teachers' attitude toward computer

Value	Label
1	strongly dislike them
2	dislike them
3	Not sure (try not to use this box)
4	like them
5	strongly like them

X_CHAL97 challenge of using ICT in autumn 1997

Missing Values: 4

Value	Label
1	not a problem
2	solved by rational
3	not sufficient to solve by rational
4 M	Not sure or impossible to give an answer

X_CHAL98 challenge of using ICT in autumn 1998

Missing Values: 4

Value	Label
1	not a problem
2	solved by rational
3	not sufficient to solve by rational
4 M	Not sure or impossible to give an answer

X_CHL_01 The age of my pupils

Missing Values: 6

Value	Label
1	very favourable
2	favourable

3	okay
4	unfavourable
5	very unfavourable
6 M	not sure (try not to use)

X_CHL_02 My knowledge and skills about hardware

Missing Values: 6

Value	Label
1	very favourable
2	favourable
3	okay
4	unfavourable
5	very unfavourable
6 M	not sure (try not to use)

X_CHL_03 Equipment available for pupil to use

Missing Values: 6

Value	Label
1	very favourable
2	favourable
3	okay
4	unfavourable
5	very unfavourable
6 M	not sure (try not to use)

X_CHL_04 The ability of my class

Missing Values: 6

Value	Label
1	very favourable
2	favourable
3	okay
4	unfavourable
5	very unfavourable
6 M	not sure (try not to use)

X_CHL_05 My knowledge and skills about software

Missing Values: 6

Value	Label
1	very favourable
2	favourable
3	okay
4	unfavourable
5	very unfavourable
6 M	not sure (try not to use)

X_CHL_06 The number of pupils in my class

Missing Values: 6

Value	Label
1	very favourable
2	favourable
3	okay
4	unfavourable
5	very unfavourable
6 M	not sure (try not to use)

X_CHL_07 Access to information about hardware and software at school

Missing Values: 6

Value	Label
1	very favourable
2	favourable
3	okay
4	unfavourable
5	very unfavourable
6 M	not sure (try not to use)

X_CHL_08 Technical support available in school

Missing Values: 6

Value Label
 1 very favourable
 2 favourable
 3 okay
 4 unfavourable
 5 very unfavourable
 6 M not sure (try not to use)

X_CHL_09 My knowledge about how and when to use ICT
 Missing Values: 6
 Value Label
 1 very favourable
 2 favourable
 3 okay
 4 unfavourable
 5 very unfavourable
 6 M not sure (try not to use)

X_CHL_10 Reliability of available equipment
 Missing Values: 6
 Value Label
 1 very favourable
 2 favourable
 3 okay
 4 unfavourable
 5 very unfavourable
 6 M not sure (try not to use)

X_CHL_11 My interest in the classroom use of ICT
 Missing Values: 6
 Value Label
 1 very favourable
 2 favourable
 3 okay
 4 unfavourable
 5 very unfavourable
 6 M not sure (try not to use)

X_CHL_12 Availability of adults to help pupils on the computers
 Missing Values: 6
 Value Label
 1 very favourable
 2 favourable
 3 okay
 4 unfavourable
 5 very unfavourable
 6 M not sure (try not to use)

X_CHL_13 My expectation about the educational outcome of using ICT
 Missing Values: 6
 Value Label
 1 very favourable
 2 favourable
 3 okay
 4 unfavourable
 5 very unfavourable
 6 M not sure (try not to use)

X_CHL_14 The demands on teachers' time and effort in class
 Missing Values: 6
 Value Label
 1 very favourable
 2 favourable
 3 okay

4 unfavourable
 5 very unfavourable
 6 M not sure (try not to use)

X_CHL_15 The impact of school/educational policy e.g. literacy or num
 Missing Values: 6
 Value Label
 1 very favourable
 2 favourable
 3 okay
 4 unfavourable
 5 very unfavourable
 6 M not sure (try not to use)

X_CHL_16 Time and effort for planning and preparation
 Missing Values: 6
 Value Label
 1 very favourable
 2 favourable
 3 okay
 4 unfavourable
 5 very unfavourable
 6 M not sure (try not to use)

X_CHL_17 The supervision of pupils' learning on computer
 Missing Values: 6
 Value Label
 1 very favourable
 2 favourable
 3 okay
 4 unfavourable
 5 very unfavourable
 6 M not sure (try not to use)

X_CHL_18 My knowledge and skills in planning follow-up work
 Missing Values: 6
 Value Label
 1 very favourable
 2 favourable
 3 okay
 4 unfavourable
 5 very unfavourable
 6 M not sure (try not to use)

X_ATT01 x_att01: has across curric ICT plan
 X_ATT02 x_att02: not enough software info at school
 X_ATT03 x_att03: use ICT cost-effective in educ
 X_ATT04 x_att04: hard to include compu in lessons
 X_ATT05 x_att05: not adequate key-board skills
 X_ATT06 x_att06: compu makes feel teaching good
 X_ATT07 x_att07: parents are positive on compu
 X_ATT08 x_att08: hard to monitor pup learn
 X_ATT09 x_att09: software not appro for Ncurric
 X_ATT10 x_att10: keen on edu use of ICT
 X_ATT11 x_att11: software too complicated for pup
 X_ATT12 x_att12: difficult to plan follow-up work
 X_ATT13 x_att13: planning ICT lesson is time-consuming

X_PR_01 Reflection questionnaire: Item 1
 Missing Values: 5
 Value Label
 0 never or rarely true
 1 occasionally true
 2 sometimes true
 3 often true

4 always or almost always true
5 M NA - not possible to give definite answer

X_PR_02 Reflection questionnaire: Item 2

Missing Values: 5

Value Label

0 never or rarely true

1 occasionally true

2 sometimes true

3 often true

4 always or almost always true

5 M NA - not possible to give definite answer

X_PR_03 Reflection questionnaire: Item 3

Missing Values: 5

Value Label

0 never or rarely true

1 occasionally true

2 sometimes true

3 often true

4 always or almost always true

5 M NA - not possible to give definite answer

X_PR_04 Reflection questionnaire: Item 4

Missing Values: 5

Value Label

0 never or rarely true

1 occasionally true

2 sometimes true

3 often true

4 always or almost always true

5 M NA - not possible to give definite answer

X_PR_05 Reflection questionnaire: Item 5

Missing Values: 5

Value Label

0 never or rarely true

1 occasionally true

2 sometimes true

3 often true

4 always or almost always true

5 M NA - not possible to give definite answer

X PR_06 Reflection questionnaire: Item 6

Missing Values: 5

Value Label

0 never or rarely true

1 occasionally true

2 sometimes true

3 often true

4 always or almost always true

5 M NA - not possible to give definite answer

X PR_07 Reflection questionnaire: Item 7

Missing Values: 5

Value Label

0 never or rarely true

1 occasionally true

2 sometimes true

3 often true

4 always or almost always true

5 M NA - not possible to give definite answer

X_PR_08 Reflection questionnaire: Item 8

Missing Values: 5

Value Label

0 never or rarely true

1 occasionally true

2 sometimes true

3 often true

4 always or almost always true

5 M NA - not possible to give definite answer

X PR_09 Reflection questionnaire: Item 9

Missing Values: 5

Value Label

0 never or rarely true

1 occasionally true

2 sometimes true

3 often true

4 always or almost always true

5 M NA - not possible to give definite answer

X PR_10 Reflection questionnaire: Item 10

Missing Values: 5

Value Label

0 never or rarely true

1 occasionally true

2 sometimes true

3 often true

4 always or almost always true

5 M NA - not possible to give definite answer

X_PR_11 Reflection questionnaire: Item 11

Missing Values: 5

Value Label

0 never or rarely true

1 occasionally true

2 sometimes true

3 often true

4 always or almost always true

5 M NA - not possible to give definite answer

X_PR_12 Reflection questionnaire: Item 12

Missing Values: 5

Value Label

0 never or rarely true

1 occasionally true

2 sometimes true

3 often true

4 always or almost always true

5 M NA - not possible to give definite answer

X_PR_13 Reflection questionnaire: Item 13

Missing Values: 5

Value Label

0 never or rarely true

1 occasionally true

2 sometimes true

3 often true

4 always or almost always true

5 M NA - not possible to give definite answer

X_PR_14 Reflection questionnaire: Item 14

Missing Values: 5

Value Label

0 never or rarely true

1 occasionally true

2 sometimes true

3 often true

4 always or almost always true

5 M NA - not possible to give definite answer

X PR_15 Reflection questionnaire: Item 15

Missing Values: 5

Value Label

0 never or rarely true
 1 occasionally true
 2 sometimes true
 3 often true
 4 always or almost always true
 5 M NA - not possible to give definite answer
 X_PR_16 Reflection questionnaire: Item 16
 Missing Values: 5
 Value Label
 0 never or rarely true
 1 occasionally true
 2 sometimes true
 3 often true
 4 always or almost always true
 5 M NA - not possible to give definite answer
 X_PR_17 Reflection questionnaire: Item 17
 Missing Values: 5
 Value Label
 0 never or rarely true
 1 occasionally true
 2 sometimes true
 3 often true
 4 always or almost always true
 5 M NA - not possible to give definite answer
 X_PR_18 Reflection questionnaire: Item 18
 Missing Values: 5
 Value Label
 0 never or rarely true
 1 occasionally true
 2 sometimes true
 3 often true
 4 always or almost always true
 5 M NA - not possible to give definite answer
 X_PR_19 Reflection questionnaire: Item 19
 Missing Values: 5
 Value Label
 0 never or rarely true
 1 occasionally true
 2 sometimes true
 3 often true
 4 always or almost always true
 5 M NA - not possible to give definite answer
 X_PR_20 Reflection questionnaire: Item 20
 Missing Values: 5
 Value Label
 0 never or rarely true
 1 occasionally true
 2 sometimes true
 3 often true
 4 always or almost always true
 5 M NA - not possible to give definite answer
 X_PR_21 Reflection questionnaire: Item 21
 Missing Values: 5
 Value Label
 0 never or rarely true
 1 occasionally true
 2 sometimes true
 3 often true
 4 always or almost always true
 5 M NA - not possible to give definite answer
 X_PR_22 Reflection questionnaire: Item 22

Missing Values: 5
 Value Label
 0 never or rarely true
 1 occasionally true
 2 sometimes true
 3 often true
 4 always or almost always true
 5 M NA - not possible to give definite answer
 X_PR_23 Reflection questionnaire: Item 23
 Missing Values: 5
 Value Label
 0 never or rarely true
 1 occasionally true
 2 sometimes true
 3 often true
 4 always or almost always true
 5 M NA - not possible to give definite answer
 X_PR_24 Reflection questionnaire: Item 24
 Missing Values: 5
 Value Label
 0 never or rarely true
 1 occasionally true
 2 sometimes true
 3 often true
 4 always or almost always true
 5 M NA - not possible to give definite answer
 X_PR_25 Reflection questionnaire: Item 25
 Missing Values: 5
 Value Label
 0 never or rarely true
 1 occasionally true
 2 sometimes true
 3 often true
 4 always or almost always true
 5 M NA - not possible to give definite answer
 X_PR_26 Reflection questionnaire: Item 26
 Missing Values: 5
 Value Label
 0 never or rarely true
 1 occasionally true
 2 sometimes true
 3 often true
 4 always or almost always true
 5 M NA - not possible to give definite answer
 X_PR_27 Reflection questionnaire: Item 27
 Missing Values: 5
 Value Label
 0 never or rarely true
 1 occasionally true
 2 sometimes true
 3 often true
 4 always or almost always true
 5 M NA - not possible to give definite answer
 X_LS_01F CE learning style question 1
 X_LS_01H RO learning style question 1
 X_LS_01K AC learning style question 1
 X_LS_01O AE learning style question 1
 X_LS_02F CE learning style question 2
 X_LS_02H RO learning style question 2
 X_LS_02K AC learning style question 2
 X_LS_02O AE learning style question 2

X_LS_03F	CE learning style question 3	X_LS_06Q	(AE - RO) 6
X_LS_03H	RO learning style question 3	X_LS_06R	(AC + CE) 6
X_LS_03K	AC learning style question 3	X_LS_06S	(AE + RO) 6
X_LS_03O	AE learning style question 3	X_LS_07P	(AC - CE) 7
X_LS_04F	CE learning style question 4	X_LS_07Q	(AE - RO) 7
X_LS_04H	RO learning style question 4	X_LS_07R	(AC + CE) 7
X_LS_04K	AC learning style question 4	X_LS_07S	(AE + RO) 7
X_LS_04O	AE learning style question 4	X_LS_08P	(AC - CE) 8
X_LS_05F	CE learning style question 5	X_LS_08Q	(AE - RO) 8
X_LS_05H	RO learning style question 5	X_LS_08R	(AC + CE) 8
X_LS_05K	AC learning style question 5	X_LS_08S	(AE + RO) 8
X_LS_05O	AE learning style question 5	X_LS_09P	(AC - CE) 9
X_LS_06F	CE learning style question 6	X_LS_09Q	(AE - RO) 9
X_LS_06H	RO learning style question 6	X_LS_09R	(AC + CE) 9
X_LS_06K	AC learning style question 6	X_LS_09S	(AE + RO) 9
X_LS_06O	AE learning style question 6	X_LS_10P	(AC - CE) 10
X_LS_07F	CE learning style question 7	X_LS_10Q	(AE - RO) 10
X_LS_07H	RO learning style question 7	X_LS_10R	(AC + CE) 10
X_LS_07K	AC learning style question 7	X_LS_10S	(AE + RO) 10
X_LS_07O	AE learning style question 7	X_LS_11P	(AC - CE) 11
X_LS_08F	CE learning style question 8	X_LS_11Q	(AE - RO) 11
X_LS_08H	RO learning style question 8	X_LS_11R	(AC + CE) 11
X_LS_08K	AC learning style question 8	X_LS_11S	(AE + RO) 11
X_LS_08O	AE learning style question 8	X_LS_12P	(AC - CE) 12
X_LS_09F	CE learning style question 9	X_LS_12Q	(AE - RO) 12
X_LS_09H	RO learning style question 9	X_LS_12R	(AC + CE) 12
X_LS_09K	AC learning style question 9	X_LS_12S	(AE + RO) 12
X_LS_09O	AE learning style question 9	X_GP_FRD	Grouping criterion - friendship
X_LS_10F	CE learning style question 10	X_GP_ABI	Grouping criterion - ability
X_LS_10H	RO learning style question 10	X_GP_LED	Grouping criterion - leadership
X_LS_10K	AC learning style question 10	X_GP_SOC	Grouping criterion - social ability
X_LS_10O	AE learning style question 10	X_GP_ICT	Grouping criterion - IT skills
X_LS_11F	CE learning style question 11	X_GP_SEX	Grouping criterion - gender
X_LS_11H	RO learning style question 11	X_GP_OT	Grouping criterion - others
X_LS_11K	AC learning style question 11	X_INET_T	Number of internet access points for teacher
X_LS_11O	AE learning style question 11	X_INET_P	Number of internet access points for pupils
X_LS_12F	CE learning style question 12		
X_LS_12H	RO learning style question 12		
X_LS_12K	AC learning style question 12		
X_LS_12O	AE learning style question 12		
X_LS_01P	(AC - CE) 1		
X_LS_01Q	(AE - RO) 1		
X_LS_01R	(AC + CE) 1		
X_LS_01S	(AE + RO) 1		
X_LS_02P	(AC - CE) 2		
X_LS_02Q	(AE - RO) 2		
X_LS_02R	(AC + CE) 2		
X_LS_02S	(AE + RO) 2		
X_LS_03P	(AC - CE) 3		
X_LS_03Q	(AE - RO) 3		
X_LS_03R	(AC + CE) 3		
X_LS_03S	(AE + RO) 3		
X_LS_04P	(AC - CE) 4		
X_LS_04Q	(AE - RO) 4		
X_LS_04R	(AC + CE) 4		
X_LS_04S	(AE + RO) 4		
X_LS_05P	(AC - CE) 5		
X_LS_05Q	(AE - RO) 5		
X_LS_05R	(AC + CE) 5		
X_LS_05S	(AE + RO) 5		
X_LS_06P	(AC - CE) 6		

Appendix 2-K: An example of the data concerning teaching preferences

	c_01	c_02	c_03	c_04	c_05	c_06	c_07
1	12.00	1.00	12.00	12.00	12.00	5.00	5.00
2	17.00	7.00	7.00	13.00	7.00	19.00	13.00
3	11.00	8.00	11.00	11.00	15.00	8.00	11.00
4	22.00	2.00	5.00	1.00	2.00	11.00	18.00
5	13.00	3.00	13.00	13.00	10.00	1.00	4.00
6	19.00	8.00	15.00	8.00	12.00	12.00	12.00
7	20.00	3.00	3.00	13.00	13.00	3.00	13.00
8	19.00	4.00	12.00	3.00	12.00	3.00	12.00
9	12.00	7.00	12.00	8.00	14.00	9.00	12.00
10	6.00	7.00	9.00	11.00	18.00	10.00	16.00
11	13.00	6.00	8.00	10.00	14.00	11.00	8.00
12	11.00	6.00	11.00	10.00	11.00	6.00	4.00
13	11.00	7.00	8.00	10.00	13.00	11.00	14.00
14	21.00	15.00	14.00	14.00	14.00	13.00	9.00
15	8.00	5.00	13.00	11.00	9.00	11.00	11.00
16	13.00	10.00	14.00	9.00	22.00	5.00	5.00
17	8.00	12.00	9.00	19.00	7.00	12.00	15.00
18	17.00	3.00	8.00	13.00	13.00	7.00	7.00
19	12.00	9.00	6.00	6.00	16.00	2.00	2.00
20	12.00	12.00	12.00	12.00	5.00	12.00	12.00
21	7.00	13.00	7.00	7.00	7.00	6.00	4.00
22	13.00	11.00	14.00	14.00	8.00	14.00	11.00
23	14.00	7.00	9.00	6.00	10.00	8.00	10.00
24	12.00	7.00	12.00	12.00	12.00	12.00	15.00
25	13.00	9.00	13.00	13.00	13.00	9.00	11.00
26	12.00	7.00	8.00	9.00	12.00	10.00	12.00
27	12.00	11.00	11.00	11.00	12.00	10.00	12.00
28	12.00	6.00	11.00	12.00	12.00	14.00	10.00
29	13.00	7.00	9.00	19.00	15.00	4.00	6.00
30	12.00	5.00	3.00	13.00	15.00	13.00	13.00

	c_08	c_09	c_10	c_11	c_12	c_13	c_14
1	12.00	6.00	12.00	6.00	1.00	1.00	12.00
2	3.00	13.00	13.00	3.00	7.00	4.00	21.00
3	11.00	16.00	8.00	12.00	8.00	8.00	12.00
4	6.00	12.00	4.00	10.00	12.00	5.00	21.00
5	13.00	13.00	13.00	13.00	3.00	3.00	13.00
6	12.00	12.00	12.00	19.00	18.00	7.00	16.00
7	3.00	13.00	24.00	13.00	3.00	3.00	25.00
8	12.00	14.00	18.00	14.00	12.00	12.00	18.00
9	12.00	12.00	12.00	12.00	12.00	9.00	15.00
10	11.00	14.00	10.00	13.00	8.00	8.00	19.00
11	9.00	14.00	12.00	12.00	9.00	5.00	19.00
12	6.00	12.00	9.00	14.00	7.00	14.00	18.00
13	16.00	7.00	8.00	7.00	10.00	16.00	18.00
14	11.00	9.00	13.00	20.00	15.00	7.00	7.00
15	4.00	12.00	11.00	19.00	12.00	12.00	12.00
16	13.00	17.00	19.00	23.00	4.00	4.00	19.00
17	16.00	12.00	8.00	16.00	18.00	14.00	13.00
18	13.00	13.00	19.00	13.00	4.00	4.00	19.00
19	3.00	11.00	17.00	14.00	9.00	9.00	14.00
20	19.00	12.00	12.00	6.00	6.00	7.00	13.00
21	12.00	19.00	12.00	16.00	12.00	12.00	17.00
22	14.00	12.00	10.00	12.00	15.00	12.00	15.00
23	12.00	15.00	14.00	10.00	11.00	12.00	14.00
24	13.00	13.00	16.00	12.00	7.00	11.00	20.00
25	5.00	16.00	15.00	10.00	8.00	8.00	15.00
26	12.00	12.00	9.00	16.00	14.00	10.00	15.00
27	13.00	14.00	12.00	14.00	13.00	9.00	11.00
28	12.00	10.00	14.00	12.00	10.00	9.00	15.00
29	5.00	18.00	13.00	5.00	7.00	10.00	19.00
30	16.00	13.00	13.00	9.00	13.00	10.00	18.00

	c_15	c_16	c_17	c_18	c_19	c_20	c_21
1	12.00	12.00	12.00	2.00	19.00	2.00	24.00
2	13.00	10.00	9.00	16.00	16.00	2.00	23.00
3	12.00	9.00	16.00	16.00	9.00	9.00	16.00
4	24.00	12.00	7.00	12.00	12.00	7.00	19.00
5	13.00	13.00	13.00	13.00	10.00	3.00	21.00
6	18.00	6.00	16.00	4.00	13.00	13.00	13.00
7	13.00	2.00	2.00	13.00	13.00	2.00	25.00
8	12.00	3.00	4.00	16.00	4.00	4.00	18.00
9	15.00	9.00	9.00	12.00	12.00	5.00	19.00
10	14.00	9.00	8.00	13.00	13.00	9.00	16.00
11	13.00	8.00	11.00	12.00	12.00	7.00	15.00
12	14.00	11.00	8.00	12.00	11.00	11.00	25.00
13	13.00	8.00	10.00	15.00	15.00	10.00	18.00
14	15.00	8.00	15.00	9.00	12.00	7.00	23.00
15	13.00	12.00	10.00	12.00	12.00	9.00	21.00
16	23.00	2.00	4.00	19.00	13.00	6.00	20.00
17	4.00	7.00	6.00	11.00	6.00	7.00	17.00
18	13.00	7.00	13.00	19.00	13.00	4.00	21.00
19	13.00	7.00	10.00	18.00	13.00	6.00	18.00
20	13.00	8.00	8.00	13.00	14.00	9.00	19.00
21	18.00	5.00	6.00	18.00	7.00	7.00	19.00
22	13.00	11.00	9.00	13.00	14.00	12.00	16.00
23	18.00	9.00	7.00	20.00	12.00	10.00	16.00
24	12.00	12.00	12.00	12.00	12.00	7.00	21.00
25	15.00	12.00	11.00	16.00	13.00	12.00	15.00
26	15.00	8.00	12.00	13.00	17.00	7.00	17.00
27	13.00	11.00	14.00	13.00	12.00	9.00	13.00
28	12.00	14.00	10.00	14.00	11.00	3.00	19.00
29	12.00	3.00	7.00	16.00	8.00	4.00	21.00
30	13.00	8.00	6.00	13.00	13.00	8.00	13.00

	c_22	c_23	c_24	c_25	c_26	c_27	c_28
1	1.00	24.00	24.00	24.00	1.00	1.00	1.00
2	12.00	23.00	18.00	18.00	2.00	2.00	2.00
3	12.00	19.00	12.00	12.00	2.00	12.00	6.00
4	12.00	24.00	18.00	11.00	5.00	8.00	12.00
5	4.00	18.00	12.00	12.00	3.00	7.00	7.00
6	13.00	18.00	13.00	6.00	5.00	14.00	6.00
7	2.00	25.00	25.00	13.00	1.00	1.00	1.00
8	13.00	18.00	18.00	12.00	4.00	4.00	5.00
9	12.00	20.00	12.00	12.00	6.00	12.00	9.00
10	16.00	19.00	9.00	15.00	6.00	10.00	10.00
11	12.00	18.00	15.00	10.00	5.00	11.00	9.00
12	9.00	16.00	15.00	11.00	11.00	12.00	8.00
13	19.00	20.00	18.00	14.00	3.00	13.00	12.00
14	14.00	10.00	13.00	20.00	4.00	8.00	1.00
15	16.00	16.00	12.00	16.00	8.00	12.00	8.00
16	3.00	20.00	19.00	12.00	3.00	22.00	6.00
17	13.00	11.00	10.00	12.00	4.00	13.00	14.00
18	9.00	21.00	21.00	16.00	3.00	13.00	4.00
19	11.00	18.00	19.00	20.00	9.00	7.00	8.00
20	14.00	14.00	14.00	14.00	8.00	8.00	8.00
21	12.00	18.00	18.00	18.00	8.00	12.00	8.00
22	8.00	17.00	13.00	9.00	8.00	9.00	11.00
23	12.00	21.00	13.00	13.00	6.00	6.00	8.00
24	13.00	22.00	14.00	14.00	2.00	7.00	8.00
25	13.00	15.00	14.00	15.00	9.00	9.00	9.00
26	14.00	18.00	18.00	14.00	6.00	15.00	10.00
27	12.00	13.00	12.00	12.00	11.00	13.00	11.00
28	10.00	21.00	12.00	18.00	6.00	14.00	8.00
29	17.00	21.00	20.00	18.00	6.00	5.00	7.00
30	13.00	13.00	13.00	16.00	8.00	8.00	8.00

	c_29	c_30	c_31	c_32	c_33	c_34	c_35
1	13.00	1.00	13.00	1.00	13.00	13.00	1.00
2	9.00	2.00	13.00	2.00	3.00	6.00	2.00
3	12.00	9.00	12.00	7.00	12.00	7.00	7.00
4	2.00	12.00	11.00	11.00	11.00	14.00	4.00
5	12.00	7.00	13.00	3.00	12.00	12.00	12.00
6	13.00	7.00	7.00	13.00	19.00	6.00	6.00
7	13.00	1.00	13.00	1.00	1.00	13.00	13.00
8	12.00	6.00	6.00	11.00	6.00	12.00	12.00
9	11.00	7.00	9.00	6.00	11.00	7.00	9.00
10	9.00	9.00	12.00	13.00	13.00	7.00	13.00
11	9.00	5.00	11.00	8.00	10.00	8.00	12.00
12	11.00	9.00	11.00	10.00	13.00	11.00	12.00
13	10.00	8.00	12.00	9.00	11.00	13.00	10.00
14	10.00	10.00	14.00	5.00	8.00	12.00	6.00
15	12.00	4.00	11.00	7.00	12.00	12.00	16.00
16	6.00	7.00	2.00	10.00	15.00	2.00	7.00
17	13.00	4.00	19.00	12.00	16.00	9.00	12.00
18	13.00	4.00	13.00	4.00	13.00	4.00	13.00
19	12.00	7.00	13.00	7.00	6.00	6.00	7.00
20	8.00	8.00	13.00	9.00	9.00	13.00	13.00
21	8.00	8.00	8.00	8.00	12.00	12.00	7.00
22	12.00	12.00	10.00	10.00	10.00	12.00	11.00
23	8.00	9.00	6.00	10.00	12.00	12.00	13.00
24	13.00	12.00	12.00	12.00	13.00	12.00	12.00
25	16.00	10.00	14.00	10.00	11.00	13.00	13.00
26	9.00	3.00	10.00	7.00	23.00	8.00	12.00
27	11.00	11.00	11.00	10.00	12.00	11.00	11.00
28	11.00	13.00	12.00	10.00	14.00	9.00	10.00
29	6.00	8.00	18.00	9.00	11.00	9.00	11.00
30	8.00	8.00	14.00	14.00	14.00	14.00	10.00

	c_36	c_37	c_38	c_39	c_40	c_41	c_42
1	7.00	1.00	1.00	1.00	1.00	13.00	24.00
2	13.00	2.00	2.00	3.00	3.00	2.00	24.00
3	12.00	7.00	12.00	12.00	7.00	12.00	15.00
4	12.00	12.00	4.00	5.00	16.00	12.00	16.00
5	12.00	4.00	7.00	24.00	12.00	12.00	22.00
6	14.00	1.00	6.00	13.00	10.00	8.00	11.00
7	13.00	13.00	13.00	25.00	13.00	13.00	25.00
8	12.00	12.00	13.00	18.00	12.00	6.00	19.00
9	11.00	8.00	11.00	17.00	11.00	11.00	16.00
10	13.00	2.00	8.00	17.00	14.00	8.00	17.00
11	12.00	8.00	8.00	16.00	12.00	12.00	16.00
12	12.00	7.00	11.00	14.00	9.00	13.00	14.00
13	8.00	8.00	9.00	10.00	8.00	13.00	12.00
14	12.00	6.00	13.00	5.00	24.00	12.00	12.00
15	16.00	10.00	7.00	12.00	8.00	19.00	16.00
16	22.00	2.00	8.00	23.00	12.00	13.00	14.00
17	12.00	4.00	9.00	15.00	9.00	16.00	12.00
18	13.00	4.00	13.00	20.00	4.00	13.00	20.00
19	13.00	13.00	13.00	24.00	11.00	9.00	20.00
20	9.00	13.00	13.00	13.00	17.00	13.00	13.00
21	7.00	7.00	7.00	19.00	6.00	6.00	19.00
22	7.00	9.00	13.00	14.00	16.00	11.00	12.00
23	13.00	6.00	8.00	22.00	8.00	10.00	18.00
24	8.00	11.00	15.00	13.00	8.00	11.00	12.00
25	16.00	11.00	13.00	13.00	11.00	13.00	15.00
26	12.00	7.00	3.00	16.00	9.00	12.00	16.00
27	12.00	11.00	13.00	12.00	14.00	13.00	14.00
28	9.00	12.00	9.00	15.00	15.00	12.00	17.00
29	14.00	8.00	6.00	18.00	8.00	10.00	22.00
30	13.00	13.00	13.00	19.00	13.00	13.00	15.00

	c_43	c_44	c_45	c_46	c_47	c_48	c_49
1	13.00	24.00	1.00	1.00	1.00	13.00	13.00
2	2.00	24.00	2.00	2.00	1.00	12.00	25.00
3	16.00	16.00	7.00	1.00	1.00	14.00	12.00
4	8.00	16.00	12.00	1.00	2.00	4.00	13.00
5	12.00	15.00	3.00	2.00	4.00	20.00	12.00
6	6.00	5.00	5.00	2.00	2.00	13.00	3.00
7	13.00	13.00	13.00	1.00	1.00	13.00	13.00
8	5.00	8.00	3.00	3.00	3.00	17.00	12.00
9	8.00	14.00	8.00	2.00	6.00	8.00	13.00
10	11.00	18.00	3.00	4.00	5.00	15.00	8.00
11	8.00	12.00	8.00	8.00	8.00	16.00	15.00
12	11.00	11.00	9.00	6.00	5.00	16.00	11.00
13	10.00	15.00	14.00	2.00	6.00	15.00	13.00
14	12.00	2.00	13.00	9.00	8.00	17.00	13.00
15	12.00	11.00	7.00	2.00	2.00	12.00	14.00
16	6.00	13.00	1.00	3.00	4.00	20.00	12.00
17	13.00	15.00	6.00	6.00	4.00	3.00	21.00
18	13.00	13.00	9.00	4.00	4.00	9.00	9.00
19	10.00	19.00	9.00	5.00	5.00	13.00	13.00
20	13.00	9.00	17.00	9.00	9.00	13.00	13.00
21	7.00	19.00	7.00	7.00	7.00	19.00	13.00
22	10.00	11.00	11.00	8.00	8.00	12.00	12.00
23	11.00	16.00	8.00	3.00	8.00	16.00	14.00
24	12.00	12.00	9.00	9.00	6.00	9.00	12.00
25	11.00	13.00	10.00	9.00	6.00	9.00	15.00
26	16.00	12.00	7.00	1.00	3.00	16.00	13.00
27	14.00	14.00	10.00	9.00	9.00	12.00	11.00
28	11.00	16.00	10.00	3.00	3.00	16.00	9.00
29	6.00	20.00	9.00	3.00	2.00	20.00	14.00
30	10.00	17.00	8.00	8.00	10.00	13.00	13.00

	c_50	c_51	c_52	c_53	c_54	c_55	c_56
1	13.00	1.00	13.00	13.00	13.00	20.00	1.00
2	12.00	12.00	24.00	24.00	1.00	13.00	1.00
3	11.00	19.00	17.00	7.00	3.00	12.00	9.00
4	13.00	17.00	8.00	12.00	2.00	13.00	2.00
5	12.00	12.00	12.00	12.00	12.00	12.00	2.00
6	13.00	17.00	13.00	13.00	2.00	18.00	13.00
7	13.00	13.00	13.00	13.00	1.00	13.00	1.00
8	18.00	18.00	17.00	14.00	6.00	13.00	5.00
9	15.00	11.00	11.00	15.00	5.00	15.00	5.00
10	14.00	18.00	19.00	14.00	8.00	16.00	9.00
11	14.00	12.00	14.00	14.00	12.00	17.00	8.00
12	14.00	10.00	14.00	15.00	12.00	12.00	7.00
13	16.00	21.00	12.00	14.00	11.00	15.00	9.00
14	13.00	11.00	12.00	17.00	10.00	13.00	11.00
15	14.00	7.00	6.00	17.00	8.00	18.00	7.00
16	20.00	5.00	20.00	6.00	8.00	9.00	2.00
17	6.00	19.00	19.00	17.00	4.00	19.00	6.00
18	13.00	10.00	23.00	13.00	6.00	13.00	2.00
19	12.00	23.00	17.00	15.00	6.00	13.00	7.00
20	12.00	16.00	8.00	8.00	9.00	9.00	9.00
21	18.00	12.00	18.00	18.00	18.00	18.00	18.00
22	13.00	14.00	16.00	15.00	10.00	14.00	12.00
23	15.00	8.00	16.00	16.00	10.00	15.00	9.00
24	12.00	18.00	20.00	12.00	2.00	19.00	4.00
25	11.00	8.00	13.00	11.00	12.00	15.00	3.00
26	14.00	15.00	20.00	17.00	6.00	12.00	5.00
27	13.00	14.00	12.00	12.00	11.00	12.00	13.00
28	14.00	15.00	14.00	15.00	8.00	10.00	10.00
29	11.00	5.00	20.00	21.00	14.00	24.00	4.00
30	13.00	13.00	13.00	13.00	13.00	15.00	10.00

	c_57	c_58	c_59	c_60	c_61	c_62	c_63
1	1.00	13.00	13.00	1.00	13.00	19.00	13.00
2	13.00	13.00	1.00	2.00	1.00	13.00	13.00
3	12.00	17.00	8.00	8.00	12.00	12.00	12.00
4	21.00	22.00	12.00	2.00	10.00	9.00	13.00
5	12.00	12.00	12.00	6.00	12.00	17.00	12.00
6	13.00	4.00	13.00	10.00	13.00	13.00	13.00
7	13.00	13.00	13.00	13.00	13.00	13.00	13.00
8	10.00	20.00	12.00	6.00	18.00	12.00	12.00
9	11.00	18.00	12.00	12.00	12.00	12.00	12.00
10	7.00	9.00	13.00	2.00	5.00	12.00	12.00
11	10.00	16.00	12.00	10.00	15.00	17.00	9.00
12	7.00	11.00	12.00	11.00	16.00	12.00	12.00
13	8.00	8.00	10.00	8.00	13.00	8.00	16.00
14	6.00	12.00	13.00	7.00	12.00	17.00	11.00
15	13.00	15.00	15.00	7.00	12.00	11.00	12.00
16	10.00	13.00	19.00	19.00	19.00	17.00	10.00
17	12.00	12.00	12.00	11.00	23.00	13.00	13.00
18	13.00	21.00	13.00	4.00	10.00	13.00	13.00
19	13.00	19.00	16.00	11.00	9.00	16.00	9.00
20	14.00	14.00	14.00	9.00	14.00	14.00	14.00
21	5.00	18.00	18.00	5.00	19.00	12.00	12.00
22	15.00	13.00	11.00	10.00	14.00	16.00	10.00
23	7.00	17.00	13.00	11.00	17.00	12.00	12.00
24	13.00	12.00	12.00	2.00	12.00	12.00	12.00
25	7.00	15.00	12.00	7.00	17.00	14.00	10.00
26	10.00	19.00	13.00	9.00	18.00	10.00	13.00
27	13.00	13.00	14.00	11.00	13.00	12.00	11.00
28	16.00	8.00	14.00	5.00	23.00	9.00	21.00
29	6.00	20.00	23.00	8.00	3.00	17.00	8.00
30	13.00	13.00	13.00	9.00	13.00	13.00	13.00

	c_64	c_65	c_66	c_67	c_68	c_69	c_70
1	13.00	13.00	13.00	24.00	13.00	24.00	24.00
2	13.00	13.00	13.00	13.00	25.00	12.00	24.00
3	6.00	12.00	12.00	6.00	12.00	13.00	12.00
4	3.00	20.00	17.00	11.00	10.00	14.00	16.00
5	12.00	12.00	17.00	14.00	18.00	4.00	19.00
6	8.00	13.00	13.00	9.00	13.00	23.00	13.00
7	13.00	13.00	13.00	13.00	13.00	13.00	13.00
8	12.00	12.00	16.00	12.00	16.00	12.00	16.00
9	12.00	13.00	13.00	13.00	16.00	13.00	17.00
10	9.00	13.00	18.00	14.00	17.00	3.00	14.00
11	8.00	15.00	14.00	12.00	15.00	8.00	14.00
12	11.00	12.00	19.00	12.00	15.00	12.00	14.00
13	7.00	12.00	14.00	10.00	13.00	6.00	11.00
14	11.00	11.00	14.00	14.00	11.00	10.00	11.00
15	12.00	16.00	16.00	16.00	16.00	12.00	15.00
16	11.00	13.00	20.00	5.00	20.00	2.00	17.00
17	13.00	18.00	8.00	12.00	13.00	13.00	10.00
18	6.00	13.00	22.00	13.00	22.00	13.00	22.00
19	5.00	10.00	19.00	21.00	19.00	4.00	21.00
20	14.00	14.00	14.00	14.00	14.00	17.00	14.00
21	12.00	19.00	12.00	12.00	12.00	5.00	12.00
22	11.00	11.00	9.00	12.00	10.00	14.00	13.00
23	10.00	13.00	14.00	14.00	17.00	19.00	13.00
24	12.00	12.00	18.00	14.00	12.00	12.00	16.00
25	10.00	13.00	13.00	14.00	13.00	17.00	17.00
26	10.00	13.00	21.00	13.00	19.00	13.00	16.00
27	12.00	14.00	12.00	13.00	14.00	12.00	14.00
28	12.00	13.00	13.00	3.00	21.00	13.00	21.00
29	9.00	10.00	19.00	17.00	24.00	13.00	22.00
30	13.00	14.00	13.00	13.00	14.00	13.00	13.00

Keys for appendix 2-K:

C_01	prac#new: practising skills)(learning new skills	C_40	chk#mark: pupils check)(teacher marks work
C_02	open#cl: open)(closed activities	C_41	intr#cns: introduce new)(consolidate ideas
C_03	coll#ind: collaborative)(individual activities	C_42	one#sev: tasks with one)(more than one answer
C_04	lang#mth: language)(maths tasks	C_43	calc#not: activities with)(without calculating
C_05	wri#wri: writing)(non-writing activities	C_44	one#lots: tasks teaching oneskill)(many skills
C_06	comm#lis: pupils communicating)(listening	C_45	org#p t: pupils organising themselves)(being organised
C_07	crea#str: creative)(structured activities	C_46	ppse#yn: pupils needing)(not needing to know purpose of a ta
C_08	think#do: thinking)(doing activities	C_47	dscss#no: activities with)(without discussion
C_09	class#gp: whole class)(group activities	C_48	frml#inf: formal)(informal learning
C_10	tchr#ch: teacher-led)(child-led activities	C_49	mot#ment: developing motor)(mental skills
C_11	comp#no: tasks with)(without computer	C_50	num#lang: number)(language tasks
C_12	inv#inst: pupils investigate)(teacher instructs	C_51	plan#p_t: planning by pupils)(teacher
C_13	prac#pap: practical)(paper and pencil tasks	C_52	rpt#do: pupils repeat)(do things
C_14	rout#exc: routine)(exciting activities	C_53	rspnd#in: pupils respond)(intitiate
C_15	num#lit: numeracy)(literacy	C_54	spec#gen: specific)(general learning activities
C_16	int#lone: pupils interact)(work on their own	C_55	str#open: learning from structured)(open-ended tasks
C_17	read#nr: activities with)(without reading	C_56	aud#not: having)(not having an audience
C_18	talk#lis: talking)(listening to children	C_57	strat#pt: children developing)(being taught strategies
C_19	find#use: finding)(using information	C_58	dcd#comp: decoding)(comprehending text
C_20	prob#get: pupil problem-solving)(getting correct answers	C_59	lst#talk: pupils listening)(talking
C_21	lm#find: learning by heart)(finding things out	C_60	obsv#not: observable)(non-observable outcomes
C_22	choo#dir: pupils choose)(teacher directs	C_61	clctr#no: pupils using)(not using calculators
C_23	pass#act: passive)(active	C_62	slt#nois: silent)(noisy classroom
C_24	clas#in: classifying)(interpreting	C_63	indiv#cl: individual)(whole class activities
C_25	stfwd#cx: straightforward)(complex tasks	C_64	soc#indi: social)(individual activities
C_26	act#nact: pupils active)(not active	C_65	new#appl: learning new knowledge)(applying knowledge
C_27	ict#not: ICT)(non-ICT activities	C_66	rcd#intp: recording)(interpreting
C_28	p#t_dec: pupils)(teacher making decisions	C_67	simp#cx: simple)(complex tasks
C_29	gp#indiv: group)(individual activities	C_68	fact#wk: pupils recalling facts)(working things out
C_30	q#direct: using questioning)(direct instruction	C_69	indi#all: meeting individual)(all pupils' needs
C_31	eng#mths: English)(maths tasks	C_70	rw#mult: right/wrong)(multiple solution answers
C_32	find#tau: finding out)(being taught		
C_33	mach#not: using)(not using machines		
C_34	oral#wri: oral)(written work		
C_35	sk#cncpt: teaching skills)(concepts		
C_36	l in#out: learning in)(outside classroom		
C_37	inde#gui: pupils being independent)(being guided by teacher		
C_38	refl#rct: pupils reflecting)(reacting		
C_39	subj#top: teaching through subjects)(topics		

Remark: The questionnaire items are presented in appendix 2-G.

Appendix 2-L: An example of the attainment and value-added data

	s_o_zma	s_o_zre	s_o_zaa	s_o_zpp	s_o_zpv	s_o_zwe	s_o_zbk
1	35.92	34.24	35.08	.	.	.	.
2	43.86	64.95	54.41	.	.	.	.
3	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.
6	42.92	58.75	50.84	.	.	.	.
7	46.46	58.63	52.55	.	.	.	.
8	43.84	71.28	57.56	.	.	.	.
9	35.00	55.00	45.00	.	.	.	.
10	49.76	68.97	59.36	.	.	.	.
11	45.28	62.66	53.97	.	.	.	.
12	.	.	.	.	.	.	.
13	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.
15	47.19	68.26	57.73	.	.	.	.
16	.	.	.	.	.	.	.
17	42.43	75.03	58.73	.	.	.	.
18	52.70	66.04	59.37	.	.	.	.
19	49.70	73.56	61.63	.	.	.	.
20	49.08	78.88	63.98	.	.	.	.
21	52.59	87.62	70.11	.	.	.	.
22	41.51	43.00	42.25	44.45	39.01	.	.
23	55.03	85.45	70.24	.	.	.	.
24	56.86	78.07	67.47	.	.	.	.
25	44.30	41.44	42.87	48.65	42.69	.	.
26	53.07	89.37	71.22	.	.	.	.
27	46.43	44.77	45.60	41.27	40.52	.	.
28	42.88	44.18	43.53	45.64	40.55	.	.
29	48.45	42.95	45.70	43.36	39.70	.	.
30	59.80	94.53	77.16	.	.	.	.

	s_r_voma	s_r_vore	s_r_voaa	s_at_ma	s_at_re	s_at_sh	t_o_zma
1	-.44	-.56	-.50	.	.	.	38.22
2	-.15	.14	.00	.	.	.	45.67
3	.	.	.	.	.	.	43.77
4	.	.	.	.	.	.	42.16
5	.	.	.	.	.	.	.
6	-.52	-.48	-.50	.	.	.	48.82
7	.32	-.10	.11	.	.	.	47.74
8	-1.17	-.65	-.91	.	.	.	41.07
9	-2.84	-1.96	-2.40	.	.	.	50.70
10	.36	-.06	.15	.	.	.	46.63
11	-.59	-.71	-.65	.	.	.	.
12	.	.	.	.	.	.	54.19
13	.	.	.	.	.	.	48.70
14	.	.	.	.	.	.	.
15	.32	.30	.31	.	.	.	51.62
16	.	.	.	.	.	.	50.42
17	-.38	.68	.15	.	.	.	47.37
18	1.72	.83	1.28	.	.	.	48.77
19	.21	.06	.13	.	.	.	.
20	.32	.57	.45	.	.	.	48.87
21	1.12	1.35	1.24	.	.	.	46.25
22	-.47	-.04	-.26	37.41	38.80	39.94	.
23	.86	.53	.70	.	.	.	51.87
24	1.75	.85	1.30	.	.	.	44.14
25	-.54	-1.42	-.98	38.58	38.84	40.56	.
26	.01	.13	.07	.	.	.	53.70
27	.81	.39	.60	36.68	40.20	39.25	.
28	-.49	-.10	-.30	40.04	41.76	42.49	.
29	1.58	-.03	.77	38.99	40.41	39.00	.
30	.62	-.03	.29	.	.	.	53.39

	t_o_zre	t_o_zaa	t_o_zpp	t_o_zpv	t_o_zwe	t_o_zbk	t_r_voma
1	35.76	36.99	.	.	.	.	-1.00
2	49.34	47.50	.	.	.	.	-.86
3	46.06	44.91	.	.	.	.	-.97
4	43.71	42.93	.	.	.	.	-1.44
5	.	.	.	.	.	.	.
6	49.63	49.23	.	.	.	.	-.32
7	45.20	46.47	.	.	.	.	.31
8	46.16	43.61	.	.	.	.	-1.50
9	49.42	50.06	.	.	.	.	-.28
10	47.01	46.82	.	.	.	.	-.24
11	.	.	.	.	.	.	.
12	53.01	53.60	.	.	.	.	.24
13	53.21	50.95	.	.	.	.	-.70
14	.	.	.	.	.	.	.
15	47.65	49.64	.	.	.	.	.65
16	52.47	51.45	.	.	.	.	-.39
17	45.84	46.61	.	.	.	.	.51
18	46.15	47.46	.	.	.	.	1.37
19	.	.	.	.	.	.	.
20	48.82	48.84	.	.	.	.	.37
21	49.88	48.07	.	.	.	.	-.16
22	.	.	.	.	.	.	.
23	50.59	51.23	.	.	.	.	.36
24	43.94	44.04	.	.	.	.	-.12
25	.	.	.	.	.	.	.
26	54.27	53.98	.	.	.	.	.06
27	.	.	.	.	.	.	.
28	.	.	.	.	.	.	.
29	.	.	.	.	.	.	.
30	53.03	53.21	.	.	.	.	-.56

	t_r_vore	t_r_voaa	t_at_ma	t_at_re	t_at_sh	u_o_zma	u_o_zre
1	-1.49	-1.24	.	.	51.04	.	.
2	.02	-.42	.	.	47.23	39.13	40.59
3	-.41	-.69	.	.	44.20	.	.
4	-1.09	-1.27	.	.	52.29	.	.
5	.	.	.	.	.	49.86	50.10
6	-.14	-.23	.	.	46.44	43.68	50.36
7	-.22	.04	.	.	73.77	41.82	41.67
8	-.21	-.86	.	.	41.28	.	.
9	-.66	-.47	.	.	73.77	48.11	51.33
10	-.11	-.17	.	.	43.15	47.51	47.96
11	.	.	.	.	.	.	.
12	-.11	.06	.	.	47.95	48.59	44.72
13	.36	-.17	.	.	45.29	50.82	51.91
14	.	.	.	.	.	54.97	52.17
15	-.05	.40	.	.	43.96	52.69	48.64
16	.05	-.17	.	.	50.47	50.11	55.10
17	.27	.39	.	.	48.32	.	.
18	.95	1.16	.	.	42.74	.	.
19	.	.	.	.	.	53.52	53.00
20	.15	.26	.	.	44.33	53.35	56.67
21	.81	.33	.	.	50.43	48.08	49.35
22	.	.	.	.	.	.	.
23	.06	.21	.	.	48.06	49.19	49.71
24	-.06	-.09	.	.	50.77	.	.
25	.	.	.	.	.	.	.
26	.12	.09	.	.	48.82	49.68	52.29
27	.	.	.	.	.	.	.
28	.	.	.	.	.	.	.
29	.	.	.	.	.	.	.
30	-.81	-.69	.	.	49.36	51.31	49.37

	u_o_zaa	u_r_voma	u_r_vore	u_r_voaa
1	.	.	.	.
2	39.86	-1.74	-1.48	-1.61
3	.	.	.	.
4	.	.	.	.
5	49.98	.88	1.10	.99
6	47.02	-.90	.70	-.10
7	41.74	-.90	-.95	-.93
8	.	.	.	.
9	49.72	-.03	.80	.38
10	47.73	-.19	-.05	-.12
11	.	.	.	.
12	46.65	-.05	-.97	-.51
13	51.37	-.86	-.78	-.82
14	53.57	1.07	.49	.78
15	50.67	.57	-.35	.11
16	52.61	-.35	.97	.31
17	.	.	.	.
18	.	.	.	.
19	53.26	.36	.25	.30
20	55.01	.63	1.50	1.07
21	48.71	.57	1.01	.79
22	.	.	.	.
23	49.45	-.26	-.15	-.20
24	.	.	.	.
25	.	.	.	.
26	50.99	-.06	.58	.26
27	.	.	.	.
28	.	.	.	.
29	.	.	.	.
30	50.34	-.23	-.75	-.49

Keys for appendix 2-L:

S_O_ZMA 96/97 maths attainment in T-score (standardised at pupil level)
 S_O_ZRE 96/97 reading attainment in T-score (standardised at pupil level)
 S_O_ZAA 96/97 averaged maths and reading attainments (each T-score was standardised at pupil level)
 S_O_ZPP 96/97 problem of positions measure in T-score (standardised at pupil level)
 S_O_ZPV 96/97 picture vocab in T-score (standardised at pupil level)
 S_O_ZWE 96/97 weight measure (pp and pv T-scores were standardised at pupil level)
 S_O_ZBK 96/97 background measure in T-score (recalculated from PIPS data)
 S_R_VOMA 96/97 maths value-added (standardised at class level = maths residual/SD)
 S_R_VORE 96/97 reading value-added (standardised at class level = reading residual/SD)
 S_R_VOAA 96/97 averaged maths and reading value-added
 S_AT_MA 96/97 attitude towards maths (standardised at class level)
 S_AT_RE 96/97 attitude towards reading (standardised at class level)
 S_AT_SH 96/97 attitude towards school (standardised at class level)
 T_O_ZMA 97/98 maths attainment in T-score (standardised at pupil level)
 T_O_ZRE 97/98 reading attainment in T-score (standardised at pupil level)
 T_O_ZAA 97/98 averaged maths and reading attainments (each T-score was standardised at pupil level)
 T_O_ZPP 97/98 problem of positions measure in T-score (standardised at pupil level)
 T_O_ZPV 97/98 picture vocab in T-score (standardised at pupil level)
 T_O_ZWE 97/98 weight measure (pp and pv T-scores were standardised at pupil level)
 T_O_ZBK 97/98 background measure in T-score (recalculated from PIPS)
 T_R_VOMA 97/98 maths value-added (standardised at class level = maths residual/SD)
 T_R_VORE 97/98 reading value-added (standardised at class level = reading residual SD)
 T_R_VOAA 97/98 averaged maths and reading value-added
 T_AT_MA 97/98 attitude towards maths (standardised at class level)
 T_AT_RE 97/98 attitude towards reading (standardised at class level)
 T_AT_SH 97/98 attitude towards school (standardised at class level)
 U_O_ZMA 98/99 maths attainment in T-score (standardised at pupil level)
 U_O_ZRE 98/99 reading attainment in T-score (standardised at pupil level)
 U_O_ZAA 98/99 averaged maths and reading attainments (each T-score was standardised at pupil level)
 U_R_VOMA 98/99 maths value-added (standardised at class level = maths residual/SD)
 U_R_VORE 98/99 reading value-added (standardised at class level = reading residual/SD)
 U_R_VOAA 98/99 averaged maths and reading value added

Appendix 2-M: An example of teacher interview

An example of an interview between the researcher (i.e. the author of this thesis) and the teacher in section 6-5 (interview transcript)

Q.S.R. NUD.IST Power version, revision 4.0.

Licensee: ABC.

PROJECT: ICT project, User ABC.

+++++
+++ ON-LINE DOCUMENT: interview2.txt

+++ Document Header:

*Interview with the teacher in section 6-5 in Chapter 6, Y4, XYZ School

*Date of interview - 3rd December 1998

*Name of interviewer: ABC

+++ Retrieval for this document: 737 units out of 737, = 100%

++ Text units 1-737:

	1	
Interviewer:	2	
..... involved in the project, I'm sorry.	3	
*The teacher:	4	
	5	
That's all right, I'll carry on from there.	6	
We've been doing a daily diary.	7	
The children have been doing a daily diary in a log book devised by		
*Researcher: .	8	
Initially they found that very difficult, because the language wasn't		
appropriate.	9	
.....	10	
*Researcher: .	11	
And by routine they had started filling that in, and that has been		
interesting for the children, because they have got quite used to the		
idea of doing a daily task.	12	
They have all had two sessions of a week using the pocket books, as well		
as extra time in the class.	13	
They've been doing, quite freely, exploring them, with guidance from		
H (the external developer) towards spell checking right at the end.	14	
But mainly exploring them and writing some issue of weekly news,		
something they have found out about.	15	
And we've put together a noticeboard of weekly news and we're going to		
do a little book, and we've read them out in the class from the		
computers.	16	
And at the same time the children without the computers were doing		
written news items.	17	
So they have been going on the board, and we have been comparing them.	18	
We've been discussing with the class which they prefer, how much they		
enjoy.	19	
And there have been, as I've discussed with *Researcher: , some noticeable		
gains.	20	

Whether they can be put down as literacy gains, they can't actually, but
in terms of enthusiasm, especially with a couple of less able children. 21

One little boy who I can name, Shaun, I've talked to H (the external developer) about
him. 22

I think it's out, having the responsibility of the computer has actually
gone over into his behaviour as well, I think it's been wonderful for
him. 23

Without exaggeration. 24

Which I don't, you know, I didn't expect. 25

But most of the children, the novelty was the issue on the first time,
and they wanted to write every single night. 26

The second time, two thirds, they were still enjoying using the
computers. 27

One third, the novelty had gone, and their enthusiasm had gone. 28

So, I think it's important, in an extended trial, to know whether it's
the novelty that generates enthusiasm, or whether children do actually
prefer to work on keyboards. 29

*Interviewer 30

Yes, it would be tricky sorting that out. 31

*The teacher: 32

33

I mean, that would be, in terms of just registering enthusiasm, that's
how I think, you'd have to look at. 34

I do know, the children with, again, this was one of the aims, the
children with not quite so good handwriting, for example, this boy Shaun,
they particularly enjoyed them because they could really do it. 35

And I've had children come up to show me how neat it is on the screen and
how, so that's been good, that's been nice. 36

*Interviewer 37

You mentioned before the tape was running that it was tricky with
technical problems, which is something. 38

*The teacher: 39

40

Yes, yes. 41

It's, well, this term it's been just about manageable, because H (the external developer)
has been in so much. 42

Two or three times a week, working very hard. 43

The previous term, it actually impinged on teaching too much, because
there was never any literacy teaching, it was always sorting out
batteries, sorting out breakages. 44

We've had six or seven returned to makers. 45

I've seen, there are the new Emates, do you know them? 46

The Emates are much more robust, it's a pretty strong computer. 47

These pocket books, they're a bit small for these type of children, and
too fiddly. 48

And actually, and again I've talked to H (the external developer), I don't feel they're

appropriate for Year 3 children. 49

I feel this project showed that the children could enjoy them. 50

It's a lovely novelty. 51

It's been a, we've got some wonderful work, I'm pleased with it. 52

They're pleased with it. 53

It impresses the parents. 54

But I don't think they're appropriate. 55

*Interviewer 56

57

OK. 58

If it's any consolation to you, there's somebody who has had an awful lot of problems with Emates. 59

It's more with the children's handling of it, it's turned out to be. 60

So it's 61

*The teacher: 62

63

Really. 64

I know, well, I'm trying an Emate at home at the moment for the school, and I find them a lot stronger. 65

I think they're also geared towards children 66

*Interviewer 67

It was the connection, where you plug in, that's 68

*The teacher: 69

70

Oh, right, yes. 71

It's fine by itself as a rechargeable entity. 72

I think the difference with the Emate is, one, it's a bigger screen. 73

It's also made for children. 74

It's made for students. 75

And I don't think, I think these Psions are made for adults. 76

Whatever the publicity, I feel the makers have tried to get them into schools as well, but they're not appropriate. 77

The screen is too small for children, they can't scroll easily, they can't look down on their work, they're too fiddly. 78

The buttons are too small for children, you know, the dexterity of our children, and I find the Emate just seems to be. 79

I think the main question, the main concern, would be, if the aim of the project was about literacy, now this, I put this to H (the external developer) 80

..... 80

I don't, you know, because I've not been teaching, they've not, this project has actually, it's been outside what we've been doing for the literacy hour. 81

I've kept it deliberately separate, because the literacy hour is new to me, and it would have impinged on the independent work and whatever. 82

..... 83

children with batteries down and stuff. 84

So it has been outside my normal literacy teaching, and I don't know if there is any way of registering the improvements in literacy through the use of these computers. 85

I'll be, I would be sceptical, you know, apart from the fact the children have done a bit more work than they would have done at home. 86

Which at this age will lead to improvements. 87

But they haven't been focussing enough on spell checks, enough on details. 88

The kind of computer work I do for literacy, missing punctuation marks, whatever, it was none of that. 89

It wasn't using ICT to teach literacy, it was using ICT to see how they got on with these computers. 90

*Interviewer 91

92

Right. 93

So you didn't actually focus, well, it was focussed, it was a literacy focus rather than a numeracy focus, wasn't it, but it wasn't your normal literacy 94

*The teacher: 95

96

It was a literacy focus, but we weren't using, there was no, and this was what we came to at the last meeting, it wasn't, there were no designated literacy ..., I wasn't setting up tasks on the pocket books for them to use the pocket to solve. 97

We weren't even focussing on spell check. 98

We were just looking at what would the children do at home. 99

Would it make them think a little bit more. 100

They were broad aims. 101

*Interviewer 102

Did everybody in the class use them? 103

*The teacher: 104

Everyone has used them, yes. 105

*Interviewer 106

There hasn't been a group which 107

*The teacher: 108

109

Everyone has used them, twice. 110

Two weekly sessions. 111

Yes. 112

*Interviewer 113

114

So the next question was, how different was this from what you would have done before. 115

It sounds as if it was completely 116

*The teacher: 117

118

It was add on, yes. 119
 To be honest, yes. 120
 It was an add on project. 121
 And a few years ago, it would have been wonderful to have developed a
 topic around it. 122
 At the moment, with our hours so tight, it was almost add on. 123
 You know, this group were out with H (the external developer). 124
 He would set the writing task. 125
 It wasn't really from me, or linked in to the class. 126
 Apart from the feedback. 127
 Weated the feedback, but it wasn't really an integrated
 project. 128
 Because of our, you know, the school's 129
 a lot on at the time, we've got the literacy, it wasn't able just to take
 this on as a, you know, as a project in the class, really. 130
 It was an add on to the class. 131
 *Interviewer 132
 133
 Fair enough. 134
 Has it had any effect on your other literacy work then? 135
 *The teacher: 136
 137
 Well, no, it's hard to know. 138
 I'm sure there are some things I don't know about. 139
 I'd say, probably no. 140
 I mean, it's not, we have occasionally used them for the literacy work. 141
 I mean, when we were doing some thesaurus work, so we utilised them. 142
 But these children, their skills are so limited in the use of computers
 in general, to find spell check on that, you actually teach them how to
 find spell check. 143
 Rather than how to use a spell check. 144
 A thesaurus, pardon me, or a spell check, you know, it's similar. 145
 And I think, again, that was the big issue before the summer, are we,
 was I teaching them how to use the pocket book, and for what end. 146
 And then I didn't see an end. 147
 And I've justified it to myself, and to the school, this term by having
 it as an add on extra, rather than taking the place of. 148
 That's probably me being over cautious really, I don't know. 149
 *Interviewer 150
 151
 Well, it's what you feel, that's the way it is, what you think about it. 152
 If we have a look at the skills one that you did for the survey, you
 remember this particular sheet. 153
 Are there any areas you feel your ICT skills have improved over the past
 two terms? 154
 *The teacher: 155

	156	
Yes.	157	
It's hard to say, but I don't know if they're necessarily linked to the project.	158	
I think they're probably linked to, you know, generally I've been trying to	159	
I can't remember what I said last time.....	160	
everything.	161	
General word processing skills are, I've had more practised, helped by trying out the pocket books and experiencing the children's problems, and that has been more aware of things like page layout, and the use of spell check.	162	
The problems that children have with the use of spell check, rather than adults, rather than my own skill.	163	
Just their knowledge of words, really.	164	
Well, through the project I had my first go on the Internet.	165	
And I've followed that up a couple of times, so yes, I'm happy with that.	166	
And installing software, yes, in general I've improved overall skills at databases, software, just	167	
*Interviewer	168	
	169	
Right.	170	
But generally what you've been doing yourself, that's outwith, you think, or some of it might be.	171	
*The teacher:	172	
	173	
Yes.	174	
Some of it is linked, some of it is linked.	175	
I think more awareness of children's problems with the word processor, rather than my own skills.	176	
But, yes, an improvement in spotting possible problems before they come up, yes.	177	
*Interviewer	178	
A very necessary skill.	179	
*The teacher:	180	
Yes, understanding the mystery of the return button.	181	
*Interviewer	182	
	183	
So, right, we'll have a look at your constructs.	184	
I've dotted one or two, which I was hoping to ask you about.	185	
To relate to ICT, right.	186	
Now, you didn't really have any in the top block, which made it easy for me to relate to ICT, but these were the ones, the responses that you strongly preferred these things.	187	
So, let's think, creative activities rather than structured activities.	188	

Can you relate that to your use of ICT?	189
*The teacher:	190
	191
It's difficult, actually.	192
I'm having a problem with the language actually, trying to remember how that was phrased, because I think, you know, creative and structured can both be the same thing.	193
I mean, I'm talking about the word structured.	194
I guess creative is more, are we talking about more open ended, aren't we?	195
*Interviewer	196
More open ended, yes.	197
*The teacher:	198
	199
So, I would say that with the pocket books, because of the various technical difficulties, because of the things I didn't want the children to go into, it was generally open ended, but the actual task was structured, very structured.	200
And it had to be within really tight walls, otherwise they, I didn't want them to, I didn't really want them changing font, etc, I wanted them focussing on the task, because otherwise, you know, their skills hampered the actual task.	201
*Interviewer	202
What about generally, rather than just the pocket books, what about on the	203
*The teacher:	204
General ICT?	205
*Interviewer	206
Yes, using, literacy, for instance, on ICT, or anything else?	207
*The teacher:	208
	209
Yes.	210
Literacy tends, just because of the stuff we are doing at the moment, tends to be very structured.	211
I'm using it, I'm trying to, just an example, at the moment I'm trying to punctuation tasks, missing symbols.	212
I find it's wonderful, to highlight and change.	213
Particularly good.	214
So probably more structured.	215
But then, with drawing packages, we look more to the open ended and creative.	216
Difficult.	217
A balance, depending upon the activity, I think.	218
*Interviewer	219
	220
Right.	221
It also says you strongly prefer children finding out things rather than	

learning by heart. 222

Can you say anything about that and ICT? 223

*The teacher: 224

225

Yes. 226

Yes. 227

That, again, just looking at the project itself, this was the first couple of nights for the computers, the idea was to see what they would come up with and, I would be interested in what H (the external developer) says on that, but I found that actually the ones who really went and played on them and really, I say played, that was really what, discover is a better word, the ones who really went, they actually, they retained the information about them, far better than if they had been taught, because they wanted to know how to do it. 228

And I find, with the skills in ICT, that is very much true, that children telling each other, working together, finding out what they can do and how to do it, I think they retain the knowledge. 229

*Interviewer 230

231

Right, OK. 232

Can we look at the things that you like, there is a list of things that you said you had a balance between. 233

Can you have a think about what you meant or how you arrived at the balance idea? 234

Do you genuinely believe there is a balance, or is it because you don't care about some of them, or you can't make up your mind, or whatever. 235

They're on the second page as well. 236

*The teacher: 237

238

Yes. 239

Well, I think it's, no, I think, I'm just trying to look at some of the examples you've got there. 240

I think you need a balance. 241

I think the children need a balance between activities. 242

I know as a school and as team teachers, when we're planning we look for a balance of different types of activity. 243

This is a, it's a conscious decision, yes. 244

And, you know, then some structured, 245

the literacy hour, but some of these are particularly structured, so you have to have a balance between, which is healthy. 246

*Interviewer 247

We were just trying to get people's thinking about that, and whether it was just because they didn't know or they didn't rate either of them, or 248

*The teacher: 249

No, I'm just looking at the examples here, but every piece of, I mean, it doesn't fit all of these I've said I'd like a balance in, but most of

them, during the weekly planning, we're looking for a balance of activities, a balance of how it's approached, a balance of how the children are learning. 250

*Interviewer 251

252

I'm sure the PTA will be delighted to hear that. 253

We also want to talk about the pupils listening and pupils talking. 254

What kind of listening do you mean by that? 255

Or did you think that meant? 256

Is it children listening to each other or listening to the teacher? 257

*The teacher: 258

259

I think it's everything. 260

I think it's, we have a lot of, we have a lot of the children talking and listening to each other, and myself 261

in our class. 262

We have informal activities, like show and tell and circle time. 263

I think it depends on the class actually. 264

This particular class are very strong orally, anyway, and they are used to is, and so I don't do quite - other years I've done more, you know, more of the informal stuff. 265

The listening, we tend to like to have a plenary at the end of a session, like to listen to the children as they're working, and I like to have peer tutoring. 266

So they're listening to each other. 267

And it's our big, one of our big class rules, we listen to each other. 268

It's our big rule that, and we've done a lot of work on, especially in circle time, on constructive criticism. 269

So they know how to respond to each other. 270

*Interviewer 271

What about the unwanted kind of talk? 272

*The teacher: 273

274

Talking, inappropriate talk at the back? 275

Yes, I mean, that is difficult, isn't it? 276

I think that my teacher insecurity is often to tell that to be quiet, you know, and it's, and it depends what it is. 277

They're actually, again, it's this particular class, are a very good class at talking about work. 278

And it's just knowing, if they're talking about something on task, as they usually are, then that normally can go, as long as it's at a level and 279

*tape switched off 280

*Interviewer 281

282

Right, after a short break and a longer journey, we're about to pick up

again with the ICT and the things you said you had a balance with. 283

You said you liked a balance between ICT activities and activities without ICT. 284

Do you really mean that, a proper balance? 285

Do you manage to get a balance between the two? 286

*The teacher: 287

288

No. 289

No. 290

I mean, that's more contingent on what we're doing, really. 291

I think the balance is, I think in trying to involve ICT where relevant, really. 292

But over a week, there is, no, there is not a lot of ICT. 293

You know. 294

*Interviewer 295

I think the relevance is important, though, that it's where it can best be used. 296

*The teacher: 297

298

Yes. 299

I think it's, I mean, I think it is something we could talk a long time about. 300

I think it could be the bones of the project, really, about, I think the issues about *where IT can improve skills*, I think the issue at the moment at a school like ours are that children are coming up to the later years without any experience of ICT at all. 301

And I would say that is probably, not common, but fairly typical of other people I have spoken to. 302

And I think that is one of the problems of the project. 303

You are looking at schools where most of the other people I have spoken to on the project, their schools are quite keen on ICT, have developed it a lot, and it's only just going to become a push with us this year. 304

So one of the problems is that when you, it's, how do you utilise software, how do you encourage literacy using it, when actually you've got very basic skills. 305

How many of my class could turn it on when they come, how many can, this is the thing. 306

And I think that when we talk about the balance of activities, and the relevance, very often, when you're planning, you think, look, this is what I want the children to get out of this lesson. 307

It's not actually that they can only get two lines of writing on a word processor, but they feel proud because they've accessed the skills. 308

You know, it's very difficult to involve ICT with all the children in certain lessons, because you actually might be trying to make a teaching point, not an ICT teaching point, and I think the way our school is going to go, after January, we're having an ICT suite built, and you can

actually hear a lot of that on the tape. 309

I think when we've got the ICT suite we're going to concentrate on whole class ICT teaching, for no other purpose, just ICT teaching. 310

And then, I think, we'll see people really having a look at how to use ICT outside. 311

*Interviewer 312

..... 313

the next thing I was going to ask you about was the teaching of skills and the teaching of the concepts. 314

So you feel it is necessary to teach the skills separate from, to give them those skills then? 315

*The teacher: 316

317

I like both. 318

I like, you know, I don't think, I don't think in ICT you would just teach children how to save, you know, I think it's pretty dull when you teach them how to save something, when they haven't written something. 319

You go z,z,z, and this is how you open and this is how you close. 320

I think you have to have a, you've got to have something behind it as well. 321

But I think that one hour a week actually will be pretty much like that. 322

Everyone go a,a,a. 323

This is how you delete it, this is how you, and I think that will just, I think it will just get them as a group, giving them the basic skills. 324

And then, in our literacy lessons, I will actually be able to use word processing as just another tool of writing, with it's advantages of easy spell check, with it's legible advantages, we'll actually be able to use it's real advantages, rather than it slowing children down. 325

And most of my children are slowed down by it. 326

Most of them, in creative writing, again, this is generalising, most in creative writing lose, the quality of creative writing isn't there, because they're concentrating on the skills of word processing. 327

And these are issues which I thought, actually, this project would, this is kind of what I was looking for, a way of addressing that, and I still haven't got any closer to dealing with that. 328

And, you start to think, oh, we should do it separately. 329

*Interviewer 330

Perhaps, though, once you've got the computer suite you'll find that the children are coming up with a much higher level of skill, so by the time they get to you they'll be using it. 331

*The teacher: 332

333

Yes. 334

Were it to be Year 3 in two years time, every child would know how to do simple word processing skills. 335

I take that as an example. 336

Which would mean, if I was doing a literacy project, if I was doing, say, some poetry, then they would be using it as they would a pencil, with speed, with dexterity. 337

There would be no worry, oh, it's disappeared, it's gone down here. 338

And they would be able to use it, you know, now, how can I use Clarisworks to improve literacy, what can I do to it, what can I put in? 339

What frame, what structure, what writing frames? 340

And with some of the children I do that, not just the more able, the children who are more computer literate, who I know will actually be focussing on a literacy skill, I do that. 341

But in terms of balance, a lot of the time you don't do that, because it slows them up. 342

You know. 343

*Interviewer 344

Yes, so at the minute it's not, but you can see 345

*The teacher: 346

347

.....CD-ROM, we're doing about Egypt, a research book CD-ROM. 348

Well, I've found actually, they're, I think it's a useful skill for exploring the CD-ROM, an encyclopaedia like Encarta or something. 349

They enjoy that, they're fun. 350

They're hopelessly off task, most of the time, and they find it very hard to, you know. 351

Although you're actually training them in a research skill, so that's the aim, and that's fine. 352

But if you wanted the outcome of the research to be the aim, then you're better off focussing them on a book, you know, that's the thing. 353

*Interviewer 354

355

Do you want to move on now to the other sheet, this one here. 356

Do you want to kind of mention again what you said about being less experienced and so on? 357

*The teacher: 358

359

Well, right, less experienced and quite neurotic about teaching, as well. 360

So very little habitual. 361

I'm still, you know, it's still nightly, daily plans of a detail I feel I still have to. 362

*Interviewer 363

Habitual might be how you actually do, you may have some of that 364

*The teacher: 365

Yes, perform your tasks, yes. 366

*Interviewer 367

Yes, in the classroom, when the children are doing things, you might, not routinely, but you might always give positive feedback, you might always give praise where you think it's necessary. 368

*The teacher: 369

370

Yes. 371

No. 372

*Interviewer 373

374

Those kinds of things. 375

Anything you would do automatically. 376

*The teacher: 377

378

That's right, yes. 379

Positive, well, some of it's positive. 380

No, well, possibly there are things, but I'm quite conscious of not, I'm quite conscious of trying not to always. 381

*Interviewer 382

Fine, I'm just clarifying what habitual might be. 383

*The teacher: 384

385

Yes. 386

I'm thinking of, in the way that children might set about a task, say, I set a punctuation task. 387

I think we tried it different ways each time with different groupings. 388

No, I think consciously not habitual, as well as 389

*Interviewer 390

391

Not habitual in the method, it's the habitual in your thoughts, in how you might deal with situations, you know, just with the learning things. 392

But fair enough, if you haven't got it, you can say you haven't got it. 393

*The teacher: 394

395

Well, I don't know now, I'm wondering whether I should say it. 396

There are obviously some tasks, and I think you need some minor, but I think probably no, I think there's a mixture. 397

*Interviewer 398

So, how would you think you would rate that, then, with the scale. 399

*The teacher: 400

I think probably, I think especially literacy, because I've changed, adopted, I think 2, I think. 401

*Interviewer 402

OK. 403

*The teacher: 404

Do you want me to work through literacy? 405

*Interviewer 406

407

Whichever way you like. 408

You could go down the way, or you could go 409

*The teacher:	410	
	411	
Yes, I'll work across, it's easier.	412	
Thoughtful action at teaching literacy.	413	
In the course, yes, I think, during the activity, I think probably 3.	414	
Again, that's because this is, because it's slightly skewed by the literacy hour.	415	
In that we're looking at new activities and, I mean, often it's stuff done before, changed, but usually there is some adaptation as we're going along.	416	
Reflective practice, well, I'd like to say all the time, nearly always, always.	417	
This is the evening after the evening before.	418	
Yes, I would like to say always.	419	
Is that strictly true?	420	
No, I'll put 3.	421	
*Interviewer	422	
	423	
If you think so.	424	
Don't be bashful.	425	
*The teacher:	426	
	427	
And again, I would like to put 3 for critical evaluation, as well.	428	
Just because, we're spending a hell of a lot of time at the moment thinking about literacy.	429	
Reading about it and trying to get to grips with it.	430	
So, yes.	431	
Numeracy, probably more habitual routine in numeracy, yes, I think so.	432	
Because our practice has changed less in numeracy.	433	
Thoughtful action, again, not so much in numeracy, I don't think, but that's a kind of bias in my teaching, more towards literacy.	434	
And reflective, yes.	435	
But less for critical evaluation.	436	
Do you want me to talk through every one of these?	437	
*Interviewer	438	
	439	
No, not necessarily.	440	
Just do what you want.	441	
*The teacher:	442	
	443	
Teaching ICT.	444	
I think I've got more of a habitual routine for teaching ICT, so I'm going to put 3 again for that.	445	
Teaching ICT, thoughtful action.	446	
So yes, nearly always.	447	
Reflective, usually.	448	

And critical reevaluation, no, not really. 449

..... 450

and literacy work, not really habitual routine. 451

I'll put 452

but I feel fairly reflective and thoughtful about all of those. 453

ICT and numeracy, do very little of it, to be honest. 454

I've done some logo work, we don't use calculators any more, and don't have much software, so it's quite a hard one to answer, that. 455

Would I occasionally, I'll put, I mean, when I do use it, obviously it's thought about, something like that, I think, for that. 456

That seems OK. 457

What could you say, explain this one to me. 458

*Interviewer 459

460

Right, it's, some other aspect, it could be planning, it could be assessment, it could be behaviour management, you know. 461

It could be any other subject area. 462

It could be anything at all that you want. 463

*The teacher: 464

Some professional priority. 465

*Interviewer 466

And habitual thoughts, etc. 467

*The teacher: 468

OK, well, the big thing at the moment, can self esteem, is that allowed? 469

*Interviewer 470

Yes. 471

*The teacher: 472

473

Well, children's self esteem, shall I write that in there? 474

° Just something I'm quite conscious of at the moment. 475

You know, we're trying out some new circle time activities. 476

*Interviewer 477

Children's self esteem? 478

*The teacher: 479

Yes. 480

*Interviewer 481

I thought that's what you meant. 482

*The teacher: 483

484

Yes. 485

And probably my own as well. 486

Well, they usually work together, don't they? 487

So, I'll put that in, because that's quite a big thing at the moment, and something we're putting quite a lot of thought into as well. 488

So, can they all be up at the same, are they all complementary, aren't they? 489

*Interviewer	490	
	491	
Right.	492	
And is it completely new, that the critical evaluation tends to be quite a major sea change in what you've been doing already, so, is it, it might well be that you do that all the time at the minute for something like that.	493	
*The teacher:	494	
	495	
Yes.	496	
I mean, I'm just wondering, examining in depth assumptions, this is something,	497	
taken away as, you know, reading up at home on, challenging my assumptions, kind of confirming assumptions probably, more than changing, on most of these things.	498	
But bringing new approaches.	499	
And maybe that's, yes, I don't know.	500	
I would say more than often.	501	
Yes.	502	
*Interviewer	503	
	504	
Fair enough, if that's what you do, that's it, that's great.	505	
Well, we're just about finished now.	506	
I think the only thing	507	
*The teacher:	508	
I expect I've changed quite a few of those when I saw them again, that's the only problem.	509	
*Interviewer	510	
	511	
Well, feel free to change whatever you want?	512	
You want to stick with that?	513	
Right.	514	
Which bit of our feedback that we've given to you have you found most relevant or helpful?	515	
*The teacher:	516	
Remind me of the feedback.	517	
*Interviewer	518	
	519	
There were the newsletters that you've had, saying how people have done.	520	
Did you manage to have a look at those at all?	521	
*The teacher:	522	
	523	
Yes.	524	
How many went out?	525	
*Interviewer	526	
A couple, I think.	527	

*The teacher: 528

Yes. 529

*Interviewer 530

And there was the first day at the university, where they were going over 531

*The teacher: 532

Yes, seeing the first project, and then there was the lesson evaluations. 533

*Interviewer 534

There was a day, were you there when we had all the teachers back in again, the second day, where we did the thing about the graphs and that kind of thing? 535

*The teacher: 536

537

Yes. 538

Well, I mean, I like speaking to other teachers about how they're doing. 539

Informally, lunch, so I like the days coming together. 540

I think, no disrespect to the university, but I think that's when you kind of find out what works, what the minor problems are, and just finding out, oh, how did you get on with that then, well, you know. 541

That kind of thing. 542

*Interviewer 543

You found that particularly useful then? 544

*The teacher: 545

546

Yes. 547

I mean, I thought the graphs on the lesson were interesting, because I like looking at myself teaching. 548

You know, I don't know if they're typical or not, I would

..... 549

my own, personally, but 550

*Interviewer 551

I don't know what yours was, or whatever, you know. 552

*The teacher: 553

554

But it was interesting, because I was quite perturbed by them, by the lack of positive comment from myself, which was always something I kind of think I do a lot of, but obviously I wasn't then, but it was good, because you don't get enough of that, you see. 555

The few times you are appraised, or whatever, whether it's by an OFSTED or whatever, you don't get quality feedback on that, so that was fascinating. 556

*Interviewer 557

So you found that quite useful? 558

*The teacher: 559

Yes. 560

*Interviewer 561

It would be interesting to see if these ones, you've not changed, you've

just 562
 *The teacher: 563
 564
 Oh, we're going to, 565
 well sat down 566
 No, of course not. 567
 Because, you know, I'm not being judged or not judged on it, whatever. 568
 To myself, it's interesting. 569
 I'd like more of that. 570
 In the same way as I was saying to you earlier on, I'd like to see more
 of going in to other schools, because you see so little of other people's
 practice. 571
 You get so little quality feedback on your own practice. 572
 You kind of get into a mind set of judging yourself by previous
 children's results, by previous week's results, by failures. 573
 And, you know, it's interesting to see an outside view with actual
 quality feedback. 574
 So that's good. 575
 *Interviewer 576
 Yes, and it's not, people have found it threatening, but it wasn't the
 way we intended. 577
 *The teacher: 578
 No, I'm not insecure on it, no. 579
 *Interviewer 580
 581
 You're lucky. 582
 Is there anything else you would like to add to what you've said, or
 anything about your involvement in the project that we've missed talking
 about? 583
 *The teacher: 584
 585
 The concern I had over the summer, and this sounds defensive, and I
 mentioned it at the time and it possibly was, was the testing. 586
 My children had gone through a lot of tests that term. 587
 I don't like tests anyway, and I've said, you know, I'm happy to say
 that. 588
 That doesn't mean I don't like assessment. 589
 I don't like tests. 590
 I think, I don't like seeing children struggling away, as they have been
 this morning when they've been tested, children who I probably would not
 normally, I'd find another way of doing it with them, really. 591
 I don't like seeing people who are, you know. 592
 But it worries me. 593
 I think there is a hell of a lot of bluffing in education in general, I
 think lots of these SATs tables are cheats or bluffs or inaccurate, and
 it worries me that the project, I wonder how much credence they're taking

from these results, in that, you know, my. 594
 I've got to speak personally about the thing. 595
 This is not to be defensive, it's actually trying to be critical. 596
 *Interviewer 597
 No, it's very valid, yes. 598
 *The teacher: 599
 600
 My class did their tests on their third to last day of their school life
 at this school. 601
 The day after the party, the day before this. 602
 With a teacher, myself, who, I wasn't there. 603
 It was a supply who did it, because I was at a meeting that day. 604
 And, you know, to, well, I don't know what the results were, I don't
 know what they'd got. 605
 But I'd like to have, actually. 606
 *Interviewer 607
 608
 You will. 609
 If you haven't got them already, you will. 610
 *The teacher: 611
 You know, but this is a 612
 *Interviewer 613
 Have you not had feedback from those ones, because you should? 614
 *The teacher: 615
 616
 I don't think so, I'm not sure. 617
 Or maybe I got them at the end, but I don't know if I got them, I don't
 think I have. 618
 But my point is, I don't think that is really relevant, I don't think
 it's legitimate data. 619
 I think maybe it can be used in some way. 620
 I think it is quite dangerous. 621
 And I think when I hear about schools making eight month leaps, four
 month leaps, and it's the same with results from the literacy hour. 622
 This is, I don't know whether it should go on tape or not, this is just
 a personal thought, I can't bear it out. 623
 I think it's, I think, when I hear about 624
 *Interviewer 625
 Do you want me to stop it? 626
 *The teacher: 627
 628
 No, I think you should hear this. 629
 No. 630
 It's what lots of other teachers say, but it's not heard enough. 631
 Because when you say this, you're either one of the sneering whingers
 that Blunkett and Blair talk about, or you sound like you're not, you

don't have the right expectations of children. 632
 And I'd like to say I'm neither of those. 633
 I'm a positive teacher, I have very high expectations, but I don't
 believe in 33% leaps in raw reading data in one year. 634
 I think they're possible, if you dump the rest of the curriculum. 635
 I think they're possible if you train children towards tests. 636
 And I think they're possible if teachers cheat. 637
 And I don't want to say that of a teacher, I don't want to say that of
 my colleagues, but there are subtle ways that people do it. 638
 And, you know, and it worries me when raw data is used to justify a
 project. 639
 I think it's the project cheating, actually. 640
 *Interviewer 641
 642
 Right. 643
 I think 644
 *The teacher: 645
 I know you're using much more subtle methods, I'm sure, but 646
 *Interviewer 647
 648
 No, we just had to find a measure of what it was like in the beginning
 and what it was like at the end. 649
 It was just meant as a measure, but I take your point. 650
 *The teacher: 651
 652
 That's right, I know it's not taken as, this is saying the project works
 because of this, I know that. 653
 But we were told, oh, we've found miraculous gains of three months and
 so, and I'd actually like to go into that school and talk to the teacher
 and, you know, you do a project in KidPix, it looked wonderful. 654
 I bet they enjoyed it, it looked brilliant. 655
 Do you really think that led to three months increase in literacy on
 what you would normally have done? 656
 And if she says yes and explains why, I'd be, it would be brilliant. 657
 And, you know 658
 *Interviewer 659
 To be fair to the project, I don't think it was the KidPix ones that did,
 I think it was the ones who had focussed on the literacy, writing, or
 spelling or 660
 *The teacher: 661
 Right, then my argument would be that if they, was it the ICT, or was it
 actually they were, this is what 662
 *Interviewer 663
 It's questions that we're asking as well. 664
 *The teacher: 665
 666

This is what concerns me, if I was, say, if my part of the project was being a focus really strictly on the comprehension and on the literacy, and really going for that, and I hadn't been doing it as much beforehand. 667
You see, we do quite a lot at our school anyway, we do at least an hour a day, we always have done. 668

But if I hadn't done as much beforehand, and I think this is why the literacy hour is getting these amazing results, because teachers, lots of us haven't been doing as much as, you know, and really concentrated and done more in the afternoons and extra homework, well then, you might get results. 669

But I don't think that's sustainable. 670

And I don't think younger children doing homework and the teachers work on these projects is sustainable. 671

And it concerns me that, as professionals, you know, we work, you know, if you're taking it home and doing extra work, the children get extra homework, extra dinnertimes, extra, that's not sustainable, that's, it's wonderful that you can push children on like that, and I don't begrudge anyone putting in that effort, but there is a concern. 672

When I go to things, like on that day, and I'm sitting there and I'm hearing, oh, we had three months there, eight months here. 673

It does concern me. 674

*Interviewer 675

Yes, you think, 676

*The teacher: 677

678

Because I think that's the raw data. 679

I think it's that raw data being used. 680

You know, and I don't think it's particularly helpful, I don't trust it. 681

*Interviewer 682

683

Well, that's fair enough, and I'm sure there are other people who will have expressed the same thing. 684

They're looking for further funding to develop the work of the project. 685

Would you be interested in working with the project team any further? 686

*The teacher: 687

688

I'd like to know more about results, and what comes up. 689

Personally, I don't want to take on any more. 690

This is not a criticism of the project, but I've got quite a lot of things at the moment. 691

We're in the action zone, and because I'm the teacher, that's becoming quite a big job. 692

And there may be other projects. 693

We're also getting a new ICT suite, which would involve extra work anyway. 694

*Interviewer 695

696
 Right. 697
 Well, they were going to ask you were there any areas of ICT you'd be particularly interested in developing? 698
 *The teacher: 699
 700
 Well, the big one is going to be how to do whole class teaching in ICT. 701
 If anyone at the university would like to come and model that, I would be really, I would love to see it. 702
 *Interviewer 703
 Well, I'm sure Steve can do a lovely one, I've seen a lovely one of that. 704
 *The teacher: 705
 706
 Well, that would be absolutely, because this is what I've got to look at now. 707
 How do you keep 30 children on task, concentrated, bring on their skills, in a whole class teaching in a computer suite. 708
 *Interviewer 709
 710
 All of them using computers? 711
 Not, the way Steven's done it is a lesson on one computer for the whole class, which is 712
 *The teacher: 713
 714
 No, because we're getting this suite, all my ICT teaching is going to be focussed on taking the class into this suite, because this is how, this is the school policy, into the suite, and then using that suite, one hour a week. 715
 There will obviously be work outside. 716
 And how to do that well. 717
 *Interviewer 718
 Right. 719
 *The teacher: 720
 How to have a quality lesson in the computer suite. 721
 *Interviewer 722
 OK, I'll pass that on. 723
 *The teacher: 724
 But I don't want to be put 725
 *Interviewer 726
 I'm sure they'll be sad that you're not 727
 *The teacher: 728
 729
 It's not a reflection of it. 730
 It's because of that change. 731
 But also because, myself, it's not, I've got so many other things at the moment. 732

You know, I don't feel I've actually given enough to the project this
term, or last term. 733

So, you know. 734

*Interviewer 735

I'm sure they're very grateful for what you have done, and thank you very
much for doing it, and thank you for this. 736

*end of recording. 737

Appendix 3-A: Pupil questionnaire investigating human-computer interaction

UNIVERSITY OF
NEWCASTLE



ICT Questionnaire: Moat Farm Junior School

Introduction

We are trying to improve pupils' use of Information and Communication Technology in class (ICT). Could you please spend some time filling in this questionnaire. Your answers will be treated in the strictest confidence. Access to the collected data will be restricted to researchers in the project and your class teacher. They will not be disclosed to anyone else in your class.

You do not have to worry about what you think the researchers or anyone else might want you to say. There is no right or wrong answers, so try to respond to each one in an honest and open way. If you are willing to take part in this study, please write your name here:

Name: _____

Date: ____/____/1998

Sex: boy / girl

PART A: PUPIL CHARACTERISTICS AND THE USE OF ICT

How to Answer

There is a line below each of the following items. Please read the two contrasting views at both ends of the line. Then put a cross somewhere on it to show your stand in relation to the two contrasting ideas below:

☹ - definitely not agree

☺ - definitely agree

Example 1 - The cross below would suggest that it is quite clear to you that the exercise is not easy:

I think the exercise is easy for me.

☹-----X-----☺

Example 2 - The cross below would suggest that you have a little more favour in swimming than playing tennis:

I prefer swimming to playing tennis.

☹-----X-----☺

Your teacher will help you to fill in the questionnaire by reading it aloud and go through each item together with you. Do not hesitate to let your teacher know if you need more time to fill in a specific item.

Part A - Section 1: LSI

1. When I learn:

a) I like to deal with my feelings.

☹-----😊

b) I like to watch and listen.

☹-----😊

c) I like to think about ideas.

☹-----😊

d) I like to be doing things.

-----😊

2.

a)

-----😊

b)

-----😊

c)

-----😊

d)

-----😊

3.

a)

-----😊

b)

-----😊

c)

-----😊

d)

-----😊

4.

a)

-----😊

b)

-----😊

c)

-----😊

d)

-----😊

5.

a)

-----😊

b)

-----😊

c)

-----😊

d)

☹-----😊

d) I can try things out for myself.

☹-----😊

Please refer to

LSI-1985 for the

content of the questionnaire

6. When I am learning:

a) I am

b) I am

c) I am

d) I am

Please refer to
LSI-1985

7. I learn best when:

a) I am open-minded and alert to new things.

☹-----☺

b) I am careful.

☹-----☺

c) I break ideas down into parts.

☹-----☺

d) I am practical.

☹-----☺

Part A - Section 2: COM

8. I think the computer is easy to use.

☹-----☺

9. I usually get frustrated when things go wrong with the computer.

☹-----☺

10. I am very confident in using computer software in my class.

☹-----☺

11. I have common sense about computer related equipment.

☹-----☺

12. It is easy to find the right key on the keyboard.

☹-----☺

13. I am familiar with using the mouse.

☹-----☺

14. I am confident in using e-mail and internet.

☹-----☺

15. I often meet technical problems when using the computer.

☹-----☺

16. I am good at drawing things on the computer.

☹-----☺

17. It is difficult to move bits of text around the computer document.

☹-----☺

18. I am good at using the CD-ROM.

☹-----☺

19. I have experience in using spreadsheets on computer.

☹-----☺

Part A - Section 3: TP

20. My class teacher:

a) spends very little time just talking to me.

⊗.....😊

b) takes a personal interest in me.

⊗.....😊

c) do his/her best to help me.

⊗.....😊

d) talks with each pupil.

⊗.....😊

e) often decide where pupils sit.

⊗.....😊

f) takes a personal interest in each pupil.

⊗.....😊

g) is friendly to students.

⊗.....😊

h) often reminds pupils to behave in the classroom.

⊗.....😊

i) helps each pupil who is having trouble with the work.

⊗.....😊

j) decides which pupils should work together.

⊗.....😊

k) consider pupils' feelings.

⊗.....😊

l) always tells me if my answers are right or wrong.

⊗.....😊

m) does not let me know how well I do in class.

⊗.....😊

n) lets me know when my work is good.

⊗.....😊

o) carefully checks all my work.

⊗.....😊

Part A - Section 4: LM

21. The only reason I can see for working hard in school is to get a good job when I leave school.

⊗.....😊

22. I find that my schoolwork can give me a good feeling inside.

⊗.....😊

23. I really want to do better than anyone else in my schoolwork.

⊗.....😊

24. I only want to stay in school long enough to get a good job.

⊗.....😊

25. I become interested in many school subjects when I work at them.
☐ ☐
26. I will work for top marks whether or not I like the subject.
☐ ☐
27. For me studying is a way to get a better job.
☐ ☐
28. I find that many subjects can become highly interesting once I get into them.
☐ ☐
29. I would see myself as an ambitious person and want to get to the top.
☐ ☐
30. I don't care if I finish primary school as long as I can get a job.
☐ ☐
31. I find most of the schoolwork interesting.
☐ ☐
32. I want to obtain high marks because I like to beat the others.
☐ ☐
33. I just want to learn what I need to get a good job in school, no more.
☐ ☐
34. I often spend my spare time in finding out more about any interesting topic.
☐ ☐
35. I see getting high marks as a competition: I find it exciting.
☐ ☐

Part A - Section 5: INT/LC

36. It is important that computer software should:
- a) give quick responses.
☐ ☐
 - b) allow users to control the learning pace.
☐ ☐
 - c) have pictures and graphics.
☐ ☐
 - d) allow users to produce things on it.
☐ ☐
 - e) be interactive.
☐ ☐
 - f) give the users a lot of chances to produce responses.
☐ ☐
 - g) allow users to control over the sequence of presented information.
☐ ☐
 - h) make appropriate responses according to users' needs or requests.
☐ ☐
 - i) give users a lot of chances to interrupt the presentation.
☐ ☐
 - j) give users a lot of chances to take part in various stages of learning.
☐ ☐
 - k) have sound presentation.
☐ ☐
37. I often miss things during class time because I'm thinking of other things.

38. I am distracted from my studies very easily
39. I pay full attention when I do my schoolwork.
40. I often think of other things when the teacher is teaching.
41. I am better in concentrating on schoolwork than many of my classmates do.
42. I am sometimes unable to keep my mind on the schoolwork that I am doing.
43. I always listen carefully when the teacher talks to the class
44. I am quite happy when I work on the computer.
45. When I work on the computer, I do better than usual.
46. I am very tense when I work on the computer.
47. I enjoy using the computer.
48. I like most of the computer software in class.
49. I prefer working on the computer to learning with my teacher.

Part A - Section 6: AC

50. I usually do well in number work.
51. I can read as well as most people in my class.
52. Classmates usually like my ideas.
53. Mathematics is difficult for me.
54. I can write better than many people in my class.
55. Learning is difficult for me.
56. I am good at mathematics.
57. I usually feel good about my reading skill.
58. I often think very quickly.
59. My mental maths is as good as most people in my class.

60. It is pretty easy for me to have spelling mistakes. ☹️.....😊
61. I am proud of my schoolwork . ☹️.....😊
62. I usually feel good about how fast I work on numbers. ☹️.....😊
63. I really understand most of what I read. ☹️.....😊
64. I am doing quite well in my class. ☹️.....😊

Part A - Section 7: SC

65. I have a lot of friends. ☹️.....😊
66. People pick on me. ☹️.....😊
67. I am a lot of fun to be with. ☹️.....😊
68. People tell lies about me. ☹️.....😊
69. Most people like to talk with me. ☹️.....😊
70. Most of the time I feel ignored. ☹️.....😊
71. I am accepted by people who know me. ☹️.....😊
72. I let people bully me too much. ☹️.....😊
73. People tell me their secrets. ☹️.....😊
74. I spend a lot of time feeling lonely. ☹️.....😊

Part A - Section 8: TM

75. I only study when there is pressure from teachers, parents, or other adults. ☹️.....😊
76. I have a good balance on play and study in my spare time. ☹️.....😊
77. Before I start doing schoolwork, I often think about how to use the time. ☹️.....😊
78. I often feel that I have little control over how I spend my time in play and study. ☹️.....😊

79. I find it difficult to organise my study time effectively.

☹-----☺

80. I often put off work and leave too much to do at the ending time.

☹-----☺

81. It is most unusual for me to be late handing in work.

☹-----☺

82. I often have good plan of the time on each step of the schoolwork.

☹-----☺

Appendix 3-B: Pupil questionnaire investigating subject difference in learning preference, in-school / out-of-school learning with the use of computers, grouping and gender difference in ICT-related tasks



Dear colleague,

Before administering the questionnaire, please tell your pupils that:

1. the purpose of this study is to investigate the effects of group work when computers are used
2. there is no best answer
3. it does not affect their results at school
4. the use of the collected data will be restricted to my PhD study
5. you will read through the questions for them and answer their queries

Thank you very much for your help.

Harrison Tse

Class: _____ Name: _____ Sex: boy ☐ girl ☐

Section 1: Please put a tick ✓ in the appropriate box to show your answer.

1. How do you like using computers?
I hate it ☐ I don't like it ☐ Not sure (try not to use this) ☐ I like it ☐ I love it ☐
2. When you are not at school (e.g. at home), what do you normally use the computer for?
I don't use it at all ☐ Mainly for games ☐ For games and learning ☐ Mainly for learning ☐
3. Not including electronic games, on average how many hours PER WEEK do you use a computer?
At school: _____ hr(s). _____ min(s). Out of school: _____ hr(s). _____ min(s).
4. How do you like English lessons?
I hate them ☐ I don't like them ☐ Not sure (try not to use this) ☐ I like them ☐ I love them ☐
5. How do you like English lessons when you are using a computer?
I hate them ☐ I don't like them ☐ Not sure (try not to use this) ☐ I like them ☐ I love them ☐
6. How do you like Maths lessons?
I hate them ☐ I don't like them ☐ Not sure (try not to use this) ☐ I like them ☐ I love them ☐
7. How do you like Maths lessons when you are using a computer?
I hate them ☐ I don't like them ☐ Not sure (try not to use this) ☐ I like them ☐ I love them ☐
8. How do you like the Information Technology (IT) lessons?
I hate them ☐ I don't like them ☐ Not sure (try not to use this) ☐ I like them ☐ I love them ☐
9. How would you rate your skills in using computers among the GIRLS in your class?
Almost the best ☐ Above average ☐ Average ☐ Below average ☐ Almost the worst ☐
10. How would you rate your skills in using computers among the BOYS in your class?
Almost the best ☐ Above average ☐ Average ☐ Below average ☐ Almost the worst ☐
11. In an English lesson doing a learning task in a pair with the use of computers,
(a) I am happier when working with
a boy ☐ a girl ☐
(b) I learn better when working with
a boy ☐ a girl ☐
12. If my working partner (i.e. in an English lesson with the use of computers) is a BOY,
(a) I would prefer
both of us take turns to use the computer ☐ each of us works on a part of the same learning task cooperatively ☐ both of us work on the same learning task together ☐
(b) I would:
be more involved in work ☐ have the same involvement as working with a girl ☐ be less involved in work ☐
(c) I would:
talk more about what we are doing ☐ talk the same amount about what we are doing as working with a girl ☐ talk less about what we are doing ☐
(d) I would perform:
better than I normally do ☐ the same as working with a girl ☐ worse than I normally do ☐
(e) I would prefer his language skills to be:
better than mine ☐ the same as mine ☐ not as good as mine ☐
(f) I would prefer his IT skills to be:
better than mine ☐ the same as mine ☐ not as good as mine ☐
13. If my working partner (i.e. in an English lesson with the use of computers) is a GIRL,
(a) I would prefer:
both of us take turns to use the computer ☐ each of us works on a part of the same learning task cooperatively ☐ both of us work on the same learning task together ☐
(b) I would:
be more involved in work ☐ have the same involvement as working with a boy ☐ be less involved in work ☐

(c) I would:
 talk more about what we are doing ☐ talk the same amount about what we are doing as working with a boy ☐ talk less about what we are doing ☐

(d) I would perform:
 better than I normally do ☐ the same as working with a boy ☐ worse than I normally do ☐

(e) I would prefer her language skills to be:
 better than mine ☐ the same as mine ☐ not as good as mine ☐

(f) I would prefer her IT skills to be:
 better than mine ☐ the same as mine ☐ not as good as mine ☐

14. In a Maths lesson doing a learning task in a pair with the use of computers,

(a) I am happier when working with:
 a boy ☐ a girl ☐

(b) I learn better when working with:
 a boy ☐ a girl ☐

15. If my working partner (i.e. in a Maths lesson with the use of computers) is a BOY,

(a) I would prefer:
 both of us take turns to use the computer ☐ each of us works on a part of the same learning task cooperatively ☐ both of us work on the same learning task together ☐

(b) I would:
 be more involved in work ☐ *have the same involvement as working with a girl* ☐ be less involved in work ☐

(c) I would:
 talk more about what we are doing ☐ talk the same amount about what we are doing as working with a girl ☐ talk less about what we are doing ☐

(d) I would perform:
 better than I normally do ☐ the same as working with a girl ☐ worse than I normally do ☐

(e) I would prefer his number-processing skills to be:
 better than mine ☐ the same as mine ☐ not as good as mine ☐

(f) I would prefer his IT skills to be:
 better than mine ☐ the same as mine ☐ not as good as mine ☐

16. If my working partner (i.e. in a Maths lesson with the use of computers) is a GIRL,

(a) I would prefer:
 both of us take turns to use the computer ☐ each of us works on a part of the same learning task cooperatively ☐ both of us work on the same learning task together ☐

(b) I would:
 be more involved in work ☐ *have the same involvement as working with a boy* ☐ be less involved in work ☐

(c) I would:
 talk more about what we are doing ☐ talk the same amount about what we are doing as working with a boy ☐ talk less about what we are doing ☐

(d) I would perform:
 better than I normally do ☐ the same as working with a boy ☐ worse than I normally do ☐

(e) I would prefer her number-processing skills to be:
 better than mine ☐ the same as me ☐ not as good as mine ☐

(f) I would prefer her IT skills to be:
 better than mine ☐ the same as me ☐ not as good as mine ☐

Section 2: In each of the lines below, put 1 for your first choice, 2 for the second, 3 for the third, 4 for the last.

In an English lesson with the use of computers, I learn best when I am working:

alone _____ in a pair _____ in a group of 3-4 pupils _____ in a group of 5-6 pupils _____

In an Maths lesson with the use of computers, I learn best when I am working:

alone _____ in a pair _____ in a group of 3-4 pupils _____ in a group of 5-6 pupils _____

<Thank you very much>

Appendix 3-C: Pupil questionnaire investigating social status (or popularity) in learning activities with and without the use of computers



Whickham Year 6 class 1998/1999

Put a ✓ in the box to indicate your name:

Sex: _____

Date: ____/____/1998

1	Pupil	1	
2	Pupil	2	
3	Pupil	3	
4	Pupil	4	
5	Pupil	5	
6	Pupil	6	
7	Pupil	7	
8	Pupil	8	
9	Pupil	9	
10	Pupil	10	
11	Pupil	11	
12	Pupil	12	
13	Pupil	13	
14	Pupil	14	
15	Pupil	15	
16	Pupil	16	
17	Pupil	17	
18	Pupil	18	
19	Pupil	19	
20	Pupil	20	
21	Pupil	21	
22	Pupil	22	
23	Pupil	23	
24	Pupil	24	
25	Pupil	25	
26	Pupil	26	
27	Pupil	27	
28	Pupil	28	
29	Pupil	29	
30	Pupil	30	
31	Pupil	31	

Part 2: About your classmates and working in pairs/groups

In each of the questions below, please indicate your preference by writing “1” for your first choice, “2” for your second choice and “3” for your third choice. If you wish, you can choose yourself.

Question 1: Who is the best in reading?

1	Pupil 1	_____	11	Pupil 11	_____	21	Pupil 21	_____
2	Pupil 2	_____	12	Pupil 12	_____	22	Pupil 22	_____
3	Pupil 3	_____	13	Pupil 13	_____	23	Pupil 23	_____
4	Pupil 4	_____	14	Pupil 14	_____	24	Pupil 24	_____
5	Pupil 5	_____	15	Pupil 15	_____	25	Pupil 25	_____
6	Pupil 6	_____	16	Pupil 16	_____	26	Pupil 26	_____
7	Pupil 7	_____	17	Pupil 17	_____	27	Pupil 27	_____
8	Pupil 8	_____	18	Pupil 18	_____	28	Pupil 28	_____
9	Pupil 9	_____	19	Pupil 19	_____	29	Pupil 29	_____
10	Pupil 10	_____	20	Pupil 20	_____	30	Pupil 30	_____
						31	Pupil 31	_____

Question 2: Who is the best in writing and spelling?

1	Pupil 1	_____	11	Pupil 11	_____	21	Pupil 21	_____
2	Pupil 2	_____	12	Pupil 12	_____	22	Pupil 22	_____
3	Pupil 3	_____	13	Pupil 13	_____	23	Pupil 23	_____
4	Pupil 4	_____	14	Pupil 14	_____	24	Pupil 24	_____
5	Pupil 5	_____	15	Pupil 15	_____	25	Pupil 25	_____
6	Pupil 6	_____	16	Pupil 16	_____	26	Pupil 26	_____
7	Pupil 7	_____	17	Pupil 17	_____	27	Pupil 27	_____
8	Pupil 8	_____	18	Pupil 18	_____	28	Pupil 28	_____
9	Pupil 9	_____	19	Pupil 19	_____	29	Pupil 29	_____
10	Pupil 10	_____	20	Pupil 20	_____	30	Pupil 30	_____
						31	Pupil 31	_____

Question 3: Who is the best in number work?

1	Pupil 1	_____	11	Pupil 11	_____	21	Pupil 21	_____
2	Pupil 2	_____	12	Pupil 12	_____	22	Pupil 22	_____
3	Pupil 3	_____	13	Pupil 13	_____	23	Pupil 23	_____
4	Pupil 4	_____	14	Pupil 14	_____	24	Pupil 24	_____
5	Pupil 5	_____	15	Pupil 15	_____	25	Pupil 25	_____
6	Pupil 6	_____	16	Pupil 16	_____	26	Pupil 26	_____
7	Pupil 7	_____	17	Pupil 17	_____	27	Pupil 27	_____
8	Pupil 8	_____	18	Pupil 18	_____	28	Pupil 28	_____
9	Pupil 9	_____	19	Pupil 19	_____	29	Pupil 29	_____
10	Pupil 10	_____	20	Pupil 20	_____	30	Pupil 30	_____
						31	Pupil 31	_____

Question 4: Who is your best friend?

1	Pupil 1	_____	11	Pupil 11	_____	21	Pupil 21	_____
2	Pupil 2	_____	12	Pupil 12	_____	22	Pupil 22	_____
3	Pupil 3	_____	13	Pupil 13	_____	23	Pupil 23	_____
4	Pupil 4	_____	14	Pupil 14	_____	24	Pupil 24	_____
5	Pupil 5	_____	15	Pupil 15	_____	25	Pupil 25	_____
6	Pupil 6	_____	16	Pupil 16	_____	26	Pupil 26	_____
7	Pupil 7	_____	17	Pupil 17	_____	27	Pupil 27	_____
8	Pupil 8	_____	18	Pupil 18	_____	28	Pupil 28	_____
9	Pupil 9	_____	19	Pupil 19	_____	29	Pupil 29	_____
10	Pupil 10	_____	20	Pupil 20	_____	30	Pupil 30	_____
						31	Pupil 31	_____

Question 5: Who is the best leader?

1	Pupil 1	_____	11	Pupil 11	_____	21	Pupil 21	_____
2	Pupil 2	_____	12	Pupil 12	_____	22	Pupil 22	_____
3	Pupil 3	_____	13	Pupil 13	_____	23	Pupil 23	_____
4	Pupil 4	_____	14	Pupil 14	_____	24	Pupil 24	_____
5	Pupil 5	_____	15	Pupil 15	_____	25	Pupil 25	_____
6	Pupil 6	_____	16	Pupil 16	_____	26	Pupil 26	_____
7	Pupil 7	_____	17	Pupil 17	_____	27	Pupil 27	_____
8	Pupil 8	_____	18	Pupil 18	_____	28	Pupil 28	_____
9	Pupil 9	_____	19	Pupil 19	_____	29	Pupil 29	_____
10	Pupil 10	_____	20	Pupil 20	_____	30	Pupil 30	_____
						31	Pupil 31	_____

Question 6: Who is the best in using the computer?

1	Pupil 1	_____	11	Pupil 11	_____	21	Pupil 21	_____
2	Pupil 2	_____	12	Pupil 12	_____	22	Pupil 22	_____
3	Pupil 3	_____	13	Pupil 13	_____	23	Pupil 23	_____
4	Pupil 4	_____	14	Pupil 14	_____	24	Pupil 24	_____
5	Pupil 5	_____	15	Pupil 15	_____	25	Pupil 25	_____
6	Pupil 6	_____	16	Pupil 16	_____	26	Pupil 26	_____
7	Pupil 7	_____	17	Pupil 17	_____	27	Pupil 27	_____
8	Pupil 8	_____	18	Pupil 18	_____	28	Pupil 28	_____
9	Pupil 9	_____	19	Pupil 19	_____	29	Pupil 29	_____
10	Pupil 10	_____	20	Pupil 20	_____	30	Pupil 30	_____
						31	Pupil 31	_____

Question 7: Whom would you like to work with in reading and writing tasks?

1	Pupil 1	_____	11	Pupil 11	_____	21	Pupil 21	_____
2	Pupil 2	_____	12	Pupil 12	_____	22	Pupil 22	_____
3	Pupil 3	_____	13	Pupil 13	_____	23	Pupil 23	_____
4	Pupil 4	_____	14	Pupil 14	_____	24	Pupil 24	_____
5	Pupil 5	_____	15	Pupil 15	_____	25	Pupil 25	_____
6	Pupil 6	_____	16	Pupil 16	_____	26	Pupil 26	_____
7	Pupil 7	_____	17	Pupil 17	_____	27	Pupil 27	_____
8	Pupil 8	_____	18	Pupil 18	_____	28	Pupil 28	_____
9	Pupil 9	_____	19	Pupil 19	_____	29	Pupil 29	_____
10	Pupil 10	_____	20	Pupil 20	_____	30	Pupil 30	_____
						31	Pupil 31	_____

Question 8: Whom would you like to work with in reading and writing tasks on the COMPUTER?

1	Pupil 1	_____	11	Pupil 11	_____	21	Pupil 21	_____
2	Pupil 2	_____	12	Pupil 12	_____	22	Pupil 22	_____
3	Pupil 3	_____	13	Pupil 13	_____	23	Pupil 23	_____
4	Pupil 4	_____	14	Pupil 14	_____	24	Pupil 24	_____
5	Pupil 5	_____	15	Pupil 15	_____	25	Pupil 25	_____
6	Pupil 6	_____	16	Pupil 16	_____	26	Pupil 26	_____
7	Pupil 7	_____	17	Pupil 17	_____	27	Pupil 27	_____
8	Pupil 8	_____	18	Pupil 18	_____	28	Pupil 28	_____
9	Pupil 9	_____	19	Pupil 19	_____	29	Pupil 29	_____
10	Pupil 10	_____	20	Pupil 20	_____	30	Pupil 30	_____
						31	Pupil 31	_____

Question 9: Whom would you like to work with when doing number work?

1	Pupil 1	_____	11	Pupil 11	_____	21	Pupil 21	_____
2	Pupil 2	_____	12	Pupil 12	_____	22	Pupil 22	_____
3	Pupil 3	_____	13	Pupil 13	_____	23	Pupil 23	_____
4	Pupil 4	_____	14	Pupil 14	_____	24	Pupil 24	_____
5	Pupil 5	_____	15	Pupil 15	_____	25	Pupil 25	_____
6	Pupil 6	_____	16	Pupil 16	_____	26	Pupil 26	_____
7	Pupil 7	_____	17	Pupil 17	_____	27	Pupil 27	_____
8	Pupil 8	_____	18	Pupil 18	_____	28	Pupil 28	_____
9	Pupil 9	_____	19	Pupil 19	_____	29	Pupil 29	_____
10	Pupil 10	_____	20	Pupil 20	_____	30	Pupil 30	_____
						31	Pupil 31	_____

Question 10: Whom would you like to work with when doing number work on the COMPUTER?

1	Pupil 1	_____	11	Pupil 11	_____	21	Pupil 21	_____
2	Pupil 2	_____	12	Pupil 12	_____	22	Pupil 22	_____
3	Pupil 3	_____	13	Pupil 13	_____	23	Pupil 23	_____
4	Pupil 4	_____	14	Pupil 14	_____	24	Pupil 24	_____
5	Pupil 5	_____	15	Pupil 15	_____	25	Pupil 25	_____
6	Pupil 6	_____	16	Pupil 16	_____	26	Pupil 26	_____
7	Pupil 7	_____	17	Pupil 17	_____	27	Pupil 27	_____
8	Pupil 8	_____	18	Pupil 18	_____	28	Pupil 28	_____
9	Pupil 9	_____	19	Pupil 19	_____	29	Pupil 29	_____
10	Pupil 10	_____	20	Pupil 20	_____	30	Pupil 30	_____
						31	Pupil 31	_____

Thank you very much for your participation.

END OF SURVEY

Appendix 3-D: Data about pupil achievement and value-added

	u_o_zma	u_o_zre	u_o_zaa	u_o_zpp	u_o_zpv	u_o_zbk	u_o_zwe
1	57.72	60.34	59.03	47.10	69.02	46.50	58.00
2	54.83	.	54.83	.	53.32	.	.
3	47.95	50.35	49.15	45.49	54.81	63.96	52.00
4	49.37	44.25	46.81	51.90	46.00	42.42	48.00
5	46.57	50.35	48.46	51.90	57.90	42.91	54.00
6	54.83	50.35	52.59	59.81	56.36	48.99	57.00
7	57.72	45.26	51.49	45.49	48.92	53.42	48.00
8	41.38	42.95	42.17	.	53.32	.	.
9	50.77	43.57	47.17	50.33	47.46	61.37	50.00
10	49.37	41.67	45.52	56.65	51.85	74.17	56.00
11	56.26	62.85	59.56	64.09	51.85	54.41	57.00
12	49.37	47.15	48.26	56.65	47.46	56.08	52.00
13	40.03	35.82	37.93	35.74	34.26	45.71	36.00
14	47.95	55.58	51.76	61.34	56.36	42.84	57.00
15	44.02	40.28	42.15	43.80	47.46	47.49	46.00
16	52.09	50.35	51.22	55.04	48.92	55.22	52.00
17	40.03	34.41	37.22	47.10	44.52	29.00	44.00
18	45.27	32.93	39.10	59.81	39.89	51.33	49.00
19	.	51.92	51.92	50.33	.	.	.
20	49.37	50.88	50.13	43.80	48.92	40.21	46.00
21	50.77	38.75	44.76	42.11	43.04	56.35	44.00
22	53.42	59.57	56.49	50.33	41.50	71.20	48.00
23	32.39	44.25	38.32	38.95	43.04	69.00	44.00
24	60.89	.	60.89	56.65	51.85	64.17	55.00
25	34.89	40.66	37.77	34.01	46.00	43.97	41.00
26	45.27	42.02	43.65	53.46	36.40	34.15	43.00
27	37.36	46.35	41.85	43.80	39.89	45.37	42.00
28	57.72	43.92	50.82	53.46	54.81	62.10	55.00
29	37.36	44.91	41.14	38.95	50.38	52.28	46.00
30	45.27	41.00	43.14	58.24	43.04	51.84	50.00
31	50.77	54.35	52.56	59.81	62.81	56.74	61.00
32	57.72	60.34	59.03	58.24	59.44	49.84	58.00

	u_r_zoma	u_r_zore	u_r_zoaa	u_at_ma	u_at_re	u_at_sh
1	.78	3.31	2.05	46.39	55.25	48.11
2	.	.	.	.	.	.
3	-3.85	-1.47	-2.66	55.27	60.71	54.85
4	1.00	-4.09	-1.55	46.39	49.80	31.25
5	-6.94	-3.20	-5.07	59.70	60.71	61.60
6	-1.25	-5.81	-3.53	59.70	55.25	61.60
7	9.35	-3.09	3.13	59.70	55.25	61.60
8	.	.	.	.	.	.
9	.69	-6.51	-2.91	59.70	33.42	61.60
10	-5.86	-13.62	-9.74	37.52	55.25	37.99
11	.18	6.68	3.43	64.14	60.71	61.60
12	-2.43	-4.67	-3.55	55.27	33.42	54.85
13	1.94	-2.11	-.08	55.27	49.80	61.60
14	-8.14	-.58	-4.36	28.64	60.71	24.51
15	-2.64	-6.33	-4.49	37.52	44.34	34.62
16	.29	-1.47	-.59	24.20	33.42	44.74
17	-4.91	-10.47	-7.69	59.70	44.34	61.60
18	-3.95	-16.29	-10.12	59.70	55.25	34.62
19	.	.	.	55.27	60.71	51.48
20	2.71	4.27	3.49	37.52	55.25	54.85
21	5.83	-6.13	-.15	46.39	44.34	34.62
22	5.05	11.22	8.14	59.70	55.25	61.60
23	-12.55	-.62	-6.59	59.70	55.25	58.22
24	6.52	.	6.52	59.70	60.71	61.60
25	-7.48	-1.61	-4.55	64.14	44.34	61.60
26	1.19	-1.99	-.40	59.70	22.51	44.74
27	-5.87	3.21	-1.33	46.39	55.25	44.74
28	3.35	-10.50	-3.58	64.14	27.96	61.60
29	-9.30	-1.70	-5.50	37.52	60.71	54.85
30	-4.81	-9.08	-6.95	55.27	55.25	48.11
31	-8.74	-5.29	-7.01	41.95	60.71	44.74
32	.78	3.31	2.05	33.08	55.25	61.60

	u_o_zma	u_o_zre	u_o_zaa	u_o_zpp	u_o_zpv	u_o_zbk	u_o_zwe
33	44.02	29.75	36.88	35.74	47.46	59.71	44.00
34	26.46	42.95	34.71	35.74	38.23	35.89	37.00
35	50.77	49.86	50.31	55.04	44.52	37.21	48.00
36	56.26	52.51	54.39	64.09	51.85	64.41	58.00
37	49.37	42.95	46.16	51.90	29.33	45.78	40.00
38	59.24	50.88	55.06	47.10	48.92	37.01	47.00
39	49.37	50.88	50.13	55.04	62.81	55.80	59.00
40	40.03	44.91	42.47	37.41	39.89	60.92	41.00
41	45.27	56.89	51.08	50.33	51.85	79.45	54.00
42	29.70	35.34	32.52	.	41.50	.	.
43	52.09	49.35	50.72	56.65	50.38	51.48	53.00
44	62.75	54.96	58.85	59.81	48.92	46.17	53.00
45	50.77	42.34	46.56	42.11	43.04	46.35	43.00
46	41.38	47.56	44.47	48.72	48.92	40.52	48.00
47	57.72	58.21	57.97	53.46	48.92	61.56	52.00
48	34.89	38.37	36.63	43.80	50.38	72.89	50.00
49	59.24	61.95	60.59	62.80	53.32	52.23	57.00
50	45.27	42.95	44.11	42.11	44.52	48.94	44.00
51	60.89	58.21	59.55	58.24	62.81	53.02	60.00
52	46.57	49.35	47.96	51.90	39.89	42.96	45.00
53	50.77	54.96	52.87	43.80	50.38	52.89	48.00
54	53.42	48.42	50.92	55.04	46.00	29.84	48.00
55	.	.	.	.	.	.	.
56	44.02	45.97	44.99	45.49	47.46	40.70	46.00
57	64.81	48.88	56.84	51.90	53.32	55.81	53.00
58	37.36	43.57	40.47	40.53	50.38	55.95	47.00
59	.	.	.	.	.	.	.
60	47.95	58.87	53.41	45.49	54.81	43.96	50.00
61	49.37	64.59	56.98	45.49	64.64	74.82	58.00
62	49.37	56.24	52.80	59.81	53.32	44.18	55.00
63	52.09	39.88	45.98	50.33	39.89	49.25	45.00
64	57.72	49.86	53.79	64.09	57.90	54.15	60.00

	u_r_zoma	u_r_zore	u_r_zoaa	u_at_ma	u_at_re	u_at_sh
33	-93	-15.12	-8.02	50.83	38.88	44.74
34	-12.48	4.16	-4.16	59.70	60.71	58.22
35	2.40	1.51	1.96	59.70	55.25	44.74
36	-.68	-4.52	-2.60	59.70	49.80	58.22
37	7.85	1.55	4.70	41.95	44.34	51.48
38	11.72	3.40	7.56	41.95	44.34	44.74
39	-8.43	-7.02	-7.72	33.08	49.80	41.37
40	-2.34	2.64	.15	55.27	55.25	51.48
41	-8.24	3.34	-2.45	41.95	60.71	44.74
42	.	.	.	41.95	33.42	41.37
43	-.56	-3.33	-1.95	41.95	44.34	54.85
44	10.09	2.27	6.18	64.14	60.71	61.60
45	6.69	-1.66	2.51	50.83	55.25	54.85
46	-6.99	-.79	-3.89	46.39	60.71	51.48
47	5.92	6.39	6.16	59.70	55.25	61.60
48	-15.20	-11.72	-13.46	50.83	60.71	48.11
49	3.15	5.79	4.47	50.83	60.71	61.60
50	.33	-1.92	-.80	46.39	49.80	54.85
51	2.23	-.55	.84	46.39	60.71	44.74
52	.77	3.61	2.19	41.95	55.25	54.85
53	2.40	6.61	4.51	50.83	60.71	61.60
54	5.05	.08	2.56	50.83	38.88	51.48
55	.	.	.	.	.	.
56	-2.64	-.64	-1.64	59.70	55.25	58.22
57	12.15	-3.81	4.17	64.14	38.88	61.60
58	-10.16	-3.90	-7.03	50.83	55.25	58.22
59	.	.	.	.	.	.
60	-2.14	8.79	3.32	55.27	49.80	41.37
61	-7.57	7.56	-.01	46.39	55.25	51.48
62	-5.00	1.81	-1.59	50.83	27.96	54.85
63	6.29	-5.87	.21	64.14	33.42	54.85
64	-.94	-8.91	-4.92	55.27	33.42	44.74

	u_o_zma	u_o_zre	u_o_zaa	u_o_zpp	u_o_zpv	u_o_zbk	u_o_zwe
65	46.57	44.25	45.41	47.10	44.52	39.00	45.00
66	46.57	47.56	47.07	65.17	50.38	47.41	56.00
67	53.42	56.89	55.16	58.24	62.81	43.02	59.00
68	50.77	49.35	50.06	56.65	57.90	33.92	55.00
69	49.37	58.87	54.12	53.46	48.92	41.56	50.00
70	50.77	56.24	53.50	73.40	50.38	44.48	59.00
71	53.42	61.95	57.69	45.49	53.32	51.43	50.00
72	62.75	60.34	61.55	55.04	66.75	56.09	61.00
73	62.75	69.05	65.90	56.65	61.10	67.90	60.00
74	.	.	.	.	.	.	.
75	40.03	40.66	40.34	45.49	48.92	63.42	49.00
76	49.37	44.91	47.14	48.72	41.50	37.63	44.00
77	46.57	56.24	51.40	59.81	38.23	39.63	47.00
78	32.39	45.26	38.83	42.11	39.89	42.11	41.00
79	37.36	45.97	41.66	37.41	47.46	53.04	44.00
80	37.36	41.00	39.18	32.54	46.00	29.84	39.00
81	38.73	47.15	42.94	42.11	53.32	34.96	47.00
82	50.77	58.21	54.49	55.04	48.92	35.22	50.00
83	.	.	.	.	.	.	.
84	50.77	46.74	48.76	31.27	38.23	43.79	36.00
85	62.75	58.87	60.81	56.65	46.00	63.42	52.00
86	56.26	55.58	55.92	48.72	44.52	62.51	48.00
87	42.73	45.97	44.35	47.10	44.52	39.00	45.00
88	45.27	54.96	50.12	47.10	53.32	35.02	49.00
89	50.77	50.35	50.56	24.46	53.32	45.55	41.00
90	56.26	40.66	48.46	50.33	48.92	24.09	47.00
91	57.72	66.49	62.10	50.33	56.36	56.91	54.00
92	69.95	60.34	65.14	56.65	48.92	28.80	50.00
93	57.72	56.89	57.31	53.46	53.32	49.57	53.00
94	42.73	38.75	40.74	53.46	50.38	64.24	53.00
95	56.26	54.96	55.61	55.04	43.04	44.62	48.00
96	32.39	31.72	32.05	31.27	43.04	29.72	37.00

	u_r_zoma	u_r_zore	u_r_zoaa	u_at_ma	u_at_re	u_at_sh
65	.77	-1.49	-.36	59.70	49.80	54.85
66	-8.66	-7.73	-8.19	41.95	55.25	44.74
67	-4.38	-1.00	-2.69	64.14	60.71	58.22
68	-3.59	-5.07	-4.33	46.39	38.88	58.22
69	-.71	8.79	4.04	46.39	38.88	31.25
70	-7.02	-1.66	-4.34	50.83	49.80	37.99
71	3.34	11.87	7.60	59.70	55.25	54.85
72	3.24	.71	1.97	64.14	55.25	58.22
73	4.10	10.28	7.19	59.70	60.71	51.48
74	.	.	.	.	.	.
75	-9.20	-8.56	-8.88	24.20	44.34	41.37
76	4.43	.04	2.23	37.52	49.80	58.22
77	-.94	8.76	3.91	50.83	44.34	51.48
78	-9.98	2.99	-3.49	55.27	44.34	51.48
79	-7.58	1.09	-3.25	24.20	44.34	44.74
80	-3.30	.47	-1.42	50.83	55.25	27.88
81	-8.78	-.33	-4.55	50.83	49.80	34.62
82	.69	8.13	4.41	46.39	38.88	24.51
83	.	.	.	.	.	.
84	12.69	8.82	10.75	55.27	60.71	58.22
85	10.95	7.05	9.00	55.27	49.80	48.11
86	7.89	7.24	7.56	59.70	55.25	51.48
87	-3.07	.23	-1.42	41.95	49.80	61.60
88	-3.95	5.75	.90	59.70	55.25	61.60
89	8.40	8.09	8.24	46.39	60.71	58.22
90	8.75	-6.82	.96	46.39	38.88	31.25
91	4.21	12.93	8.57	46.39	49.80	51.48
92	19.86	10.26	15.06	64.14	49.80	48.11
93	5.06	4.21	4.63	55.27	44.34	48.11
94	-9.92	-13.94	-11.93	55.27	17.05	61.60
95	7.89	6.61	7.25	50.83	55.25	51.48
96	-6.55	-7.08	-6.82	28.64	60.71	41.37

	u_o_zma	u_o_zre	u_o_zaa	u_o_zpp	u_o_zpv	u_o_zbk	u_o_zwe
97	42.73	50.35	46.54	50.33	43.04	43.49	46.00
98	44.02	34.85	39.43	38.95	44.52	41.59	42.00
99	59.24	60.34	59.79	61.34	57.90	55.13	59.00
100	52.09	32.93	42.51	45.49	46.00	58.04	47.00
101	38.73	51.40	45.06	47.10	41.50	64.12	46.00
102	46.57	45.60	46.09	53.46	51.85	36.93	51.00
103	54.83	63.75	59.29	56.65	56.36	51.63	56.00
104	46.57	35.34	40.96	40.53	51.85	38.64	46.00
105	50.77	53.12	51.95	50.33	53.32	52.10	52.00
106	46.57	36.23	41.40	48.72	38.23	53.98	44.00
107	50.77	54.96	52.87	48.72	51.85	55.88	51.00
108	40.03	29.22	34.62	45.49	43.04	32.82	43.00
109	44.02	47.15	45.58	32.54	38.23	48.68	37.00
110	44.02	49.86	46.94	55.04	51.85	50.59	53.00
111	56.26	49.86	53.06	58.24	54.81	42.98	55.00
112	50.77	49.86	50.31	47.10	47.46	54.29	48.00
113	62.75	50.35	56.55	56.65	46.00	43.42	50.00
114	53.37	61.70	57.53	50.37	60.44	46.32	55.00
115	45.96	38.60	42.28	47.62	43.51	41.96	45.00
116	41.72	43.78	42.75	54.72	39.53	63.51	48.00
117	50.02	46.90	48.46	48.96	36.36	62.32	44.00
118	28.23	39.64	33.94	36.30	46.01	34.77	41.00
119	38.00	47.35	42.67	41.29	49.54	47.15	46.00
120	38.00	33.13	35.57	45.01	43.51	22.41	42.00
121	56.07	58.29	57.18	43.74	60.44	42.82	52.00
122	43.45	47.35	45.40	47.62	50.75	55.77	50.00
123	40.83	36.79	38.81	53.28	44.78	23.00	46.00
124	43.45	42.02	42.74	50.37	27.39	51.57	39.00
125	.	31.06	31.06	34.93	34.53	37.61	35.00
126	35.14	42.02	38.58	38.81	49.54	37.05	44.00
127	39.94	54.78	47.36	36.30	55.83	55.62	48.00
128	38.99	38.03	38.51	40.04	43.51	32.28	41.00

	u_r_zoma	u_r_zore	u_r_zoaa	u_at_ma	u_at_re	u_at_sh
97	-3.93	3.74	-.09	41.95	55.25	61.60
98	.79	-8.29	-3.75	28.64	49.80	48.11
99	1.44	2.44	1.94	37.52	38.88	41.37
100	4.58	-14.55	-4.99	37.52	44.34	51.48
101	-7.93	4.79	-1.57	50.83	60.71	27.88
102	-4.37	-5.35	-4.86	41.95	55.25	44.74
103	-.40	8.45	4.03	37.52	60.71	37.99
104	-.09	-11.27	-5.68	46.39	33.42	44.74
105	-1.02	1.30	.14	50.83	60.71	58.22
106	1.63	-8.64	-3.51	46.39	38.88	51.48
107	-.17	4.01	1.92	55.27	44.34	58.22
108	-4.06	-14.79	-9.42	41.95	49.80	21.13
109	5.07	8.36	6.71	55.27	60.71	54.85
110	-8.64	-2.83	-5.74	41.95	55.25	48.11
111	1.90	-4.57	-1.34	64.14	60.71	41.37
112	2.40	1.51	1.96	55.27	44.34	51.48
113	12.66	.27	6.47	55.27	27.96	41.37
114	-1.74	6.70	2.48	56.04	58.19	54.95
115	.05	-7.28	-3.61	41.94	48.00	53.52
116	-6.95	-4.84	-5.89	57.81	62.56	53.52
117	5.03	1.93	3.48	57.81	52.37	56.38
118	-14.00	-2.59	-8.29	40.18	43.63	53.52
119	-8.83	.55	-4.14	43.70	56.74	56.38
120	-5.15	-10.01	-7.58	40.18	37.80	46.37
121	3.72	6.02	4.87	54.28	52.37	56.38
122	-7.06	-3.10	-5.08	56.04	52.37	47.80
123	-6.00	-10.00	-8.00	40.18	49.45	50.66
124	3.06	1.62	2.34	63.10	61.11	57.81
125	.	-5.69	-5.69	45.47	50.91	43.52
126	-9.85	-2.95	-6.40	56.04	49.45	54.95
127	-8.73	6.16	-1.28	48.99	62.56	52.09
128	-3.23	-4.20	-3.72	56.04	56.74	36.37

	u_o_zma	u_o_zre	u_o_zaa	u_o_zpp	u_o_zpv	u_o_zbk	u_o_zwe
129	46.78	52.41	49.60	45.01	57.24	43.75	51.00
130	35.14	41.54	38.34	47.62	57.24	23.31	50.00
131	49.23	57.27	53.25	47.62	58.77	45.65	53.00
132	36.10	36.79	36.45	50.37	43.51	40.97	46.00
133	41.72	50.48	46.10	19.44	36.36	50.41	31.00
134	39.94	30.49	35.21	50.37	50.75	34.78	49.00
135	45.15	51.93	48.54	47.62	47.17	43.68	47.00
136	38.00	37.45	37.72	58.62	46.01	45.48	51.00
137	46.78	53.83	50.31	56.10	58.77	41.74	56.00

	u_r_zoma	u_r_zore	u_r_zoaa	u_at_ma	u_at_re	u_at_sh
129	-4.65	1.06	-1.79	57.81	59.65	57.81
130	-15.37	-8.90	-12.13	43.70	43.87	56.38
131	-4.04	4.09	.02	54.28	50.91	53.52
132	-10.73	-10.00	-10.36	54.28	46.54	52.09
133	8.70	17.37	13.03	50.76	46.54	53.52
134	-9.65	-19.04	-14.35	57.81	48.00	46.37
135	-2.60	4.22	.81	47.23	49.45	54.95
136	-13.43	-13.91	-13.67	43.70	56.74	40.66
137	-9.25	-2.08	-5.67	50.76	46.54	54.95

Keys: *o_zma* refers to maths attainment, *o_zre* refers to reading attainment, *o_zaa* refers to academic attainment (the average of maths attainment and reading attainment), *o_zpp* refers to non-verbal ability measure (score in problems of position tests), *o_zpv* refers to verbal ability measure (score in picture vocabulary tests), *o_zbk* refers to home background/cultural capital measure, *o_zwe* refers to context score, *r_zoma* refers to learning gains in maths, *r_zore* refers to learning gains in reading, *r_zoaa* refers to academic learning gains (the average of learning gains in maths and in reading), *at_ma* attitude towards maths learning, *at_re* attitude towards reading, *zat_sh* attitude towards themselves and school learning.

Appendix 3-E: An example of the data collected from pupil questionnaire
investigating human interaction

	q_ls01a	q_ls01b	q_ls01c	q_ls01d	q_ls02a	q_ls02b	q_ls02c
1	103	103	2	103	55	103	29
2	103	101	104	95	50	102	101
3	51	78	103	104	55	86	46
4	0	105	77	105	3	103	.
5	105	104	104	97	38	103	103
6	104	102	90	104	1	105	105
7	84	100	71	105	33	96	105
8	47	105	1	105	90	104	44
9	98	105	105	105	36	103	105
10	1	103	102	104	0	105	105
11	79	101	.	102	50	103	98
12	67	27	105	95	0	57	91
13	59	105	105	105	1	105	105
14	3	100	103	100	3	47	101
15	100	100	103	100	102	103	43
16	100	104	102	102	29	102	74
17	88	54	104	105	90	47	104
18	105	47	76	105	54	100	47
19	103	103	102	101	55	104	102
20	54	89	102	7	57	100	103
21	79	99	102	104	5	19	104
22	103	104	1	104	1	104	102
23	3	102	102	102	2	105	103
24	0	79	104	57	56	1	105
25	105	49	16	103	1	104	2
26	105	105	105	105	0	105	105
27	98	104	104	104	2	104	104
28	103	103	105	104	49	104	104
29	0	105	105	105	0	105	105
30	101	102	101	101	62	100	100
31	94	94	95	97	96	94	94
32	47	75	73	30	41	100	34

	q_ls02d	q_ls03a	q_ls03b	q_ls03c	q_ls03d	q_ls04a	q_ls04b
1	104	1	105	1	103	104	1
2	78	100	74	71	102	103	102
3	9	105	2	24	104	53	17
4	90	71	101	100	100	101	52
5	48	53	103	98	103	104	82
6	105	2	104	104	104	103	104
7	85	99	71	91	104	105	90
8	103	3	1	44	103	103	1
9	84	20	2	103	103	103	104
10	105	105	14	103	103	103	103
11	97	32	32	60	102	103	43
12	76	14	73	49	84	105	0
13	50	45	13	50	54	58	54
14	103	104	4	87	101	103	103
15	84	104	40	103	43	41	56
16	104	30	11	74	102	102	104
17	45	15	47	95	103	104	46
18	105	105	104	103	52	105	46
19	82	80	102	101	101	101	103
20	53	49	101	101	46	103	101
21	93	53	3	102	103	74	2
22	104	2	102	104	103	103	103
23	51	102	4	100	50	102	104
24	103	19	1	57	1	103	0
25	36	103	2	30	36	103	103
26	105	0	105	105	91	105	105
27	104	2	104	104	99	104	103
28	105	.	47	45	103	102	104
29	105	46	105	47	105	105	105
30	101	102	102	101	101	101	101
31	92	91	91	91	94	96	95
32	101	31	79	26	14	95	48

	q_ls04c	q_ls04d	q_ls05a	q_ls05b	q_ls05c	q_ls05d	q_ls06a
1	0	105	0	101	0	103	103
2	4	101	102	102	44	83	102
3	55	101	102	102	101	52	89
4	3	85	98	45	94	96	75
5	104	104	103	103	77	103	104
6	104	104	103	104	103	104	2
7	98	104	101	30	20	93	105
8	1	102	4	50	3	47	3
9	104	104	104	58	104	104	105
10	89	105	103	1	103	102	94
11	.	.	22	37	98	100	105
12	105	54	0	26	105	104	54
13	54	103	44	44	48	103	59
14	103	100	102	3	101	102	105
15	54	100	97	25	91	103	105
16	48	103	103	60	103	103	105
17	103	103	104	19	6	46	105
18	44	104	50	54	80	105	58
19	88	101	102	1	103	103	104
20	3	52	101	55	100	45	102
21	0	21	101	33	74	75	105
22	103	103	104	103	103	102	3
23	5	102	102	48	48	3	50
24	1	104	53	30	103	81	28
25	40	103	33	2	37	103	104
26	105	105	105	105	105	105	105
27	103	103	6	48	4	85	102
28	102	103	103	103	103	104	45
29	105	47	105	105	105	105	105
30	101	101	101	102	101	40	55
31	10	96	97	96	95	7	100
32	83	102	103	41	73	48	47

	q_ls06b	q_ls06c	q_ls06d	q_ls07a	q_ls07b	q_ls07c	q_ls07d
1	101	4	102	102	101	1	99
2	78	65	100	102	100	53	103
3	61	84	77	61	90	63	103
4	9	6	53	100	100	4	56
5	93	50	105	104	104	62	104
6	105	105	104	104	105	105	105
7	105	85	105	105	105	76	94
8	21	8	103	52	52	3	4
9	105	105	105	105	105	98	103
10	104	104	105	105	104	104	104
11	29	34	102	103	104	103	104
12	0	71	105	79	0	105	94
13	57	64	86	104	104	54	104
14	104	105	104	105	105	105	103
15	87	105	98	.	98	36	41
16	45	105	105	105	104	104	103
17	51	50	104	104	104	50	27
18	58	105	51	93	48	78	52
19	102	101	102	102	103	58	103
20	54	103	101	102	101	50	3
21	13	56	48	102	105	0	103
22	104	104	104	104	104	103	103
23	50	50	103	101	103	101	103
24	4	3	104	2	0	0	2
25	31	2	50	104	103	2	102
26	105	105	105	105	105	105	105
27	5	54	102	103	91	47	103
28	102	44	42	103	55	102	104
29	0	105	105	105	105	0	105
30	103	102	48	103	103	101	67
31	98	3	97	96	95	5	95
32	47	94	98	85	98	73	101

	q_cu08	q_cu09	q_cu10	q_cu11	q_cu12	q_cu13	q_cu14
1	101	1	103	100	101	100	0
2	70	102	74	101	101	101	101
3	103	3	104	102	103	103	102
4	102	102	101	100	101	101	101
5	67	103	103	103	103	103	102
6	105	1	104	104	104	104	103
7	57	105	91	104	92	104	96
8	101	103	101	48	1	103	101
9	104	1	104	103	104	104	104
10	104	1	105	104	57	104	104
11	103	101	104	102	103	103	0
12	105	0	105	105	0	105	72
13	104	92	104	48	104	104	104
14	105	103	104	104	104	103	104
15	103	75	103	68	63	57	103
16	3	4	39	103	21	50	2
17	86	104	104	94	104	105	2
18	105	104	62	53	105	94	0
19	103	82	102	95	103	103	104
20	5	45	100	39	99	43	101
21	105	94	103	103	102	52	58
22	103	2	103	103	102	102	103
23	103	103	2	6	55	102	102
24	105	1	103	56	1	51	104
25	103	2	2	101	2	50	61
26	0	105	48	105	0	105	60
27	2	2	103	102	104	48	2
28	103	103	103	103	103	10	30
29	105	105	105	105	47	104	0
30	103	103	103	101	97	102	103
31	101	4	99	99	98	98	95
32	43	74	98	100	48	99	4

	q_cu15	q_cu16	q_cu17	q_cu18	q_cu19	q_tp20a	q_tp20b
1	0	101	0	22	102	1	1
2	49	101	77	101	88	6	103
3	3	101	101	103	101	2	2
4	67	101	101	102	101	3	5
5	85	101	2	77	81	1	104
6	104	104	103	103	103	1	105
7	103	2	105	105	1	1	105
8	102	102	101	99	4	104	1
9	1	93	35	104	104	1	105
10	2	104	1	104	104	0	105
11	1	103	1	2	94	103	104
12	0	105	0	0	0	0	105
13	50	103	2	103	2	84	104
14	3	104	104	104	104	1	104
15	103	103	101	101	70	104	81
16	98	103	102	2	3	56	105
17	104	92	1	44	46	1	104
18	46	43	40	82	46	105	50
19	12	103	1	103	91	1	103
20	101	101	101	100	100	99	101
21	1	82	101	101	103	2	103
22	102	103	3	103	103	2	103
23	100	100	51	3	99	103	103
24	51	1	2	103	1	105	1
25	3	101	2	2	3	104	47
26	82	45	0	105	105	0	0
27	3	1	2	2	2	1	103
28	102	103	1	102	102	43	42
29	0	105	0	105	55	0	47
30	102	103	103	105	103	2	103
31	95	3	99	97	4	101	101
32	89	101	23	6	21	7	68

	q_tp20c	q_tp20d	q_tp20e	q_tp20f	q_tp20g	q_tp20h	q_tp20i
1	18	2	104	103	104	103	103
2	102	94	101	101	101	101	102
3	29	3	104	24	35	90	31
4	103	57	103	59	92	101	101
5	103	103	3	104	100	104	103
6	105	105	105	105	105	104	105
7	105	49	105	51	105	105	105
8	1	53	102	45	1	100	57
9	105	105	1	105	105	105	104
10	105	104	104	105	105	104	104
11	103	103	104	103	104	2	100
12	105	88	105	88	0	105	87
13	104	104	104	91	104	104	104
14	103	104	102	104	104	104	104
15	85	96	95	90	87	104	91
16	105	51	104	104	105	104	104
17	104	104	104	105	105	105	104
18	50	105	105	51	105	105	105
19	104	103	87	103	104	104	104
20	102	50	2	103	102	58	100
21	89	78	102	94	103	104	103
22	103	103	103	103	103	103	103
23	104	100	102	4	50	100	103
24	2	105	49	49	104	104	59
25	102	102	102	42	42	103	103
26	24	105	105	47	0	105	103
27	103	103	88	103	52	103	103
28	104	104	104	104	104	105	104
29	105	40	105	53	105	105	105
30	103	56	103	103	103	103	104
31	99	4	99	96	96	96	94
32	69	48	102	58	100	86	94

	q_tp20j	q_tp20k	q_tp20l	q_tp20m	q_tp20n	q_tp20o	q_lm21
1	103	1	102	2	100	45	41
2	102	100	102	3	102	102	101
3	100	3	102	102	103	100	103
4	101	99	2	2	44	51	101
5	104	75	1	2	104	104	103
6	104	88	101	2	104	101	105
7	2	105	103	1	104	104	104
8	102	54	104	46	43	42	102
9	104	104	103	1	103	104	79
10	104	104	104	1	104	104	103
11	99	102	102	104	101	103	103
12	105	95	105	105	105	105	105
13	104	103	104	2	104	104	103
14	104	103	104	3	104	104	104
15	91	104	90	95	105	105	103
16	104	104	102	0	104	104	104
17	103	104	104	2	105	105	49
18	105	104	99	0	98	101	105
19	104	104	103	0	104	103	98
20	3	101	3	53	2	47	101
21	88	98	104	0	103	101	78
22	103	103	103	1	103	103	103
23	102	2	100	56	101	100	102
24	104	57	84	0	1	105	102
25	102	35	103	2	103	103	103
26	105	105	63	0	50	100	105
27	56	103	1	103	103	101	103
28	104	105	102	103	103	104	0
29	105	0	105	105	105	105	48
30	53	103	103	102	100	101	103
31	94	94	91	92	92	93	98
32	50	100	71	4	102	79	47

	q_lm22	q_lm23	q_lm24	q_lm25	q_lm26	q_lm27	q_lm28
1	3	64	75	104	102	101	102
2	99	102	3	102	102	101	103
3	103	103	2	103	104	102	102
4	102	3	3	104	102	103	103
5	104	105	53	105	105	103	105
6	105	105	105	105	105	105	105
7	104	91	1	91	105	105	105
8	67	103	99	101	67	103	64
9	92	104	1	104	104	104	104
10	103	104	103	105	105	105	105
11	103	103	103	103	103	103	103
12	50	105	81	87	79	102	93
13	59	103	1	51	42	103	104
14	103	104	104	105	105	104	104
15	102	103	103	102	105	105	105
16	105	104	104	105	104	104	104
17	92	102	3	105	51	103	103
18	31	105	0	60	0	105	69
19	102	102	102	103	103	103	103
20	102	100	2	100	101	102	49
21	103	101	79	102	101	101	100
22	104	103	102	104	104	104	104
23	100	102	1	103	58	102	101
24	49	102	50	105	103	50	104
25	44	103	103	104	104	104	103
26	104	105	0	105	105	105	105
27	54	102	102	104	104	103	2
28	103	103	103	103	104	104	104
29	105	105	105	105	105	105	105
30	102	103	102	103	104	103	103
31	96	96	97	3	3	102	99
32	101	91	56	56	100	102	98

	q_lm29	q_lm30	q_lm31	q_lm32	q_lm33	q_lm34	q_lm35
1	104	103	101	100	2	4	101
2	102	102	101	3	103	102	3
3	103	102	101	99	66	102	102
4	103	103	4	4	4	2	101
5	105	103	103	3	104	1	1
6	105	105	105	105	105	105	105
7	105	105	105	1	1	105	105
8	100	1	51	8	47	97	48
9	104	104	104	1	1	78	85
10	105	0	105	93	1	105	105
11	103	103	103	103	103	103	103
12	105	105	98	105	0	55	105
13	103	101	94	104	.	49	49
14	104	3	103	104	104	104	102
15	105	105	105	105	105	102	98
16	105	44	104	104	45	104	1
17	96	93	105	103	47	55	104
18	104	104	51	105	56	105	55
19	104	59	103	103	1	105	102
20	102	45	102	40	101	102	100
21	105	103	103	101	1	103	81
22	104	104	104	104	104	104	104
23	101	102	103	104	101	4	103
24	103	103	44	101	102	1	102
25	48	102	102	102	102	102	50
26	105	0	105	105	0	105	100
27	2	2	104	2	2	2	2
28	46	51	104	51	2	104	104
29	105	105	105	105	0	45	105
30	101	3	103	52	2	4	49
31	99	99	96	96	97	97	97
32	79	49	80	48	50	102	50

	q_nt36a	q_nt36b	q_nt36c	q_nt36d	q_nt36e	q_nt36f	q_nt36g
1	101	101	100	99	100	100	100
2	55	53	102	102	102	101	101
3	102	102	100	102	102	101	101
4	103	103	101	103	103	103	102
5	61	77	102	100	102	101	101
6	105	105	104	103	104	105	104
7	103	103	105	105	104	105	105
8	49	102	42	44	3	48	42
9	75	103	103	103	103	86	103
10	105	105	105	105	105	105	105
11	102	102	102	102	102	102	102
12	104	53	83	103	68	0	105
13	52	103	103	103	54	103	52
14	104	105	104	103	103	104	103
15	103	105	104	105	105	105	105
16	104	103	103	103	103	103	104
17	52	104	104	105	104	105	90
18	49	102	50	104	47	62	93
19	104	104	104	104	91	104	104
20	101	99	100	100	47	102	102
21	92	101	100	101	99	100	100
22	103	103	103	103	103	102	102
23	102	99	99	54	99	99	4
24	102	102	101	100	100	101	101
25	103	103	102	102	102	2	102
26	105	105	105	105	105	105	103
27	2	104	103	104	2	2	102
28	104	104	103	103	102	103	102
29	105	0	105	105	0	105	0
30	102	3	103	103	100	103	104
31	100	99	3	3	98	97	96
32	48	46	67	92	1	101	26

	q_nt36h	q_nt36i	q_nt36j	q_nt36k	q_lp37	q_lp38	q_lp39
1	101	98	99	98	104	101	4
2	103	103	101	101	42	103	79
3	101	2	103	101	102	101	63
4	102	102	103	102	103	103	5
5	102	101	102	103	47	103	89
6	104	104	103	104	3	105	105
7	101	104	104	104	2	16	105
8	103	43	43	43	47	103	50
9	103	103	103	103	1	1	105
10	105	105	105	105	2	88	88
11	102	102	102	102	105	2	104
12	0	102	103	103	105	54	0
13	.	102	103	102	105	105	60
14	104	103	104	103	105	105	104
15	105	105	105	105	101	102	105
16	103	103	103	103	104	105	104
17	47	48	100	100	92	105	52
18	49	105	105	63	105	105	53
19	104	102	104	104	1	1	104
20	46	99	101	37	103	100	101
21	101	99	99	102	2	104	103
22	104	103	103	104	1	104	104
23	5	101	101	100	101	101	103
24	101	101	99	100	103	103	101
25	102	101	102	103	104	104	43
26	105	105	103	104	105	105	101
27	2	34	102	102	103	50	103
28	102	102	102	102	105	105	56
29	105	0	105	105	105	105	105
30	60	5	102	100	4	103	103
31	3	98	99	99	102	101	101
32	44	4	40	100	77	105	48

	q_lp40	q_lp41	q_lp42	q_lp43	q_lp44	q_lp45	q_lp46
1	101	3	1	103	102	100	3
2	45	52	103	77	103	103	70
3	104	103	101	102	103	102	3
4	5	3	104	3	103	104	101
5	105	60	104	71	103	104	1
6	3	105	105	105	104	105	103
7	9	2	2	1	105	105	1
8	103	48	103	50	104	104	56
9	1	105	105	105	105	54	1
10	3	85	1	98	104	104	2
11	2	100	103	103	101	103	2
12	105	0	0	0	105	54	0
13	105	66	96	91	104	104	2
14	104	104	105	93	105	105	2
15	104	105	105	105	105	105	105
16	45	104	45	104	103	105	2
17	48	47	91	95	105	105	96
18	53	49	54	15	105	102	.
19	102	103	1	105	105	2	46
20	103	51	101	102	101	101	101
21	16	103	2	103	104	51	3
22	2	103	103	103	104	103	103
23	102	101	102	49	100	100	3
24	101	1	103	1	104	3	59
25	104	2	40	1	104	102	22
26	3	90	105	85	16	2	105
27	103	3	3	103	103	103	2
28	105	50	104	105	104	104	1
29	49	105	105	105	105	105	.
30	4	103	102	102	101	101	4
31	101	3	2	101	98	96	94
32	68	16	21	55	86	46	2

	q_lp47	q_lp48	q_lp49	q_ac50	q_ac51	q_ac52	q_ac53
1	99	102	3	1	104	3	1
2	103	103	103	83	103	103	3
3	101	103	3	102	101	1	37
4	104	104	101	103	102	48	3
5	103	104	104	103	103	102	1
6	104	104	104	104	105	105	104
7	104	105	105	105	80	105	1
8	104	101	101	1	1	3	2
9	105	105	105	105	105	97	1
10	105	105	105	63	103	105	2
11	102	100	100	100	104	103	100
12	105	55	105	0	105	105	53
13	104	105	104	50	81	61	27
14	102	104	104	103	104	103	1
15	105	105	105	91	105	105	105
16	104	103	103	2	104	48	3
17	105	105	105	48	104	96	103
18	99	104	94	50	23	37	105
19	105	103	104	104	103	62	2
20	103	101	100	102	100	1	100
21	102	104	75	102	103	104	2
22	102	103	103	104	1	103	1
23	103	100	103	100	101	102	104
24	104	103	103	104	1	2	2
25	103	103	103	41	103	43	103
26	49	105	4	1	105	80	93
27	103	103	2	102	103	48	103
28	103	104	105	105	1	1	0
29	105	105	105	105	105	105	1
30	103	2	5	103	104	103	4
31	92	92	3	100	98	3	4
32	101	103	103	102	103	93	2

	q_ac54	q_ac55	q_ac56	q_ac57	q_ac58	q_ac59	q_ac60
1	2	101	2	102	3	2	45
2	103	3	101	103	70	99	3
3	102	7	101	102	103	103	5
4	0	101	102	102	102	103	103
5	104	3	103	102	85	102	7
6	105	104	104	104	104	105	105
7	104	1	105	93	104	105	94
8	1	103	2	103	36	3	104
9	104	1	104	104	104	104	1
10	104	2	38	105	105	102	18
11	0	1	103	103	104	41	1
12	52	80	0	105	105	0	105
13	1	1	2	83	96	53	92
14	103	2	104	104	103	105	2
15	105	104	105	105	105	0	.
16	54	86	1	103	3	2	53
17	2	104	2	104	94	19	104
18	105	33	105	99	59	105	0
19	103	3	104	104	103	105	1
20	102	56	102	103	103	103	51
21	103	2	103	103	101	104	3
22	1	103	55	101	104	103	104
23	104	102	52	102	103	101	4
24	1	2	105	3	2	1	105
25	1	103	4	103	36	1	105
26	31	15	23	105	77	49	51
27	2	2	104	103	2	104	2
28	1	104	43	103	104	0	105
29	105	48	105	105	105	105	46
30	103	3	104	42	100	104	102
31	98	5	4	98	98	101	99
32	48	69	104	104	64	104	57

	q_ac61	q_ac62	q_ac63	q_ac64	q_sc65	q_sc66	q_sc67
1	3	1	103	102	104	103	102
2	105	102	102	102	104	1	104
3	103	103	101	100	104	3	102
4	104	103	101	46	103	6	42
5	100	102	103	102	103	2	102
6	105	105	105	105	105	105	105
7	105	105	105	105	105	2	105
8	1	2	45	2	104	1	104
9	105	104	104	104	104	1	104
10	103	105	105	105	105	1	105
11	103	104	105	102	2	3	103
12	54	0	105	105	105	105	0
13	61	58	55	54	104	3	58
14	105	104	104	104	105	1	103
15	99	105	105	105	105	105	105
16	104	1	105	53	104	104	104
17	53	52	103	93	105	92	104
18	54	105	50	48	47	0	50
19	104	103	105	105	105	1	104
20	103	103	103	102	104	104	101
21	102	101	100	104	102	23	101
22	103	103	101	101	103	2	103
23	101	102	102	101	101	3	103
24	1	2	1	2	1	105	1
25	38	1	104	1	4	4	1
26	61	25	105	99	15	92	105
27	104	104	104	104	104	3	104
28	1	52	52	50	2	0	1
29	105	105	105	105	105	0	105
30	102	102	102	102	104	104	103
31	99	97	4	97	3	3	101
32	103	103	75	104	55	54	29

	q_sc68	q_sc69	q_sc70	q_sc71	q_sc72	q_sc73	q_sc74
1	103	101	101	102	2	104	103
2	104	104	2	103	103	104	3
3	102	102	103	102	2	101	101
4	.	101	3	102	4	103	2
5	100	101	103	103	103	101	1
6	2	104	105	105	105	3	3
7	105	105	2	105	1	105	2
8	105	104	104	103	1	103	1
9	1	104	1	1	1	104	1
10	104	103	102	104	2	104	1
11	2	2	2	101	102	102	2
12	105	0	105	0	105	0	105
13	104	68	48	103	104	104	2
14	3	103	104	104	3	103	2
15	105	104	1	97	0	0	91
16	104	104	53	104	1	104	104
17	93	104	104	104	1	104	104
18	51	.	0	0	105	105	0
19	104	103	2	102	1	104	2
20	102	101	4	2	3	3	102
21	101	100	81	103	1	102	9
22	1	103	103	103	1	103	103
23	4	103	2	103	3	3	103
24	105	1	105	1	103	1	104
25	104	58	103	2	103	103	2
26	105	44	93	105	105	105	39
27	3	104	2	102	2	104	2
28	104	1	103	102	2	102	103
29	1	105	104	104	0	105	105
30	103	103	103	104	2	103	2
31	1	3	97	97	2	2	2
32	55	69	51	103	50	103	0

	q_tm75	q_tm76	q_tm77	q_tm78	q_tm79	q_tm80	q_tm81	q_tm82
1	1	101	3	103	2	1	104	3
2	53	102	100	101	62	3	3	104
3	102	2	102	103	105	102	101	101
4	3	101	101	2	103	103	105	104
5	51	102	102	102	76	4	3	105
6	105	105	105	103	105	105	105	105
7	1	104	94	1	3	2	2	105
8	41	35	39	51	55	1	58	48
9	2	104	49	49	1	1	1	105
10	1	104	104	103	15	104	104	103
11	100	102	101	2	104	1	2	103
12	0	53	0	105	105	105	105	105
13	53	93	.	44	105	105	2	56
14	103	103	103	103	2	104	103	103
15	96	75	46	67	92	1	71	75
16	104	46	103	43	47	104	104	1
17	43	93	87	51	57	105	2	47
18	105	50	50	53	105	98	59	51
19	1	103	104	1	1	1	1	104
20	102	100	99	35	104	104	103	100
21	42	102	102	2	3	1	1	102
22	103	103	103	103	104	104	104	104
23	3	101	102	102	102	2	101	105
24	0	1	1	104	104	1	2	1
25	1	103	1	103	104	1	104	44
26	1	105	105	0	21	72	105	105
27	1	104	2	2	103	1	1	45
28	0	53	103	56	104	104	50	47
29	104	104	104	43	105	1	105	105
30	103	103	103	103	105	104	3	53
31	102	101	102	102	99	3	101	99
32	1	103	69	1	53	51	103	52

Remark: Due to the length of the dataset, only a part of it is presented here as an example. Each of the columns above refers to the data collected from the respective item of the pupil questionnaire investigating human-computer interaction, as presented in Appendix 3-A.

Appendix 3-F: An example of the data collected from pupil questionnaire investigating subject difference in learning preference, in-school / out-of-school learning with the use of computers, grouping and gender difference

	b_sex	b_01	b_02	b_03a	b_03b	b_04	b_05
1	1	5	2	135	90	3	5
2	2	5	2	135	60	5	5
3	1	5	1	135	0	4	5
4	1	5	3	135	210	3	4
5	1	5	3	135	240	5	5
6	2	4	4	135	95	4	5
7	2	5	3	135	60	5	5
8	1	4	3	135	130	4	4
9	1	5	4	135	243	4	4
10	2	5	1	135	0	2	5
11	1	5	4	135	60	3	5
12	2	5	4	135	95	5	5
13	1	5	2	135	5	4	5
14	2	5	1	135	.	4	5
15	1	5	2	135	76	1	4
16	1	4	2	125	.	5	3
17	1	5	1	135	90	4	.
18	1	5	1	135	60	5	4
19	1	5	4	135	60	5	5
20	2	5	3	135	150	5	5
21	2	5	1	135	.	5	5
22	1	4	2	135	.	4	3
23	2	5	3	135	140	5	5
24	2	5	4	135	722	.	5
25	2	5	3	135	90	5	5
26	2	5	4	135	.	4	5
27	1	5	3	135	90	4	5
28	2	5	3	135	130	5	.
29	1	1	1	135	2	2	3
30	1	4	2	170	255	5	2

	b_06	b_07	b_08	b_09	b_09s	b_10d	b_10
1	1	5	5	3	1	3	1
2	4	5	5	2	2	3	3
3	1	5	4	1	2	1	2
4	5	5	4	3	1	3	1
5	5	5	5	5	1	5	1
6	2	3	5	2	2	3	3
7	5	5	4	1	1	3	3
8	4	5	4	1	1	1	1
9	4	5	5	5	2	5	2
10	5	5	5	2	2	2	2
11	3	5	3	2	2	2	2
12	5	5	5	1	1	3	3
13	4	4	5	3	2	3	2
14	5	5	4	2	2	5	5
15	5	5	4	3	1	3	1
16	1	3	1	1	3	1	3
17	5	4	5	1	2	1	2
18	5	5	3	4	5	4	5
19	5	5	4	1	1	1	1
20	4	5	5	3	3	2	2
21	1	5	5	1	1	1	1
22	4	3	3	3	3	3	3
23	5	5	5	2	2	2	2
24	4	3	5	2	2	1	1
25	5	5	5	2	2	3	3
26	5	5	5	1	1	5	5
27	5	4	2	5	1	5	1
28	3	5	4	1	1	5	5
29	5	3	5	4	1	4	1
30	1	5	3	3	3	3	3

	b_11a	b_11b	b_12a	b_12b	b_12c	b_12d	b_12e
1	1	2	3	3	2	1	2
2	2	2	.	.	.	.	.
3	2	2	1	2	.	2	2
4	1	2	1	3	3	1	2
5	1	1	2	2	2	1	1
6	2	1	.	.	.	.	.
7	2	2	.	.	.	.	.
8	1	.	2	2	2	2	2
9	1	1	2	1	1	1	3
10	1	2	.	.	.	.	.
11	1	2	1	1	1	1	2
12	2	2	.	.	.	.	.
13	1	2	.	1	.	.	.
14	2	2	.	.	.	.	.
15	2	2	2	1	3	2	3
16	1	.	1	2	2	2	1
17	2	2	.	.	2	.	.
18	1	2	.	.	1	.	.
19	2	1	3	3	1	2	1
20	2	2	.	.	.	.	.
21	2	2	.	.	.	.	.
22	1	.	1	2	2	2	1
23	2	2	.	.	.	.	.
24	1	1	.	.	.	.	.
25	2	2	.	.	.	.	.
26	2	2	.	.	.	.	.
27	1	1	3	1	1	1	2
28	2	2	.	.	.	.	.
29	1	2	1	1	1	1	2
30	1	1	2	1	1	1	3

	b_12f	b_13a	b_13b	b_13c	b_13d	b_13e	b_13f
1	2	.	.	.	.	.	.
2	.	2	2	1	1	3	2
3	2	.	.	.	.	.	.
4	1	.	.	.	.	.	.
5	1	.	.	.	.	.	.
6	.	3	1	1	1	.	2
7	.	2	2	1	1	2	2
8	2	3	2	1	2	.	.
9	3	.	.	.	.	.	.
10	.	3	1	1	1	1	2
11	2	.	.	.	.	.	.
12	.	3	1	1	1	2	2
13	.	.	.	.	.	.	.
14	.	3	1	3	2	2	2
15	2	.	.	.	.	.	.
16	1	.	.	.	.	.	.
17	1	.	.	.	.	.	.
18	1	.	.	.	.	.	.
19	2	.	.	.	.	.	.
20	.	3	2	3	1	2	2
21	.	3	1	1	2	1	2
22	1	2	.	.	.	.	.
23	.	1	1	1	2	2	2
24	.	3	2	2	2	2	2
25	.	1	1	1	2	2	2
26	.	2	1	3	2	.	3
27	2	.	.	.	.	.	.
28	.	2	1	2	2	.	3
29	2	.	.	.	.	.	.
30	3	.	.	.	.	.	.

	b_15f	b_16a	b_16b	b_16c	b_16d	b_16e	b_16f
1	2	.	.	.	.	.	.
2	.	2	1	1	1	2	2
3	1	.	.	.	.	.	.
4	1	.	.	.	.	.	.
5	2	.	.	.	.	.	.
6	.	1	1	1	1	2	2
7	.	.	1	1	1	2	2
8	2	.	.	.	.	.	.
9	3	.	.	.	.	.	.
10	.	2	1	2	1	2	2
11	2	.	.	.	.	.	.
12	.	3	1	1	1	2	2
13	1	.	.	.	.	.	.
14	1	1	2	.	.	2	2
15	2	.	.	.	.	.	.
16	1	.	.	.	.	.	.
17	1	.	.	.	.	.	.
18	1	.	.	.	.	.	.
19	2	.	.	.	.	.	.
20	.	1	2	1	1	2	2
21	.	3	1	1	1	2	2
22	2	.	.	.	.	.	.
23	.	1	1	1	2	2	2
24	.	1	2	1	2	3	2
25	.	1	1	1	2	2	2
26	.	1	3	3	3	2	3
27	2	.	.	.	.	.	.
28	.	2	2	1	3	3	1
29	3	.	.	.	.	.	.
30	1	.	.	.	.	.	.

	b_e_g1	b_e_g2	b_e_g4	b_e_g6	b_m_g1	b_m_g2	b_m_g4	b_m_g6
1	4	1	2	3	4	2	1	3
2	4	2	1	3	4	1	2	3
3	4	1	2	3	3	1	2	4
4	1	2	3	4	3	1	2	4
5	1	.	.	.	1	.	.	.
6	1	2	4	3	2	1	3	4
7	4	2	1	3	4	1	2	3
8	1	2	3	4	1	2	3	4
9	1	2	3	4	1	3	2	4
10	2	1	3	4	3	1	2	4
11	.	1	.	.	.	.	1	.
12	1	.	.	.	1	.	.	.
13	.	1	.	.	.	1	.	.
14	1	2	3	4	1	2	3	4
15	1	3	2	4	4	2	3	1
16	1	2	3	4	1	2	3	4
17	1	.	.	.	.	1	.	.
18	4	3	1	2	4	3	1	2
19	1	3	4	2	1	3	4	2
20	2	1	3	4	2	1	3	4
21	1	.	.	.	1	.	.	.
22	1	2	3	4	1	2	3	4
23	1	2	3	4	1	2	3	4
24	1	2	3	4	1	2	3	4
25	1	2	3	4	1	2	3	4
26	1	2	3	4	1	2	3	4
27	2	4	1	2	1	3	4	2
28	1	2	3	4	1	2	3	4
29	1	2	4	3	1	2	3	4
30	1	4	2	3	4	1	2	3

Remark: Due to the length of the dataset, only a part of it is presented here as an example. The data in columns above refers to the data collected from the respective item of the pupil questionnaire investigating subject difference in learning preference, in-school / out-of-school learning with the use of computers, grouping and gender difference, as presented in Appendix 3-B.

Key: *b_sex* refers to the information about sex identity.

Appendix 3-G: An example of the data collected from pupil questionnaire investigating social status (or popularity) in learning activities with and without the use of computers

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
1.	13	14	6	4	5	6	6	4	7	6
2.	6	3	6	3	4	8	2	6	6	3
3.	1	1	0	3	4	0	3	0	2	0
4.	0	1	0	2	0	0	3	2	2	1
5.	3	6	5	2	8	4	5	2	3	2
6.	0	0	1	0	1	3	4	3	1	2
7.	1	0	1	2	3	0	1	2	1	1
8.	3	3	3	4	1	3	1	5	5	4
9.	5	3	0	4	1	4	4	4	1	4
10.	1	3	3	2	2	0	2	1	4	0
11.	0	0	2	3	0	0	1	0	0	4
12.	2	7	0	1	2	1	0	0	2	3
13.	2	3	2	3	4	12	5	6	5	5
14.	15	3	6	0	3	1	1	3	5	2
15.	1	0	1	3	0	0	2	2	1	2
16.	1	5	5	1	1	1	3	1	5	5
17.	4	3	1	4	1	3	2	1	3	2
18.	1	0	0	1	1	0	1	1	2	1
19.	1	2	5	3	1	1	5	2	2	6
20.	1	3	6	6	6	3	3	4	2	2
21.	2	1	4	3	3	3	4	4	1	3
22.	1	1	3	3	4	2	2	2	1	1
23.	3	1	5	4	11	3	4	6	5	7
24.	3	1	2	2	0	0	2	3	2	4
25.	5	7	0	6	7	1	5	4	8	5
26.	0	1	2	0	1	0	1	1	1	1
27.	0	0	2	2	2	7	0	2	2	1
28.	2	1	1	4	2	0	2	3	1	0
29.	0	1	0	2	2	4	2	5	0	3
30.	1	3	2	2	2	3	3	3	2	3
Self	3	7	10	2	1	8	2	1	2	1

Remark for appendix 3-G: Due to the length of the dataset, only a part of it is presented here as an example. Each of the columns above refers to the data collected from the respective item of the pupil questionnaire investigating subject difference in learning preference, in-school / out-of-school learning with the use of computers, grouping and gender difference. The questionnaire is presented in Appendix 3-B. This part of the dataset is collected from a primary class. To be compatible with the other data collected from the other primary classes, the data is converted into standardised scores at a later stage.

Key: *b_sex* refers to the information about sex identity.



Developing mental calculation skills through pattern in number in Year 4 with portable computers

The school

The Year 4 class in this example is a part of a suburban primary school. It is located within a former village and most of the pupils come from advantaged backgrounds. In an OFSTED inspection in 1994, it was judged that the majority of pupils were achieving above national expectations.

The teacher

The teacher has been at the school for two and a half years, since he started his teaching career. He has taught Year 5 and Year 4. He has additional responsibility as the school's IT co-ordinator. He enjoys having the freedom to explore and learn himself, and is currently studying part-time for a Masters degree in Education. This is reflected in one of the areas that he acknowledges has supported his development.

"I think that being given sufficient free rein to try things out in my classroom has supported my development, because I can then see what works and doesn't work. I think that the staff here have supported my development, in that they've allowed me to pursue my own interests."

He values support from discussion which he feels helps his analysis and thinking about his teaching.

"People are coming into my classroom, it makes me think more what I'm doing...I can develop my thinking by talking with others."

He also feels that support provided by the LEA had been helpful.

"I think that the courses that have been run within [the] Local Education Authority have supported my development."

The pupils

The pupils come from a relatively advantaged background and there are no pupils on the SEN register in the class. The teacher likes to ensure that each of the pupils achieves to their full potential. The initial baseline test for the project indicated that although the level of arithmetical skills of most of the pupils was good, about one-fifth of the children scored below average on the standardised test. This was the starting point for the development work in the school.



Two pupils using the e-mate

The aim of the project

The main aim of the project was to develop pupils' understanding of the properties of numbers. In particular, this was to support their mental calculation strategies in addition, subtraction, multiplication and division. The pupils were reasonably confident with addition and subtraction mentally up to 20. The teacher wanted to encourage them to use multiplication and division facts more effectively.

The teacher's choices

One of the important factors in this teacher's choice of activity, to teach an understanding of number through ICT, was his firm opinion that activities using ICT should support both subject

specific skills and pupils' IT capability wherever possible.

"I strongly believe that we should use ICT, and we should be saying, 'Where is literacy and numeracy within ICT?', rather than, 'Where is ICT within literacy and numeracy?'"

This reflects his strongly held personal belief and explains many of the choices he makes in his classroom. He therefore prefers to use generic software which has a wide potential application. He explained that:

"There are so many skills in ICT that it needs to be taught in its own right. And unless we teach those skills, they won't be able to use them effectively."

A spreadsheet package was chosen to fit with the teacher's mathematical aims. The software enables the generation of number patterns quickly and easily. It also reduces the chance of making mistakes, particularly cumulative ones, compared with paper and pencil activities. These advantages mean that the teacher can focus the pupils' attention on the pattern, rather than the calculations to achieve the pattern. This takes advantage of the speed and accuracy that ICT offers.

A spreadsheet provided a systematic way of presenting number patterns which the teacher had identified. It was expected that the spreadsheet would simplify the task so that pupils could concentrate on finding out the relationships between numbers. Initially the teacher wanted this to develop an understanding of number patterns. Then, once pupils understood some specific patterns, they could use this knowledge to identify and predict other similar patterns which would involve them in using mental calculation skills more effectively. This would therefore support his teaching of strategies as well as the pupils' ability at calculating.

Portable e-mates were chosen because of some of the particular features this type of portable computer offers. First, it was easy for pupils to use a number of computers in the classroom for specific activities, or for specific sessions at their

tables due to the small size and long battery life. Having a set of six portable computers therefore increased the amount of access the teacher could provide for the pupils. Second, it has a touch-screen and the ability to recognise hand-written input which is easy to use, especially for those who are not good at keyboard skills.

Working with the pupils

The teacher introduced the activity when pupils had a set of results obtained from their practical and mental work on division. The teacher gathered a group of pupils and showed them how to complete a number grid. For example, when checking the result of $32 \div 4 = 8$, the teacher first put 32 on the top left cell of the grid. Then in the cell below, he took away 4 from 32. By repeating the subtraction process, the teacher ended up with a series of numerical operations as below:

32	36	40	44	48	52	56	60
28	32	36	40	44	48	52	56
24	28	32	36	40	44	48	52
20	24	28	32	36	40	44	48
16	20	24	28	32	36	40	44
12	16	20	24	28	32	36	40
8	12	16	20	24	28	32	36
4	8	12	16	20	24	28	32
0	4	8	12	16	20	24	28

Investigating relationships between addition, subtraction, multiplication and division.

The aim of this activity was to develop pupils' understanding of the relationship between division and subtraction and to teach that division is more efficient. Later on in the project, the teacher decided to let pupils choose any number between 1 and 10 as a starting point.

6	8	7	5				
12	16	14	10				
18	24	21	15				
24	32	28	20				
30	40	35	25				
36	48	42	30				
42	56	49	35				
48			40				
54			45				
			50				

Repeated addition from a starting number to reach a target of 50

This was because he wanted to develop pupils' understanding of factors and multiples. The pupils generated a series of numbers in the first column by repeated addition of a number, between 1 to 10. In order to make a good choice pupils had to use their understanding of number patterns. The target was to get 50 or 100. On the basis of the first set of numbers, the higher attaining group was encouraged to generate another set of numbers in the second column. The lower attaining group focused their attention on finding out the numbers that were factors of 50 or 100.

While one group was working with e-Mates, the rest of the class were working on other addition and subtraction tasks. The e-Mate activity was repeated until everybody had completed a number grid using the computer. Grouping pupils on the basis of their attainment meant that the teacher could plan specific activities to support pupils' mental capabilities, and ensure an effective level of challenge for each of the pupils.

Results from the testing

A standardised test was administered twice in the summer term. This was in early June and then in mid July 1998. The mean score on the first test was 49.7 and that on the re-test was 51.4. (the difference was statistically significant at the 0.05 level). As many of the pupils scored near the ceiling of the test, a proper evaluation of the age standardised gains could not be made, though it was possible to evaluate the improvement of the lower attaining pupils which had been the teacher's main intention.

Developing the approach

In the second phase of the project a similar approach was adopted with a few minor changes. The length of time was longer, starting from late September to early December. However, the school was subject to an OFSTED inspection during the term and this delayed some aspects of the project work for a few weeks. In addition to the teacher's direct instruction, a guide was also written for the pupils. The aim of this was to support more independent working

while ensuring that the teacher did not have to respond to questions from pupils about the operation of the portables and software.



The teacher working with the pupils

The teacher again encouraged the pupils to generate a series of numbers in a column as before, as part of a number pattern. One target was to reach 100. Pupils had to add a number between 1 and 10 repeatedly. Then they generated another set of numbers in the next column, using the first column to improve their first attempt.

Pupils' ICT skills

The work with ICT went smoothly, but the teacher noted that he had to adjust what he had planned to take into account the level of pupils' skill at using the software in order to achieve his mathematical objectives.

"I seem to have had more than last year with the e-Mates than I have had this year... the class that I had last year had had some spreadsheet experience. Possibly because of the timing... Whereas this year, we haven't got that far yet... I have to go right back to basics and show them where A1 was and explain why it was set out in such a way and explain what it was used for."

Overall, the choice of hardware and software proved to be highly reliable in terms of their use for the specific aims described above. When asked what difficulties the teacher had encountered he reported, "No, no technical problems at all".

The second term's results

The Basic Number Screening Test (Gillham & Hesse) was administered to the class in late September and in early December. The average (mean) number age on the first test was 11 years and 11 months, and on the second test the mean was 12 years and 4 months. (The difference was statistically significant at the 0.05 level.) The results suggest that pupils had made an average gain of 5 months in just over two months of teaching.

Features of ICT

One of the features of ICT which the teacher found beneficial was the portable nature of the equipment. This enabled him to integrate the activities into mathematics lessons, but still have the group of pupils using ICT working in the classroom at their normal tables. This feature also made it easy to extend the activity to other parts of the lesson.

"They would bring the e-Mates with them on to the carpet for a plenary session and go through the work with the class."

The pupils also benefited from the *provisionality* that a spreadsheet offers in being able to make changes quickly and easily, as well as the *speed and automatic functions* which enabled them to concentrate on identifying patterns that supported the development of their mental strategies.

Summary

This development project provides insights about how to make use of various features of a portable computer, in relation to the teaching and learning of an area of mathematics. Results of the two development phases are consistent and both support the use of computer activities in the classroom, though the gains reported cannot be attributed solely to the ICT. The teacher reported a

range of benefits at the end of the project which he felt were significant. The first of these was the enjoyment by the pupils of the equipment.

"They love them. Absolutely love them. Because it is portable and because they find it very easy to use... the enthusiasm that was created, and when they got to 100, the cries and jubilation was lovely to see. I think that shows in their work, it shows in their enthusiasm."

The teacher also felt that the testing completed as part of the project was beneficial for him, but also did not deter any of the pupils.

"They don't mind particularly being tested. And because it's a different format, they enjoy that. The information that's come back, has also been helpful for me."

He also valued the support he felt being involved in development work had given him as a teacher.

"It's been fascinating from a professional development point of view, talking about how things have worked in the classroom."

Further reading

Mann, W. J. A. & Tall, D. (eds) (1992) Computers in the Mathematics Curriculum, London: The Mathematical Association.

Rouse, C. & Mann, P. (1996) Handling Information, in R. Crompton and P. Mann (eds) IT Across the Primary Curriculum, London: Cassell.

NCET (1990) 'Thinking about Spreadsheets', Number Grids Pack, Coventry: NCET.

Appendix 4-B: Handout for pupils

Type a number (that is 100) in the cell A1 and press the “Return” key. When inputting the value of A2, type “=” and then tap on the cell A1. Type in “+ 10” and press “Return.” The eMate will compute the value of A2 for you (that will be 110).

The next task is to fill the rest of the column (e.g. from A2 to A10) with the same addition rule. You have to select the cell A2 by tapping it with the pen once again. Remember releasing the pen after tapping it. Then tap on the cell again and keep your pen on the cell. When you hear the feedback sound from the computer, drag across the cells in the same column, from A2 to A10. A block of cells will be selected. To do the calculation, you can tap on the “Edit” button and choose “Fill All”.

Appendix 4-C: The maths test results in the first phase of development

	rawscor1	dotest1	rawscor2	dotest2
1	51	05.06.98	.	.
2	33	05.06.98	.	.
3	48	05.06.98	53.00	17.07.98
4	49	05.06.98	56.00	17.07.98
5	54	05.06.98	57.00	17.07.98
6	52	05.06.98	53.00	17.07.98
7	50	05.06.98	55.00	17.07.98
8	55	05.06.98	52.00	17.07.98
9	48	05.06.98	53.00	17.07.98
10	54	05.06.98	54.00	17.07.98
11	54	05.06.98	55.00	17.07.98
12	50	05.06.98	53.00	17.07.98
13	53	05.06.98	58.00	17.07.98
14	46	05.06.98	49.00	17.07.98
15	48	05.06.98	38.00	17.07.98
16	52	05.06.98	52.00	17.07.98
17	51	05.06.98	57.00	17.07.98
18	52	05.06.98	54.00	17.07.98
19	55	05.06.98	58.00	17.07.98
20	31	05.06.98	39.00	17.07.98
21	54	05.06.98	56.00	17.07.98
22	26	05.06.98	30.00	17.07.98
23	54	05.06.98	52.00	17.07.98
24	52	05.06.98	56.00	17.07.98
25	57	05.06.98	58.00	17.07.98
26	38	05.06.98	38.00	17.07.98
27	54	05.06.98	52.00	17.07.98
28	53	05.06.98	44.00	17.07.98
29	52	05.06.98	56.00	17.07.98

Keys: *rawscor1* - refers to the results (raw scores) of the first test in the first development phase, *dotest1* - refers to the date of the first test, *rawscor2* - refers to the results (raw scores) of the second test in the first development phase, *dotest2* - refers to the date of the second test.

Appendix 4-D: The maths test results in the second phase of development



	rawscor3	numage3m	rawscor4	numage4m
1	22.00	129	23.00	132
2	24.00	135	26.00	141
3	15.00	111	20.00	123
4	21.00	126	20.00	123
5	20.00	123	23.00	132
6	16.00	114	20.00	123
7	14.00	108	10.00	99
8	22.00	129	21.00	126
9	21.00	126	22.00	126
10	17.00	114	20.00	123
11	19.00	120	22.00	129
12	.	.	18.00	117
13	16.00	114	19.00	120
14	22.00	129	25.00	138
15	20.00	123	25.00	138
16	19.00	120	23.00	132
17	19.00	120	22.00	129
18	15.00	111	18.00	117
19	20.00	123	25.00	138
20	24.00	135	20.00	123
21	15.00	111	17.00	114
22	16.00	114	14.00	108
23	16.00	114	18.00	117
24	20.00	123	24.00	135
25	19.00	120	22.00	129
26	12.00	102	17.00	114
27	10.00	99	15.00	111
28	23.00	132	23.00	132
29	14.00	108	20.00	123
30	16.00	114	10.00	99



Keys: *rawscor3* - refers to the results (raw scores) of the first test in the second development phase, *numage3m* - refers to the number age equivalent (in months) to the results of the first test in the second development phase, *rawscor4* - refers to the results (raw scores) of the second test in the second development phase, *numage4m* - refers to the number age equivalent (in months) to the results of the second test in the second development phase.

Appendix 5-A: Instruction sheet for dictation task (Chapter 6 section 6-3)

How to:

1) Start the dictation work with TextEase

Double Click . Then choose  and .

Double click the folder  that has your name. Then double click the file  that you need.

2) Work on the dictation passage. Put on the headphone:


a. Double click on the first  box:

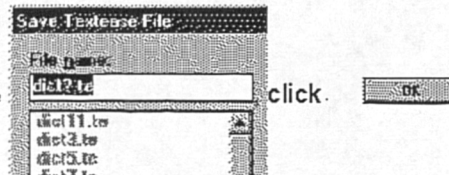
b. When you see  click the  to see and hear it.

Click just above the line and type the sentence.


If you need help, click on the box again.

3) SAVE your work.

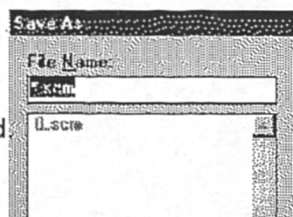
a. Click . When you see





click.

b. Then click the top right  box to close this screen.

c. Click the  box. Then choose



d.  type in the file name that Tracy gave you and click .

Appendix 5-B: The reading test results for the first phase of development

	rawscor1	readage1	rawscor2	readage2
1	26	119	16.00	86
2	17	91	24.00	112
3	.	.	1.00	56
4	12	72	6.00	56
5	8	56	7.00	56
6	31	138	33.00	147
7	26	119	24.00	112
8	17	91	28.00	128
9	24	112	21.00	104
10	16	86	16.00	86
11	29	128	26.00	119
12	20	100	6.00	56
13	20	100	21.00	104
14	3	56	1.00	56
15	.	.	1.00	56
16	17	91	11.00	61
17	.	.	5.00	56
18	.	.	7.00	56

Keys: *rawscor1* - refers to results (raw scores) of the first reading test, *readage1* - refers to the reading age equivalent (in months) to the results of the first reading test, *rawscor2* - refers to results (raw scores) of the second reading test and *readage2* - refers to the reading age equivalent (in months) to the results of the second reading test.

Appendix 5-C: The reading test results for the second phase of development

	rawscor4	readage4	rawscor3	readage3
1	24.00	112	21.00	104
2	13.00	77	6.00	60
3	7.00	61	3.00	60
4	.	.	24.00	112
5	.	.	23.00	112
6	25.00	115	13.00	77
7	.	.	24.00	112
8	29.00	128	28.00	128
9	11.00	65	11.00	65
10	15.00	81	17.00	91
11	20.00	100	16.00	86
12	29.00	128	16.00	86
13	23.00	112	13.00	77
14	14.00	77	14.00	77
15	29.00	128	18.00	95
16	16.00	86	.	.
17	11.00	65	13.00	77
18	11.00	65	9.00	60

Keys: *rawscor3* - refers to results (raw scores) of the first reading test, *readage3* - refers to the reading age equivalent (in months) to the results of the first reading test, *rawscor4* - refers to results (raw scores) of the second reading test and *readage4* - refers to the reading age equivalent (in months) to the results of the second reading test.

Appendix 5-D: The spelling test results for the second phase of development

	sp_scor4	sp_sa4m	sp_scor3	sp_sa3m
1	16	91	13	87
2	12	85	7	77
3	13	87	9	79
4		.	25	108
5		.	37	132
6	15	89		.
7		.	7	77
8	34	125	33	123
9	13	87	13	87
10	16	91	10	81
11	30	111	21	100
12	19	97	15	89
13	24	104	28	112
14	34	125	30	116
15	17	92	19	97
16	15	89	21	100
17	11	84	8	78
18	8	78	9	79

Keys: *sp_scor3* - refers to results (raw scores) of the first spelling test, *sp_sa3m* - refers to the spelling age equivalence of the results of the first spelling test, *sp_scor4* - refers to results (raw scores) of the second spelling test and *sp_sa4m* - refers to the spelling age equivalence of the results of the second spelling test.

Appendix 5-E: Analysis of the results of the writing tasks in the second phase

	wdcount4	spellp4	qmark74	wdcount3	spellp3	qmark73
1	90.00	14.44	4.00	.	.	.
2	29.00	37.93	4.00	23.00	26.10	2.00
3	15.00	20.00	1.00	.	.	.
4	.	.	.	.	.	.
5	.	.	.	111.00	9.00	5.00
6	107.00	7.48	4.00	91.00	3.30	6.00
7	.	.	.	49.00	34.70	2.00
8	.	.	.	71.00	5.63	4.00
9	76.00	9.21	5.00	76.00	26.30	3.00
10	95.00	17.89	4.00	58.00	27.60	4.00
11	55.00	5.45	4.00	.	.	.
12	.	.	.	.	.	.
13	41.00	2.44	3.00	108.00	5.60	5.00
14	109.00	6.42	4.00	108.00	6.50	4.00
15	95.00	22.11	5.00	79.00	27.80	3.00
16	58.00	8.62	4.00	.	.	.
17	67.00	13.43	4.00	51.00	23.50	3.00
18	41.00	12.20	3.00	36.00	13.90	4.00

Keys: *wdcount3* - refers to the number of words in the first writing sample, *spellp3* - refers to the percentage of spelling mistakes in the first writing sample, *qmark73* - refers to the marks awarded for the content of the first writing sample, *wdcount4* - refers to the number of words in the second writing sample, *spellp4* - refers to the percentage of spelling mistakes in the second writing sample, *qmark74* - refers to the marks awarded for the content of the second writing sample.

Appendix 5-F: Writing tasks marking criteria

The writing task

The task that we used to assess aspects of free writing was adapted from the Free Writing Scales developed by Hunter-Grundin and Hunter-Grundin (1980). Children were given 10 minutes to write a story on the topic 'On My Way to School'. They were asked to write about *things you see*, *things that happen* and *things that might happen* and were asked to try to finish their stories within the time available. They were advised not to spend time checking spellings and teachers were not allowed to supply spellings. At the end they read their stories to a neighbour and wrote down at least one thing that this neighbour liked about the story.

The writing samples were assessed for 'quality' (using a seven-point making scale), fluency (number of words written) and for spelling accuracy (percentage of words spelled correctly). The 'quality' criteria were based on the coherence and completeness of the story, as well as on the treatment of character, setting and ending.

'Quality' criteria for writing task

A maximum of 7 marks to be given as follows:

- 1 point for any description or additional information given about a character beyond basic identification.
- 1 point for any description or additional information given about a place beyond just naming it.
- 1 point given for each *further* action or description in the passage up to a maximum of 2 points. These may be given for two actions, two descriptions or one of each.
- 1 point for evidence that the child has reached an ending.
- 1 point for a convincing conclusion, whether through showing feeling, detail or simply resolving the story in a pleasing way.
- 1 point awarded for overall coherence. This point should not be awarded if the writing contains any important omissions, contradictions or confusion.

The following are counted as spelling errors (apart from the obvious ones): insertion or omission of possessive apostrophes (e.g. it's for its), omission, insertion or misplacing of contraction marker (e.g. don't for don't) and splits (writing two words as one or one word as two - e.g. alot for a lot).

Reference

Hunter-Grundin, E. and Hunter-Grundin, H.U. (1980). The Hunter-Grundin Literacy Profiles. High Wycombe, The Test Agency.

Appendix 5-G: Some examples of pupil writing samples and data processing

P09 1/12/98 (Mark: 5)

I get up out of bed and haver my Breackfast. Then I get rede for school and I get my tablet. I read my book then my mum writes in my red book. Then I get my sister out of bed to go to school. Then she walk to school wihth me and I see cars and buss. And I see boys and gils on my way to school. Then I play football in the yord.

I get up out of bed and have[haver] my breakfast[Breackfast]. Then I get ready[rede] for school and I get my tablet. I read my book then my mum writes in my red book. Then I get my sister out of bed to go to school. Then she walk to school with[wihth] me and I see cars and buses[buss]. And I see boys and girls[gils] on my way to school. Then I play football in the yard[yord].

P13 1/12/98 (Mark: 3)

I Left my house and turned Left out of my gate. And passed the co-op and walked straight on to the traffic lights. I past the post office and a few houses and I am at school. And past Broadway road.

I left my house and turned left out of my gate and passed the co-op and walked straight on to the traffic lights. I passed[past] the post office and a few houses and I am at school and past Broadway Road.

P03 1/12/98 (Mark: 1)

I go fourwad and turn rite so i can see the dog den turn left

I go forward[fourwad] and turn right[rite] so I can see the dog then[den] turn left.

Appendix 5-H: An example of the notes taken during classroom observation

Observation Notes taken on 19 November, 1998

The lesson observed today is fairly interesting. I think it is a very good lesson, especially when working with children with special needs.

Dictation exercise 10 was used. I think the teacher finished the dictation on Monday, as it was scheduled. She intend to check the answers of the dictation passage and expand on the phomenic structure of words. She asked children to think of words on the basis of the vocabularies in the dictation passages. For instance:

stand, band, land (they all ends with “and”)

stock, clock, block, dock, sock, flock, frock (all ends with “ck”)

side, slide, ride, bride

sank, Frank, tank, plank, blank.

tramp, damp, cramp, stamp, clamp

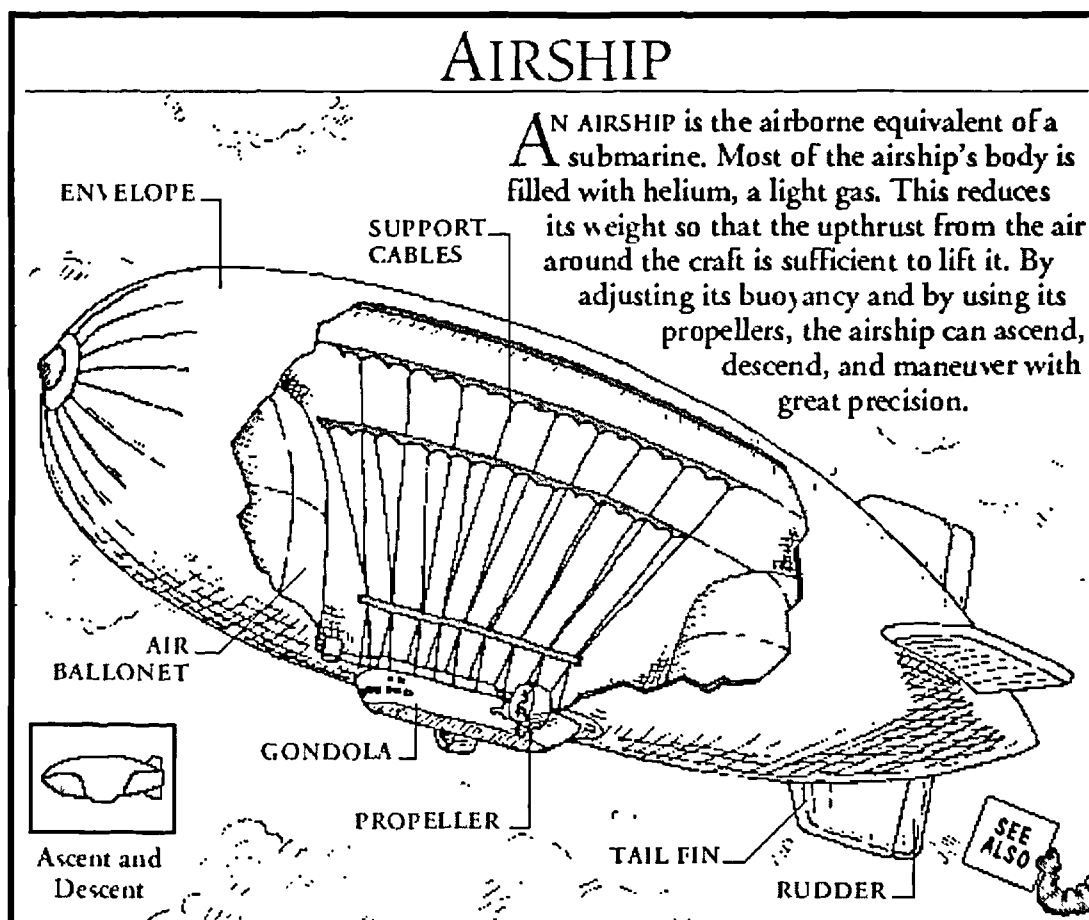
pink, ink, link, wring, drink, shrink

Remark: This is one of the personal (open-ended) notes taken by the researcher during classroom observations. The content of the formal/structured classroom observation is mainly restricted by the observation protocol in Appendix 1.

AIRSHIPS

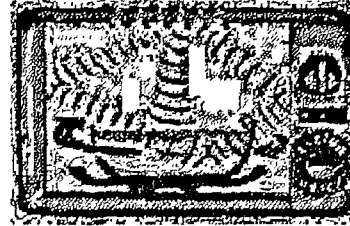
The largest airship was the German Graf Zeppelin, which was used in the war to spy on Britain. She was 245m (804ft) long and weighed over 210 tonnes (tons). Today balloons, called radiosondes, and airships are used mainly for pleasure. Unmanned weather balloons are sent high into the atmosphere to measure climate changes.

Passage 1 from software application W



MICROWAVE OVENS

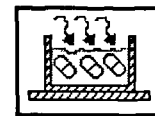
The microwave oven works by shining microwaves onto the food.



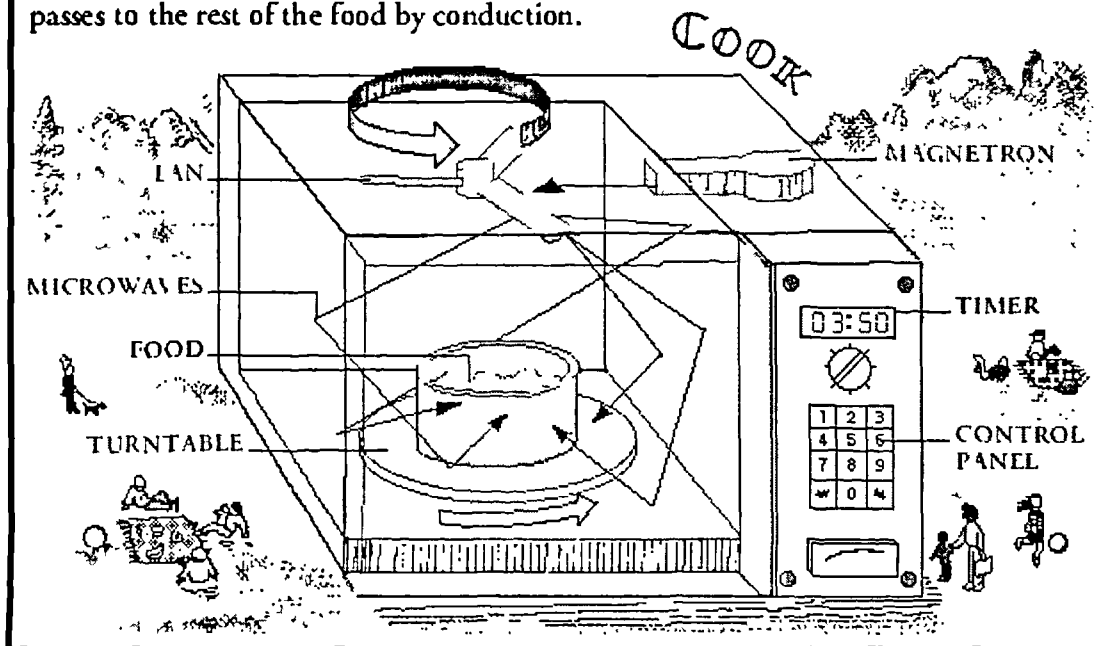
The waves are made by a magnetron, and their effect is to shake molecules in liquid parts of the food, making them vibrate and warm up. The more liquid, the faster the cooking.

MICROWAVE OVEN

A MICROWAVE OVEN cooks food in a fraction of the time it would take in a conventional oven. Microwaves, produced by a magnetron, penetrate the food, transferring heat to the water molecules in it by radiation. Heat then passes to the rest of the food by conduction.



How It Works



Appendix 6-B: Instruction sheet for the pupils

What do I have to do?

1. Find your partner and you have 20 minutes to explore on these two computer software.
2. Please follow the instruction sheet and work on ONE of these two topics below:
 - a) Airship on (P.22 of “How It Works” and P.112 of “The Way Things Work”)
 - b) Microwave Ovens (P.47 of “How It Works” and P.152 of “The Way Things Work”)
3. Then read these two books for about 10 minutes.
4. Make sure you answer the question sheet and give it to Abigail Simpson.
5. Write down the date and put a ✓ on the topic(s) that you have finished in the table below.

Thank you very much.

Appendix 6-C: Open ended questions

Date: ____/____, 1998

Name: _____

*Please answer ALL the questions below about the two books on the computer.
Use **H** for the software "How It Works" and **W** for "The Way Things Work".*

1. Which software do you prefer, H or W? Why?
2. Which software encourages you to read more? Why?
3. Which software presentation is easier to read? Why?
4. Which software is easier to use? Why?
5. Please write about your feeling when working with your partner.
6. Do you think you will behave differently if you have a different partner? (e.g. a pair of 2 boys, 2 girls or 1 boy & 1 girl)
7. When working on the two computer software, do you prefer to work alone or in pair? What are the major differences?
8. Here are two choices for you:
 - a. read the book
 - b. work on the book on the computer and then read the book.Which do you prefer? Why?
9. Please write here about any other comments on the two software. (e.g. more control on your learning, more interactive, ...etc.)

Appendix 6-D: Pupil Questionnaire concerning interactivity, cognitive, affective and emotional outcomes of the two software applications

In this questionnaire, we shall use **H** to stand for the software 'How it works' and **W** to stand for 'The way things work'.

Part A: Recalling features of the software

Put a tick "✓" in the box to indicate that this is a feature of the software that the other one does not have.

Features (Computer jargon):

Example It is stored on a compact disc (CD).

1. The computer software reads the presented text aloud (Text-to-speech support).
2. It allows search for further information about some sub-topics (Hyperlink).
3. The software also has motion pictures (Animation).

H	W
	✓

Part B: Your opinion about the two computer software

Please indicate your response to each of the statements about the two computer software in the TWO respective boxes. The numbers below stand for your response:

- 0 - This statement is *definitely not true* about the software.
 1 - This statement *does not seem to be true* about the software.
 2 - *Only to be used when you don't know or it is not possible to give an answer.*
 3 - This statement *seems to be true* about the software.
 4 - This statement is *definitely true* about the software.

The example below shows that it is *definitely true* that the software 'The way things work' *requires a CD-ROM* and the software 'How it works' doesn't.

Example This software required a CD-ROM.

- Statement 1. This is the type of software that I like.
- Statement 2. The reading text of this software was difficult for me.
- Statement 3. The use of this software required reasonable computer operation skills.
- Statement 4. I paid full attention when I worked on this software.
- Statement 5. This software gave me a lot of chances to produce responses.
- Statement 6. This software helped me to understand about the presented topic(s).
- Statement 7. I was quite happy when I worked on this software.
- Statement 8. When I worked on this software, I read better than I usually did.
- Statement 9. This software was easy to use.
- Statement 10. I paid a lot of attention on the text presented by this software.
- Statement 11. This software gave me quick responses.
- Statement 12. This software helped me to think about the presented topic(s).
- Statement 13. This software was interesting to me.

H	W
0	4

Appendix 6-E: Data collected from pupil questionnaire concerning interactivity, cognitive, affective and emotional outcomes of the two software applications

	e_01h	e_01w	e_02h	e_02w	e_03h	e_03w	e_04h	e_04w
1	0	4	2	3	3	3	4	4
2	0	3	0	0	0	4	4	4
3	0	4	4	0	4	0	2	4
4	0	4	1	1	0	0	0	4
5	2	3	0	1	3	2	3	4
6	1	3	0	0	2	2	3	3
7	0	4	1	0	3	1	3	3
8	0	4	0	0	3	1	3	3
9	1	3	1	3	2	2	3	3
10	2	2	3	2	1	1	4	4
11	0	3	0	0	0	4	4	4
12	0	4	0	0	0	0	4	4
13	2	4	0	3	0	0	4	4
14	2	4	3	1	2	3	3	4
15	0	4	2	2	0	4	0	3
16	0	4	2	0	3	0	1	4
17	0	3	0	0	3	2	0	4
18	2	4	2	0	4	0	0	4
19	0	4	0	0	3	0	4	4
20	3	4	4	2	0	0	3	3
21	2	4	3	1	3	3	4	4
22	0	4	4	0	2	0	1	3
23	0	4	0	0	0	0	2	4
24	0	4	0	0	1	0	3	4
25	1	4	1	0	0	0	2	4
26	2	4	2	2	0	4	0	4
27	0	4	0	0	0	0	4	4
28	2	4	0	4	0	4	4	0
29	0	4	0	0	1	0	1	4
30	0	4	2	2	0	0	0	1

	e_05h	e_05w	e_06h	e_06w	e_07h	e_07w	e_08h	e_08w
1	1	4	4	4	0	3	3	2
2	0	0	3	3	0	4	0	4
3	0	3	0	4	0	4	0	4
4	3	4	0	2	0	4	2	3
5	2	3	4	4	3	4	0	2
6	0	1	4	4	4	4	3	3
7	2	2	4	4	1	4	1	1
8	3	3	4	4	1	4	1	3
9	0	1	4	4	4	4	2	2
10	4	4	4	2	4	4	4	4
11	0	0	3	3	0	4	0	4
12	0	4	3	3	0	4	0	0
13	0	2	0	0	0	4	3	4
14	4	0	1	1	3	4	0	0
15	0	2	0	0	0	4	0	0
16	1	4	0	3	0	4	1	2
17	1	3	0	4	0	4	0	2
18	0	0	0	4	0	4	3	0
19	0	4	4	4	3	4	4	4
20	3	2	3	4	4	4	2	2
21	0	3	4	4	4	4	3	3
22	1	3	0	4	1	3	1	4
23	1	4	3	4	3	4	2	4
24	0	4	4	4	1	4	3	4
25	1	4	2	4	1	3	2	3
26	0	4	4	0	0	3	0	0
27	0	4	3	4	3	4	4	4
28	3	4	4	4	4	0	0	0
29	0	4	3	4	1	4	0	4
30	0	2	0	0	1	1	0	1

	e_09h	e_09w	e_10h	e_10w	e_11h	e_11w	e_12h	e_12w
1	4	4	3	3	4	4	3	4
2	1	4	0	4	0	0	0	3
3	0	4	3	4	1	4	2	4
4	3	4	0	0	1	4	0	0
5	3	4	3	3	4	4	3	2
6	4	4	3	4	4	4	3	3
7	3	4	3	4	4	4	3	3
8	3	3	3	4	3	3	4	4
9	2	3	3	3	1	1	2	2
10	4	4	3	4	4	4	3	3
11	4	4	3	4	3	2	2	4
12	3	4	0	3	3	3	0	4
13	3	4	0	0	4	4	3	3
14	3	4	1	1	1	3	1	1
15	4	4	0	2	0	3	0	0
16	0	4	2	3	1	4	0	3
17	0	4	0	1	0	2	0	3
18	0	4	0	4	0	4	0	4
19	4	4	4	4	4	2	4	4
20	3	3	4	3	2	2	2	2
21	4	4	3	4	1	1	4	4
22	4	4	1	3	1	4	0	4
23	4	4	1	4	3	4	2	4
24	3	4	1	4	3	4	1	4
25	2	4	1	4	1	4	2	3
26	0	4	0	0	0	4	0	0
27	4	4	3	4	4	4	4	4
28	1	4	0	4	4	0	0	4
29	0	4	0	4	2	4	.	4
30	4	4	1	2	2	3	0	0

	e_13h	e_13w	e_14h	e_14w	e_15h	e_15w	e_16h	e_16w
1	2	4	1	4	2	2	0	4
2	0	4	0	0	0	0	0	3
3	1	4	1	4	4	0	0	4
4	0	4	0	2	0	0	0	4
5	4	4	2	1	1	2	0	4
6	4	4	4	1	2	2	2	4
7	1	4	1	3	3	1	0	3
8	1	4	3	3	1	1	0	3
9	1	4	4	1	2	2	2	4
10	4	4	3	3	4	4	3	3
11	2	4	0	0	0	0	0	3
12	0	4	0	0	0	0	0	4
13	1	4	0	0	0	0	0	4
14	2	3	4	1	2	2	1	4
15	0	0	0	4	0	0	0	3
16	1	4	2	3	2	0	0	4
17	0	4	0	0	3	0	0	4
18	0	4	0	0	0	0	0	4
19	1	4	4	4	0	0	2	4
20	4	4	3	2	0	0	2	2
21	4	4	3	2	3	3	0	4
22	0	4	0	0	0	0	0	4
23	0	4	2	2	0	0	2	4
24	0	4	0	3	2	0	0	4
25	1	4	2	3	1	0	0	4
26	0	4	3	3	0	0	0	4
27	0	4	2	4	3	4	0	4
28	0	4	0	0	4	4	0	4
29	1	4	2	2	1	0	2	4
30	0	0	1	1	0	0	0	3

	e_17h	e_17w	e_18h	e_18w	e_19h	e_19w	e_20h	e_20w
1	0	0	3	4	0	0	2	3
2	0	3	0	0	0	0	0	3
3	0	4	0	4	4	0	0	4
4	4	4	0	0	4	0	0	4
5	1	2	2	3	0	0	2	2
6	0	1	2	2	1	1	3	3
7	2	2	3	3	1	1	1	1
8	1	4	0	3	2	2	1	3
9	0	1	1	1	2	2	2	2
10	4	4	3	3	4	4	3	3
11	4	3	0	0	0	0	0	3
12	0	3	0	3	0	0	0	4
13	0	0	1	1	0	0	0	0
14	2	2	0	1	2	2	1	1
15	0	2	0	0	4	4	0	2
16	0	3	1	3	3	0	1	2
17	1	4	0	4	0	0	0	4
18	4	0	0	4	0	0	0	0
19	0	0	0	2	0	0	0	4
20	2	2	4	4	2	2	0	0
21	3	3	4	4	0	0	4	4
22	4	0	0	4	0	0	0	4
23	2	4	0	0	0	0	0	4
24	4	4	0	4	4	0	2	4
25	1	4	2	4	0	0	1	4
26	4	0	0	0	4	0	0	0
27	2	4	0	4	2	0	2	4
28	0	4	4	0	0	0	0	0
29	0	4	3	4	4	0	0	4
30	2	2	0	0	0	0	0	0

	e_21h	e_21w	e_22h	e_22w	e_23h	e_23w	e_24h	e_24w
1	0	0	4	4	3	3	0	0
2	4	4	0	1	4	4	0	0
3	4	0	0	4	0	4	0	4
4	3	0	0	4	3	0	0	0
5	0	1	4	4	3	2	1	1
6	2	2	2	2	2	3	1	1
7	3	1	1	1	2	2	1	1
8	0	0	3	1	1	0	1	1
9	3	1	2	2	2	3	1	1
10	4	4	3	3	2	2	1	1
11	4	4	1	4	0	4	0	3
12	4	0	3	4	0	4	0	3
13	4	4	0	1	4	4	0	0
14	4	0	1	3	2	2	0	0
15	0	0	0	2	2	4	0	0
16	3	0	2	4	2	0	2	4
17	4	0	0	4	4	0	0	0
18	4	0	0	4	0	4	0	0
19	0	0	0	4	0	0	2	2
20	0	0	4	0	2	2	0	0
21	4	0	3	3	2	2	4	4
22	4	0	1	4	4	0	0	0
23	2	0	2	4	3	0	0	0
24	4	0	3	2	4	1	0	4
25	2	0	2	4	3	0	1	3
26	4	0	0	4	0	4	0	0
27	2	0	3	4	4	0	2	4
28	4	0	0	4	0	4	0	4
29	2	0	0	4	4	0	0	0
30	1	1	0	3	0	0	0	0

	e_25h	e_25w	e_26h	e_26w	e_27h	e_27w	e_28h	e_28w
1	3	4	4	4	4	4	0	0
2	0	0	0	4	0	4	4	0
3	2	4	0	4	0	4	4	0
4	3	4	4	4	3	4	0	0
5	3	4	4	4	3	4	0	1
6	2	2	4	4	2	2	1	1
7	1	1	4	4	3	3	1	1
8	1	1	4	4	1	4	0	0
9	2	2	2	2	2	2	3	3
10	4	4	3	3	4	4	3	3
11	0	0	2	4	0	4	0	0
12	0	0	4	4	0	4	0	0
13	0	0	1	4	1	4	0	0
14	0	0	2	4	1	3	0	0
15	0	0	4	4	0	3	0	0
16	1	2	4	4	1	4	0	0
17	0	4	4	4	0	4	2	0
18	0	4	0	4	0	4	0	0
19	2	4	2	4	4	4	4	0
20	2	2	1	1	4	4	0	0
21	0	3	3	4	4	4	0	0
22	0	4	4	4	0	4	0	0
23	2	4	4	4	2	4	0	0
24	0	3	4	4	0	3	0	0
25	2	3	4	4	3	4	0	0
26	0	0	0	4	0	4	4	0
27	2	4	4	4	2	4	0	0
28	0	0	0	0	4	4	4	4
29	0	4	2	4	1	4	4	0
30	0	0	4	4	0	4	0	0

	e_29h	e_29w	e_30h	e_30w	e_31h	e_31w
1	4	0	2	3	0	0
2	0	4	0	0	4	0
3	0	4	0	4	4	0
4	0	3	3	3	4	4
5	4	4	3	3	0	0
6	3	3	1	1	2	2
7	3	3	2	3	0	0
8	4	4	1	4	3	1
9	2	2	1	1	2	2
10	4	4	2	2	1	1
11	0	4	0	2	1	2
12	0	4	0	3	3	0
13	2	2	4	0	4	0
14	0	1	0	1	3	1
15	0	2	0	0	3	2
16	2	4	1	4	4	0
17	0	4	0	4	4	2
18	4	0	0	0	4	0
19	0	4	0	4	2	4
20	4	0	2	2	2	2
21	4	3	2	2	3	3
22	3	0	2	2	4	3
23	2	2	3	4	3	0
24	4	0	1	4	0	3
25	0	4	2	4	3	0
26	0	0	0	4	0	4
27	3	4	1	4	4	0
28	0	4	0	0	4	0
29	1	1	3	4	3	0
30	2	2	0	0	4	4

Remark/Keys:

The number in the first box in each of the above columns refers to the corresponding questionnaire statement, as presented in Appendix 6-D. The number is followed by an "h" or a "w", which refers to response to software application "How it works" and "The way things work", respectively.

Appendix 6-F: The reading test results in the development phase

	r_raw1	r_raw2	r_ra_m1	r_ra_m2
1	24	29	97	116
2	41	45	153	171
3	41	47	153	185
4	50	52	199	199
5	46	44	181	167
6	25	38	102	144
7	52	51	199	199
8	46	42	181	158
9	24	35	97	134
10	19	40	84	149
11	18	36	79	137
12	39	43	149	162
13	40	45	149	171
14	29	32	116	125
15	.	36	.	137
16	47	37	185	140
17	24	32	97	125
18	43	52	162	199
19	40	35	149	134
20	39	36	149	137
21	26	32	107	125
22	15	11	70	61
23	48	47	190	185
24	47	50	185	199
25	41	46	153	181
26	34	39	134	149
27	9	27	61	111
28	37	43	140	162
29	17	14	75	66
30	49	51	199	199
31	42	44	158	167

Keys: *r_raw1* - refers to the results (raw scores) of the first test, *r_ra_m1* - refers to the reading age equivalent (in months) to the results of the first test, *r_raw2* - refers to the results (raw scores) of the second test, *r_ra_m2* - refers to the number age equivalent (in months) to the results of the second test.

Appendix 7-A: Published report related to the case study
(Chapter 6 section 6-5)
(Source: Moseley et. al., 1999, page 62-64)



Developing writing skills in Years 3 and 4 with palmtop computers

The school

The school is a large first school with over 350 pupils aged 3-9 serving the western edge of a large northern city. It is a very popular school with over a third of the intake coming from outside the immediate area. One fifth of the pupils are eligible for free school meals and a similar number live in one-parent families.

The teacher

The teacher had been teaching for four years at the school and has recently been elected to the governing body. Observations and explorations of his thinking about teaching showed that he favoured a structured approach to teaching and learning which involved learning by discussion and pupil enquiry so as to ensure active learning of subjects. He has a positive view of ICT and is very keen to incorporate it into his literacy teaching. He had received some training in the use of ICT (two short LEA courses) but most of it is self taught. He thinks that ICT is important, but not as important as a teacher and effective interaction with children. In other words, ICT can be an effective learning tool but it will not replace good pedagogy. For example, he believed that the word processor will not by itself teach the redrafting process, but it will facilitate the teaching of this writing skill. He gave this example of how he liked to use a computer.

"I wrote out a poem and then a couple of the pupils for revision, just for twenty minutes, went through it putting in full stops, capital letters, speech marks. They liked that because, it didn't involve copying work out. It was effective in terms of time, and at the end they could show it, and read it to the class."

He considers that working closely with colleagues has been an important part of his development.

"We've got a very good staff here. From the start I've been able to see their practice and plan together with them. I think planning with other teachers, on a weekly basis, is probably the most important factor."

The pupils

These are Y3 pupils. There are 24 in the class with a good spread of ability as measured by standardised reading and mathematics tests. No pupils are on the special needs register. Although over a third of the pupils had computers at home, the idea of being involved in the project in using the palmtops at school and at home generated a lot of interest amongst pupils and parents.

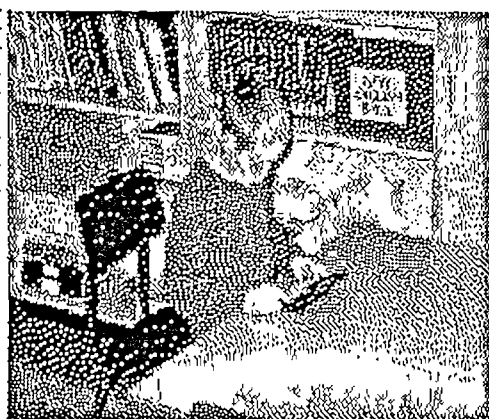
The aim of the project

The main focus of the project was to study the influence of the palmtops on the pupils' writing behaviour, particularly with regard to the revising and redrafting of their work. The teacher used ten palmtop computers (Acorn Pocketbooks) with different groups of children giving them greater access to a word processor and enabling them to complete work at home.

The teacher's choices

The teacher's use of the palmtops meant that a large number of computers were available for use with the class. Having been shown how to use the mini-computers the pupils were very keen to use them as writing tools. The teacher found them to be very valuable tool for teaching children about the redrafting

process and the use of the spell checker and thesaurus. He thought they increased motivation to write, revise and redraft written work across a range of ability. He also believed that they were particularly valuable for short, non-narrative texts such as note-taking and note-making and for poetry writing and could be effectively integrated into the literacy hour. This got around the limitations of the small screen which seemed to interfere with the coherence of longer pieces of writing, such as narratives, because of the need to scroll through the text.



One of the pupils in the project using a palmtop computer.

How the teacher developed the project

Children's lack of familiarity with the keyboard and word processing software, can seriously limit the value of word processing for revising and redrafting texts. It was therefore decided in the initial stages of the project to offer a fair amount of training and practice in the use of the palmtops. Teaching was therefore provided in the basics of managing the palmtops and for regular, planned typing tutoring to help the pupils become quicker at entering text on the keyboard.

In the previous year, the teacher had worked with his Year 4 class for one term on the palmtops. From this experience, he found that learning to manage palmtops took time and a lot of planning and preparation were needed.

For example, strategies had to be developed for managing the class in order to download, edit and print work and to ensure equity in their use. With so many computers and without proper management, work could be easily lost, and the technology sometimes failed, which led to frustration for all concerned. Security was also an issue because of the computers going home and contracts between children, parents and the school were drawn up resulting in no losses of equipment.

Once the basic training had been provided, the children worked on various tasks involving poetry writing, note-taking and note-making, and weekly news items which were displayed on a notice board. This was as part of their work on writing composition for the term. As the project unfolded, the teacher became more aware of the benefits of using the palmtops because of the increased motivation to write, revise and redraft amongst the children, and because of the involvement of parents and carers. Because the palmtops were taken home, parents and carers became involved in the written work to extend the child's ability to use written language, thereby raising awareness of literacy issues in children's lives and increasing informal contact between home and school.

Apart from the increase in motivation to write, the teacher also noticed gains in the quality of the writing the children produced. He believed the printouts and publication of the children's writing added to the quality by emphasising the communicative nature of writing to the children. This developed their sense of audience and the purpose for which the writing was to be used.

Results from the testing

A standardised reading test and writing task was given to the children before and after the ICT project with the palmtops. On retesting, the pupils showed very large gains on their reading comprehension scores. For example, a girl who was an avid reader of books moved from a score of 12.8 to 15.6.

The writing task also showed marked improvements: there was a highly significant increase in the amount written in 10 minutes from a mean of 60 words at pre-test to 74 words at post-test, while spelling, content and story structure also improved. Obviously it is not possible to attribute the improvement specifically to the ICT activities, particularly as the teacher used the ICT activities as part of the literacy hour and in other timetabled slots as part of an extended writing activity. However, the results suggest that carefully planned and structured ICT activities can play an important role in improving pupils' writing and reading skills.

Developing the approach

When the pupils were observed and questioned about their writing behaviour, most said it was easier to plan a piece of writing and write a first draft by hand; the draft was then typed into the palmtop and printouts taken for review. The pupils' preference for revising on hard copy seemed to be because they found the text display too small. It was difficult to see the overall shape of the evolving text, to locate information or detect errors on the screen. There also appeared to be more critical evaluations being made of the written work away from the screen. In contrast to this, the use of the palmtops was mainly confined to editing the text to arrive at a more polished version.

From the project, it seems that palmtops are more useful at certain stages in the writing process than at others. They appear to facilitate revising, redrafting and editing, but do not appear to help in the composing and reviewing stages of the writing process. It would seem that the planning and initial drafting of a piece of work are best done by hand, at least until pupils are competent in keyboard skills. The draft can then be word processed on a palmtop ready for reviewing, revising, editing and publishing. Once pupils start to use a palmtop, they will quickly see its value for revising because of the ease with which a text can be manipulated. However, redrafting is a skill that has to

be taught and the palmtop can aid this process.

For the teacher one of the limitations he has identified in developing his own skills is access to computers.

"I don't have a computer at home. If I did, I would probably be always doing something on it. I think that is part of the problem. The only time I've got to use a computer is in school and to actually sit down and spend more than half an hour is difficult."

Summary

The palmtops proved especially useful for producing a notice board of weekly news. Articles were produced covering a variety of topics and the palmtops allowed more time for the pupils to concentrate on reorganising, revising and editing. The printing and publication of the weekly news on the notice board gave the writing a wider audience and added to the motivation to write. It particularly motivated the less able and those with presentation problems.

The availability of the palmtops in the classroom instead of a specialist network room allowed for more flexibility and pupil choice and control over when and how to use them. Personal choice is a very important issue, as there are times for some pupils when they would rather not use the word processing facility. By making palmtops available to the pupils, alongside pen and paper, it is possible to increase their choice and control of writing tools and, ultimately, their skills as writers.

Further Reading

Lewis, J. (1997) 'IT & Literacy: It's not a Toy', Primary English, June/July 1997.

Potter, F. (1994) 'Word processors, redrafting and the niche of the laptop', in D. and J. Medwell Teaching Primary English, London: Routledge.

Appendix 7-B: Handout about using PSION

General revision of some essential skills in using PSION

1. Turn on the PSION

You can do so by pressing U + **Esc**.

2. Choosing the right file

In the system menu, press **Word** and then choose the file (e.g. the weekly news file that bears your name or the note file as your daily memo) that you are going to use with the help of ↓ and/or ↑ keys. Press **Enter**↵ to tell the computer about your decision. (If the menu is not system menu, press **Esc** to go out. Alternatively, if you are inside a working computer application, press U + **S** to save the work and press U + **X** to go back to system menu. Then repeat procedure 2 again.)

3. Drafting the document

You can type in your work. You may need to use a combination of ← → and/or **Delete** key(s) to erase things.

4. Editing with spell checking

Step 1 - Press U + **U**

Step 2 - Choose checking the **Document** (or **Word**).

Step 3 - Referring to the “strange” word highlighted by the computer, press either:

- **S** if you are sure that the word was spelled correctly e.g. you are sure that your name was spelled correctly although it was strange to the computer, or
- **C** to look at the suggested word list to help your correction. You have to use the ↓, ↑ and/or the **Enter**↵ key(s) to choose the right word.

[Press **Esc** at various steps if you want to stop and go back to your working document]

***Your learning task:** Spell checking is one of the features that computers may help you to improve on literacy. Please make use of this feature when you work on your weekly news.*

5. SAVE your work

When the work is finished, press U + **S** to save your work and U + **X** to go back to system menu.

Appendix 7-C: Instruction sheet for pupils

What do I have to do?

1. Write short note during literacy lesson and the rest of the day (with and without computer) as a part of the personal diary every day.

For example:

- 7 Oct
 - 8:30 go to school
 - 9:00 my partner helped me with Maths
 - 3:00 the TV program is good
2. Fill in the *Logbook* everyday, preferably before bedtime.
 3. Finish a written assignment at the end of each working week. It lasts for two weeks. The proposed topic is:
"Describe an event that interested you most in this week."

Appendix 7-D: Schedule for using PSION

Arrangements of using pocket books in Westerhope Year 3 Class

Week (Wed - Tues)	Logbook + Notes and Weekly News (on PSION)	Logbook + Notes and Weekly News (on paper)	Remarks
30/9/98 - 6/10/98	cancelled	cancelled	
7/10/98 - 13/10/98	Yellow Group	Green Group	
14/10/98 - 20/10/98	Green Group	Yellow Group	
4/11/98 - 10/11/98	Blue Group	Green Group LB2	
11/11/98 - 17/11/98	Green Group LB2	Blue Group	
18/11/98 - 24/11/98	Yellow Group LB2	Blue Group LB2	
25/11/98 - 1/12/98	Blue Group LB2	Yellow Group LB2	

Appendix 7-E: Letter about faulty equipment

16th November, 1998

Dear Sir/Madam,

The machines sending back were brought to be used for a research project in schools around Newcastle. Unfortunately, it seems to me that they are dead.

As the progress of the project has been/would greatly hindered, would you repair them and return to me as soon as possible. Alternatively, I would appreciate if you can arrange for the replacement. I know that I have to contact CityLink on 01954 782323 to arrange for collection, however, I hope you would kindly give me a ring when the repairment is done. My phone number is 0191 222 5297.

Many thanks for your help.

Harrison Tse,
Research Associate



Appendix 7-F: Pupil questionnaire 1

























About using the computers

In each of the items below, indicate your opinion with a cross along the line.

Example - Jenny feels that the exercise was long. This is her answer:

I think the exercise was short.

-----X-----
definitely not agree *definitely agree*

1. I think the computer is easy to use.
-----
definitely not agree *definitely agree*
2. I usually get frustrated when things go wrong with the computer.
-----
definitely not agree *definitely agree*
3. I am very confident in using the computer software in my class.
-----
definitely not agree *definitely agree*
4. I lack common sense about computer related equipment.
-----
definitely not agree *definitely agree*
5. I often find it difficult to find the right key on the keyboard.
-----
definitely not agree *definitely agree*
6. I am familiar with using the mouse.
-----
definitely not agree *definitely agree*
7. I am confident about using e-mail and internet.
-----
definitely not agree *definitely agree*
8. I find it difficult to get the computer to do what I want.
-----
definitely not agree *definitely agree*
9. I am better at making computer drawings than most people in my class.
-----
definitely not agree *definitely agree*
10. It is easy for me to write and rewrite things with the computer.
-----
definitely not agree *definitely agree*
11. I am better than most people in my class at using CD-ROM.
-----
definitely not agree *definitely agree*
12. I have a lot of experience in using spreadsheets on computer.
-----
definitely not agree *definitely agree*

Appendix 7-G: Pupil questionnaire 2

Name of pupil: _____

TO THE STUDENT

About using the computers

In each of the items below, indicate your opinion by putting a "X" along the line. For example, Jenny feels that the exercise was not enjoyable. This is how she indicates her opinion:

I think the exercise was enjoyable.

⊗-----X-----
-----☺

definitely not agree
definitely agree

1. I think the computer is easy to use.

⊗-----
-----☺

definitely not agree
definitely agree

2. I usually get frustrated when things go wrong with the computer.

⊗-----
-----☺

definitely not agree
definitely agree

3. I am very confident in using the computer software in my class.

⊗-----
-----☺

definitely not agree
definitely agree

4. I have common sense about computer related equipment.

⊗-----
-----☺

definitely not agree
definitely agree

5. It is easy to find the right key on the keyboard.

⊗-----
-----☺

definitely not agree
definitely agree

6. I am familiar with using the mouse.

⊗-----
-----☺

definitely not agree
definitely agree

7. I am confident in using e-mail and internet.

⊗-----
-----☺

definitely not agree
definitely agree

8. I often meet technical problems when using the computer.

⊗-----
-----☺

definitely not agree
definitely agree

9. I am good at drawing things by using the computer.

⊗-----
-----☺

definitely not agree
definitely agree

10. I often find it easier to delete and type everything again on the computer than to move bits of text around on the computer.

⊗-----
-----☺

definitely not agree
definitely agree

11. I am good at using CD-ROM.

⊗-----
-----☺

definitely not agree
definitely agree

12. I have a lot of experience in using spreadsheets on computer.

⊗-----
-----☺

definitely not agree
definitely agree

Appendix 7-H: A sample of pupils' logbook

Effective Use of Information and Communication Technology for
in-school and out-of-school learning

Logbook



Pupil's name: _____

Pupil's Reference Number: _____

Sex: Boy Girl

Responsible persons:

Mr. Harrison Tse
Department of Education
University of Newcastle upon Tyne

Mr. Matt. Ward
Class Teacher
Westerhope First School

To the Student: **

Thank you for taking part in this important study of the in-school and out-of-school usage of information and communication technology. The information that you provide could be useful to improve the educational use of information and communication technology, both for you and hopefully for many teachers.

We need you to fill in the logbook for TWO weeks. On EACH DAY of these two weeks, please write down the date on the respective page and give response to the "PSION provided" item. You can encircle "Yes" if a PSION computer is provided for you to use on that day or "No" if this is not.

In each time slot of the day, you are asked to record your activity in this logbook. Here are the descriptions of how to complete each column of the logbook:

1. Time slot of the day

- a. During school hours, the time slot is set according to your school timetable.
- b. Besides school hours, the time slot is set at two-hour intervals.

2. Major activity

Put a ✓ in the box to show the MAJOR activity you were engaged in. If needed, you can tick a maximum of two boxes.

3. Subject

Put a ✓ in the box to show the subject that your activity was related to. Choose "not studying", if it was not related to any school subjects.

4. Grouping

Put a ✓ in the box to show the type of grouping and the person(s) with you.

5. Media/Equipment

Put a ✓ in the box to show the MAJOR type of media or equipment used. If needed, you can tick a maximum of two boxes.

6. Enjoy the time

Put a ✓ in the box to show your attitude towards the following statement:

"I had an enjoyable time".

☺ - agree

☹ - disagree

⊖ - only to be used if you don't know or not sure about your attitude

Please note that the collected data is confidential and will be restricted to people related to the research project. The names of the key responsible persons are printed on the front page of the logbook. Thank you again for your help and participation.

****Remark:**

The following text will be read aloud to pupils. They are encouraged to ask questions if further clarification is needed.

Week 1

Day: Wednesday __/__/98

Time: before 9:00am to 3:00pm

PSION provided: Yes/No

Time	Major	Activity	Subject	Grouping (with you)	Equipment/Media	Enjoy
before 9:00pm	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest / sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C.D.T. <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☹ <input type="checkbox"/> ☺
9.00am to 10.10am	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest / sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C.D.T. <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☹ <input type="checkbox"/> ☺
10.10am to 10.45am (Break Time)	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest / sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C.D.T. <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☹ <input type="checkbox"/> ☺
10.45am to 12.00	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C.D.T. <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☹ <input type="checkbox"/> ☺
12.00 to 1.10pm (Lunch Time)	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C.D.T. <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☹ <input type="checkbox"/> ☺
1.10pm to 1.30pm (Quiet Reading)	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C.D.T. <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☹ <input type="checkbox"/> ☺
1.30pm to 3.00pm	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest / sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C.D.T. <input type="checkbox"/> History Geography <input type="checkbox"/> RE Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☹ <input type="checkbox"/> ☺

Week 1

Day: Wednesday

Time: 3:00pm to after 9:00pm

Time	Major	Activity	Subject	Grouping (with you)	Equipment/Media	Comment
3:00pm to 5:00pm	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest / sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C.D.T. <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☺ <input type="checkbox"/> ☺
5 00pm to 7:00pm	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest / sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C.D.T. <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☺ <input type="checkbox"/> ☺
7 00pm to 9 00pm	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest / sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C D T. <input type="checkbox"/> History Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thung(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☺ <input type="checkbox"/> ☺
after 9 00pm	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest / sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C D T <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thung(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☺ <input type="checkbox"/> ☺

Week 1 Day: Saturday __/__/98

Time: before 9:00am to 3:00pm

PSION provided: Yes/No

Time	Major	Activity	Subject	Grouping (with you)	Equipment/Media	Comment
before 9:00am	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest / sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C.D.T. <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☹ <input type="checkbox"/> ☹
9:00am to 11:00am	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest / sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C D T <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☹ <input type="checkbox"/> ☹
11:00am to 1:00pm	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest / sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C D T <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☹ <input type="checkbox"/> ☹
1:00pm to 3:00pm	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest / sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C D T <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☹ <input type="checkbox"/> ☹

Week 1

Day: Saturday

Time: 3:00pm to after 9:00pm

Time	Major	Activity	Subject	Grouping (with you)	Equipment/Media	Comment
3:00pm to 5:00pm	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest / sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C.D.T. <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☹ <input type="checkbox"/> ☹
5:00pm to 7:00pm	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest / sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C.D.T. <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☹ <input type="checkbox"/> ☹
7:00pm to 9:00pm	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest / sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C.D.T. <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☹ <input type="checkbox"/> ☹
after 9:00pm	<input type="checkbox"/> count <input type="checkbox"/> calculate <input type="checkbox"/> listen/watch <input type="checkbox"/> read/spell <input type="checkbox"/> write <input type="checkbox"/> act & do <input type="checkbox"/> think & discuss	<input type="checkbox"/> eat <input type="checkbox"/> play <input type="checkbox"/> shopping <input type="checkbox"/> rest / sleep <input type="checkbox"/> wash & clean <input type="checkbox"/> on the way <input type="checkbox"/> doing nothing <input type="checkbox"/> others	<input type="checkbox"/> Maths <input type="checkbox"/> Literacy <input type="checkbox"/> Science <input type="checkbox"/> Art / C.D.T. <input type="checkbox"/> History/Geography <input type="checkbox"/> RE/Music <input type="checkbox"/> other subject(s) <input type="checkbox"/> not studying	<input type="checkbox"/> pair (a classmate) <input type="checkbox"/> group (classmates) <input type="checkbox"/> pair (a friend) <input type="checkbox"/> group (friends) <input type="checkbox"/> family <input type="checkbox"/> other person(s) <input type="checkbox"/> individual (myself)	<input type="checkbox"/> papers / book <input type="checkbox"/> calculator <input type="checkbox"/> PSION computer <input type="checkbox"/> computer <input type="checkbox"/> TV / video <input type="checkbox"/> walkman / radio <input type="checkbox"/> other thing(s) <input type="checkbox"/> no media/equipment	<input type="checkbox"/> ☺ <input type="checkbox"/> ☹ <input type="checkbox"/> ☹

Appendix 7-I: Letter to parents

2nd December 1998

Dear Parent,

The data collection of studying in-school and out-of-school usage of information and communication technology (ICT) in class 11 is coming to the final stage. May we take this opportunity to thank you and your child for the active participation? We really are most appreciative of the time and effort that you and your child have put in.

As the focus of study includes learning outside the classroom, we need opinions and comments from parents. Therefore, we would be grateful if you could complete and return the questionnaire to Mr. Ward on Friday, 4th December.

Thanks again for all your support and participation.

Yours sincerely,

(Harrison Tse)

Appendix 7-J: Parents' questionnaire

UNIVERSITY OF
NEWCASTLE



Department of Education
University of Newcastle
St Thomas' Street
Newcastle upon Tyne NE1 7RU
2nd December 1998

Dear Parent,

The data collection of studying in-school and out-of-school usage of information and communication technology (ICT) in class 11 is coming to the final stage. May we take this opportunity to thank you and your child for the active participation. We really are most appreciative of the time and effort that you and your child have put in.

As the focus of study includes learning outside the classroom, we need opinions and comments from parents. Therefore, we would be grateful if you could complete and return the questionnaire to Mr. Ward on Friday, 4th December.

Thanks again for all your support and participation.

Yours sincerely,

A handwritten signature, likely of Harrison Tse, written in ink.

(Harrison Tse)

Name of your child: _____

QUESTIONNAIRE

This is a study of the in-school and out-of-school usage of information and communication technology carried out in class 11 of Westerhope First School. It would be helpful if you can answer the following questions in detail.

Questions

1. Did your child, who is in class 11, receive help from members of the family (overall) when using the PSION computer at home? Yes / No

If "yes", how many hours did it take the helper(s)? Approximately _____ hours during the week PSION computer was provided.

2. What effect(s) do you think the use of PSION has brought to your child?

3. Do you think your child have used the PSION computer effectively for learning outside the classroom? Please comment on the major causes for the success or failure.

4. Would you like to comment on the potential benefits and pitfalls of using PSION computers outside the classroom?

5. What can teachers do to facilitate or promote children's effective use of computer for learning outside the classroom?

6. What can other educational initiatives (e.g. by universities, teacher training agency, DFEE) do to facilitate or promote children's effective use of computer for learning outside the classroom?

7. Please put a "✓" if the respective equipment below is available at home.

☐ TV or cable TV ☐ video cassette player or VCR ☐ cassette tape player or recorder ☐ CD player
☐ camera ☐ digital camera ☐ video camera ☐ radio ☐ calculator ☐ fax machine

8. Please put a "✓" if the respective computer-related equipment is available at home.

☐ hard disc drive (i.e. > 100 MB) ☐ CD-ROM ☐ printer ☐ modem ☐ scanner

9. Not counting electronic games, how many hours per week is the computer at home being used by members of the family (overall)?

Approximately _____ hours per week . [Just leave blank if there's no computer at home]

10. Please put a "✓" to show how often the computer at home is used by members of the family (overall) for that specific purpose. [Just leave blanks if there is no computer at home]

	Less than once a fortnight	Once a fortnight	Once a week	Several times a week	About twice a week	Once a day	More than once a day
a) Word processing							
b) Spreadsheet							
c) Graphical work or drawing							
d) Computer programming							
e) As an electronic reference e.g. dictionary							
f) E-mail							
g) Internet							
h) Entertainment e.g. computer games							
i) Job or tasks related to business							
j) Keeping household record e.g. savings, taxes							
k) Learning and practice about computers							
l) Doing School assignment							
m) Learning and practice spelling							
n) Learning and practice reading							
o) Learning and practice about numbers							
p) Learning and practice foreign language							
q) Learning and practice art and music work							
r) Other educational learning and practice							

11. Please put a "✓" to show how often your child, who is in class 11, uses the computer at home for that specific purpose. [Just leave blanks if there is no computer at home]

	Less than once a fortnight	Once a fortnight	Once a week	Several times a week	About twice a week	Once a day	More than once a day
a) Word processing							
b) Graphical work or drawing							
c) As an electronic reference e.g. dictionary							
d) E-mail							
e) Internet							
f) Entertainment e.g. computer games							
g) Learning and practice about computers							
h) Doing School assignment							
i) Learning and practice spelling							
j) Learning and practice reading							
k) Learning and practice about numbers							
l) Learning and practice foreign language							
m) Learning and practice art and music work							
n) Other educational learning and practice							

FINALLY

Thank you very much for your help and participation.

If you are willing to be contacted for further information on the phone or through internet, please add:

Name: _____

Contact Phone number: _____ E-mail address (if available): _____

For further query, please ring Harrison Tse at (0191) 222 5297.

Appendix 7-K: Usage of the computer at home by pupils in Year 3

Appendix 11 for Section 6-5: Usage of the computer at home by pupils in Year 3

	a	b	c	d	e	f	g	h	i	j	k	l	m	n
Pupil-1	1	1				5	1							4
Pupil-2	3	3	3			3	3	3	3	1	3	1	1	3
Pupil-3		4				4								4
Pupil-4	1	1	1	1		5	1	1	1	1	1	1	1	1
Pupil-5														
Pupil-6	7	4	7			7	7	1	1	1	1	1	1	1
total:	12	13	11	1		24	12	5	5	3	5	3	3	13
count:	4	5	3	1	0	5	4	3	3	3	3	3	3	5

Remark: **Total** - refers to the aggregated total of the reported frequency. **Count** - refers to a frequency count of the number of pupils who were reported on the specific usage. A copy of the survey questionnaire is presented in "Appendix 10 for section 6-5".

Usage:

- a - word processing
- b - graphical work or drawing
- c - as an electronic reference e.g. dictionary
- d - e-mail
- e - internet
- f - entertainment e.g. computer games
- g - learning and practice about computers
- h - doing school assignment
- i - learning and practice spelling
- j - learning and practice reading
- k - learning and practice about numbers
- l - learning and practice foreign language
- m - learning and practice art and music work
- n - other educational learning and practice

Frequency:

- 1 - less than once a fortnight,
- 2 - once a fortnight,
- 3 - once a week,
- 4 - several times a week,
- 5 - about twice a week,
- 6 - once a day,
- 7 - more than once a day
- blank - no usage was reported or not sure

Appendix 7-L: Data collected from pupil questionnaire 1

	s1_01	s1_02	s1_03	s1_04	s1_05	s1_06	s1_07	s1_12
1	3.00	3.00	.00	3.00	3.00	3.00	-3.00	-3.00
2	3.00	3.00	.	-3.00	3.00	3.00	3.00	-3.00
3	.	-3.00	3.00	3.00	-3.00	.00	-3.00	-1.00
4	-3.00	3.00	.00	-3.00	-3.00	3.00	3.00	.00
5	3.00	-3.00	3.00	-3.00	3.00	3.00	-3.00	-3.00
6	3.00	3.00	3.00	3.00	.00	3.00	-3.00	-3.00
7	-3.00	-3.00	.00	-3.00	-3.00	-3.00	.00	-3.00
8	-3.00	-3.00	-3.00	3.00	3.00	3.00	-3.00	-3.00
9	3.00	3.00	3.00	3.00	-3.00	3.00	3.00	.
10	3.00	3.00	-3.00	-3.00	.00	3.00	-3.00	.
11	.00	2.00	-3.00	-3.00	-3.00	3.00	-3.00	1.00
12	.00	3.00	.00	3.00	-3.00	3.00	-3.00	-3.00
13	.00	3.00	3.00	.00	3.00	3.00	-1.00	-3.00
14	.00	-3.00	3.00	.00	3.00	3.00	-3.00	-3.00
15	.00	-3.00	2.00	-3.00	.00	3.00	.00	-3.00
16	.00	-3.00	.00	.00	-2.00	3.00	-3.00	-3.00
17	.00	3.00	.00	3.00	-3.00	.00	-3.00	-3.00
18	3.00	-2.00	.00	-3.00	3.00	3.00	-3.00	-2.00
19	3.00	-3.00	-3.00	-3.00	-3.00	3.00	-3.00	-3.00
20	-1.00	3.00	3.00	-3.00	3.00	3.00	3.00	-3.00
21		-3.00	3.00	-3.00	3.00	-3.00	.	-3.00
22	.00	-3.00	.00	-3.00	3.00	3.00	-3.00	-3.00
23	.00	3.00	-1.00	-3.00	-3.00	3.00	-3.00	-3.00
24	3.00	-3.00	3.00	.00	-3.00	3.00	-3.00	-3.00
25	3.00	-3.00	3.00	3.00	-3.00	-3.00	-3.00	-3.00
26	3.00	-3.00	3.00	3.00	.00	3.00	3.00	-3.00
27	-3.00	.00	.00	3.00	3.00	3.00	-3.00	-3.00
28	.00	-3.00	.00	-3.00	3.00	3.00	-3.00	-3.00

Remark: See Appendix 7-F for the content of the pupil questionnaire 1.

Appendix 7-M: Data collected from pupil questionnaire 2

	s2_01	s2_02	s2_03	s2_04	s2_05	s2_06	s2_07	s2_12
1	-1.00	-3.00	3.00	-3.00	3.00	3.00	.00	.00
2	-3.00	3.00	3.00	-3.00	-3.00	3.00	-3.00	-3.00
3	2.00	3.00	3.00	-1.00	-3.00	3.00	-3.00	3.00
4	.00	-3.00	-1.00	3.00	3.00	3.00	3.00	-1.00
5	.00	-3.00	3.00	.00	.00	-3.00	.00	3.00
6	3.00	.00	3.00	3.00	-1.00	-3.00	-3.00	-3.00
7	.00	-3.00	.00	3.00	2.00	-3.00	-3.00	-3.00
8	3.00	-3.00	.00	3.00	.00	3.00	-3.00	-3.00
9	3.00	3.00	3.00	3.00	3.00	3.00	-3.00	-3.00
10	3.00	-3.00	3.00	3.00	3.00	-3.00	3.00	3.00
11	3.00	-3.00	3.00	3.00	-3.00	.00	-3.00	.00
12	.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
13	3.00	3.00	.00	3.00	3.00	-3.00	.00	3.00
14	.00	3.00	-1.00	3.00	3.00	3.00	-3.00	-1.00
15	.00	3.00	3.00	.00	.00	3.00	3.00	-3.00
16	-2.00	-3.00	.00	3.00	3.00	3.00	-3.00	-3.00
17	.00	-3.00	-3.00	3.00	3.00	-3.00	-3.00	-3.00
18	.00	3.00	-1.00	3.00	.00	3.00	-3.00	-3.00
19	2.00	-3.00	3.00	3.00	.00	3.00	.00	.00
20	-3.00	-3.00	-1.00	3.00	.00	-3.00	-3.00	-3.00
21	3.00	-3.00	3.00	-3.00	3.00	-3.00	-3.00	3.00
22	.00	-3.00	.00	3.00	.00	3.00	.00	-3.00
23	.00	-3.00	.00	3.00	-3.00	.00	3.00	3.00
24	.00	3.00	.00	-3.00	3.00	3.00	-3.00	-3.00
25	-3.00	-3.00	3.00	3.00	-3.00	-3.00	-3.00	-3.00
26	3.00	-3.00	-1.00	3.00	2.00	-3.00	.00	.00
27	3.00	3.00	.00	3.00	.00	3.00	-3.00	-3.00
28	.00	.	.00	-1.00	.00	.00	-3.00	-3.00

Remark: See Appendix 7-G for the content of the pupil questionnaire 2.

Appendix 7-N: An example of data collected from pupil logbook

	d_w1day1	d1_01a01	d1_01a02	d1_01a03	d1_01a04	d1_01a05	d1_01a06
1	Wed-w1-d1-in	.00	.00	.00	.00	.00	.00
2	Wed-w1-d1-in	00	.00	.00	1.00	.00	.00
3	Wed-w1-d1-in	00	00	.00	.00	.00	.00
4	Wed-w1-d1-in	00	.00	.00	.00	.00	.00
5	Wed-w1-d1-in	.00	.00	.00	.00	.00	.00
6	Wed-w1-d1-in	.00	.00	.00	.00	.00	.00
7	Wed-w1-d1-in	.00	.00	.00	.00	.00	.00
8	Wed-w1-d1-in	00	.00	.00	.00	.00	.00
9	Wed-w1-d1-in	.00	.00	.00	.00	.00	.00
10	Wed-w1-d1-in	00	.00	.00	.00	.00	.00
11	Wed-w1-d1-in	00	.00	.50	.00	.00	.00
12	Wed-w1-d1-in	00	.00	.00	.00	.00	.00
13	Wed-w1-d1-in	00	00	.00	00	.00	.00
14	Wed-w1-d1-in	00	.00	.00	.00	.00	.00
15	Wed-w1-d1-in	00	00	00	.00	.00	.00
16	Wed-w1-d1-in	00	00	.00	.00	.00	.00
17	Wed-w1-d1-in	00	00	.00	.00	.00	.00
18	Wed-w1-d1-in	00	00	.00	.00	.00	.00
19	Wed-w1-d1-in	00	.00	1.00	.00	.00	.00
20	Wed-w1-d1-in	00	.00	.00	.00	.00	.00
21	Wed-w1-d1-in	00	.00	.00	.00	.00	.00
22	Wed-w1-d1-in	.00	.00	.00	.00	.00	.00
23	Wed-w1-d1-in	00	.00	.00	.00	.00	.00
24	Wed-w1-d1-in	00	.00	1.00	.00	.00	.00
25	Wed-w1-d1-in	00	.00	1.00	.00	.00	.00
26	Wed-w1-d1-in	00	.00	1 00	.00	.00	.00
27	Wed-w1-d1-in	00	.00	00	.00	.00	.00

	d1_01a07	d1_01a08	d1_01a09	d1_01a10	d1_01a11	d1_01a12	d1_01a13
1	.00	.00	.00	.00	.00	1.00	.00
2	.00	.00	.00	.00	.00	.00	.00
3	.00	1.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	1.00
5	.00	.50	.00	.00	.00	.50	.00
6	.00	.00	1.00	.00	.00	.00	.00
7	.00	1.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	1.00
9	.00	.50	.00	.00	.00	.50	.00
10	.00	.50	.00	.00	.00	.50	.00
11	.00	.50	.00	.00	.00	.00	.00
12	.00	.50	.00	.00	.50	.00	.00
13	.00	.50	5.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	1.00	.00
15	.00	.00	.00	.00	1.00	.00	.00
16	.00	.50	.00	.00	.00	.50	.00
17	.00	.00	.00	.00	.00	.00	.50
18	.00	.00	.00	.00	.00	.00	1.00
19	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	1.00
21	.00	.00	.00	.00	.00	.00	1.00
22	.00	.00	.00	.00	.00	.00	1.00
23	.00	1.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	1.00	.00	.00

	d1_01a14	d1_01a15	d1_01s01	d1_01s02	d1_01s03	d1_01s04	d1_01s05
1	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00
17	.50	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00

	d1_01s06	d1_01s07	d1_01s08	d1_01g01	d1_01g02	d1_01g03	d1_01g04
1	.00	.00	1.00	.00	.00	.00	.00
2	.00	1.00	.00	.00	.00	.00	.00
3	.00	.00	1.00	.00	.00	.00	.00
4	.00	.00	1.00	.00	.00	1.00	.00
5	.00	.00	1.00	.00	.00	.00	.00
6	.00	.00	1.00	.00	.00	.00	.00
7	.00	.00	1.00	.00	.00	.00	.00
8	.00	.00	1.00	.00	.00	.00	.00
9	.00	.00	1.00	.00	.00	.00	.00
10	.00	.00	1.00	.00	.00	.00	.00
11	.00	.00	1.00	.00	.00	.00	.00
12	.00	.00	1.00	.00	.00	.00	.00
13	.00	.00	1.00	.00	.00	.00	.00
14	.00	.00	1.00	.00	.00	.00	.00
15	.00	.00	1.00	.00	.00	.00	.00
16	.00	.00	1.00	.00	.00	.00	.00
17	.00	.00	1.00	.00	.00	.00	.00
18	.00	1.00	.00	.00	.00	.00	.00
19	.00	.00	1.00	.00	.00	.00	.00
20	.00	.00	1.00	1.00	.00	.00	.00
21	.00	.00	1.00	.00	.00	.00	.00
22	.00	.00	1.00	.00	.00	.00	.00
23	.00	.00	1.00	.00	.00	.00	.00
24	.00	.00	1.00	.00	.00	.00	.00
25	.00	.00	1.00	.00	.00	.00	.00
26	.00	.00	1.00	.00	.00	.00	.00
27	.00	.00	1.00	.00	.00	.00	.00

	d1_01g05	d1_01g06	d1_01g07	d1_01m01	d1_01m02	d1_01m03	d1_01m04
1	1.00	.00	.00	.00	.00	.00	.00
2	.00	.00	1.00	1.00	.00	.00	.00
3	1.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00
5	1.00	.00	.00	.00	.00	.00	.00
6	.00	.00	1.00	.00	.00	.00	.00
7	1.00	.00	.00	.00	.00	.00	.00
8	1.00	.00	.00	.00	.00	.00	.00
9	1.00	.00	.00	.00	.00	.00	.00
10	1.00	.00	.00	.00	.00	.00	.00
11	1.00	.00	.00	.00	.00	.00	.00
12	1.00	.00	.00	.00	.00	.00	.00
13	1.00	.00	.00	.00	.00	.00	.00
14	1.00	.00	.00	.00	.00	.00	.00
15	1.00	.00	.00	.00	.00	.00	.00
16	1.00	.00	.00	.00	.00	.00	.00
17	1.00	.00	.00	.00	.00	.00	.00
18	1.00	.00	.00	.00	.00	.00	.00
19	.00	.00	1.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00
21	1.00	.00	.00	.00	.00	.00	.00
22	1.00	.00	.00	.00	.00	.00	.00
23	1.00	.00	.00	.00	.00	.00	.00
24	1.00	.00	.00	.00	.00	.00	.00
25	1.00	.00	.00	.00	.00	.00	.00
26	1.00	.00	.00	.00	.00	.00	.00
27	.00	.00	1.00	.00	.00	.00	.00

	d1_01m05	d1_01m06	d1_01m07	d1_01m08	d1_01y01	d1_01y02	d1_01y03
1	.00	.00	.00	1.00	.00	1.00	.00
2	.00	.00	.00	.00	.00	.00	1.00
3	1.00	.00	.00	.00	1.00	.00	.00
4	.00	.00	.00	1.00	.00	.00	1.00
5	.00	.00	.00	1.00	1.00	.00	.00
6	1.00	.00	.00	.00	1.00	.00	.00
7	.00	.00	.00	1.00	1.00	.00	.00
8	.00	.00	.00	1.00	1.00	.00	.00
9	.00	.00	.00	1.00	1.00	.00	.00
10	.00	1.00	.00	.00	1.00	.00	.00
11	.00	.00	.00	1.00	1.00	.00	.00
12	.00	.00	.00	1.00	1.00	.00	.00
13	1.00	.00	.00	.00	1.00	.00	.00
14	1.00	.00	.00	.00	.00	1.00	.00
15	.00	.00	.00	1.00	1.00	.00	.00
16	1.00	.00	.00	.00	1.00	.00	.00
17	1.00	.00	.00	.00	1.00	.00	.00
18	.00	1.00	.00	.00	1.00	.00	.00
19	1.00	.00	.00	.00	1.00	.00	.00
20	1.00	.00	.00	.00	1.00	.00	.00
21	.00	.00	.00	1.00	1.00	.00	.00
22	.00	.00	.00	1.00	1.00	.00	.00
23	.00	.00	.00	1.00	1.00	.00	.00
24	1.00	.00	.00	.00	1.00	.00	.00
25	1.00	.00	.00	.00	1.00	.00	.00
26	1.00	.00	.00	.00	1.00	.00	.00
27	.00	.00	.00	1.00	1.00	.00	.00

	d1_02a01	d1_02a02	d1_02a03	d1_02a04
1	.00	.00	1.00	.00
2	.00	.00	1.00	.00
3	.00	.00	.00	.00
4	.00	.00	1.00	.00
5	.00	.00	.00	1.00
6	.00	.00	1.00	.00
7	1.00	.00	.00	.00
8	.00	.00	.00	.00
9	.00	.00	.00	1.00
10	.00	.00	.50	.00
11	.00	.50	.00	.00
12	.50	.50	.00	.00
13	.00	.00	1.00	.00
14	1.00	.00	.00	.00
15	.50	.50	.00	.00
16	1.00	.00	.00	.00
17	1.00	.00	.00	.00
18	1.00	.00	.00	.00
19	1.00	.00	.00	.00
20	.00	.00	.00	.00
21	1.00	.00	.00	.00
22	.00	1.00	.00	.00
23	1.00	.00	.00	.00
24	.00	.00	.00	.00
25	1.00	.00	.00	.00
26	1.00	.00	.00	.00
27	1.00	.00	.00	.00

Keys: D1_01A01 - First week, Day 1, Time slot 01, Activity 01,
D1_01A02 - First week, Day 1, Time slot 01, Activity 02,
D1_01A03 - First week, Day 1, Time slot 01, Activity 03,
D1_01A04 - First week, Day 1, Time slot 01, Activity 04,
D1_01A05 - First week, Day 1, Time slot 01, Activity 05,
D1_01A06 - First week, Day 1, Time slot 01, Activity 06,
D1_01A07 - First week, Day 1, Time slot 01, Activity 07,
D1_01A08 - First week, Day 1, Time slot 01, Activity 08,
D1_01A09 - First week, Day 1, Time slot 01, Activity 09,
D1_01A10 - First week, Day 1, Time slot 01, Activity 10,
D1_01A11 - First week, Day 1, Time slot 01, Activity 11,
D1_01A12 - First week, Day 1, Time slot 01, Activity 12,
D1_01A13 - First week, Day 1, Time slot 01, Activity 13,
D1_01A14 - First week, Day 1, Time slot 01, Activity 14,
D1_01A15 - First week, Day 1, Time slot 01, Activity 15,
D1_01S01 - First week, Day 1, Time slot 01, Subject 01,
D1_01S02 - First week, Day 1, Time slot 01, Subject 02,
D1_01S03 - First week, Day 1, Time slot 01, Subject 03,
D1_01S04 - First week, Day 1, Time slot 01, Subject 04,
D1_01S05 - First week, Day 1, Time slot 01, Subject 05,
D1_01S06 - First week, Day 1, Time slot 01, Subject 06,
D1_01S07 - First week, Day 1, Time slot 01, Subject 07,
D1_01S08 - First week, Day 1, Time slot 01, Subject 08,
D1_01G01 - First week, Day 1, Time slot 01, Grouping 01,
D1_01G02 - First week, Day 1, Time slot 01, Grouping 02,
D1_01G03 - First week, Day 1, Time slot 01, Grouping 03,
D1_01G04 - First week, Day 1, Time slot 01, Grouping 04,
D1_01G05 - First week, Day 1, Time slot 01, Grouping 05,
D1_01G06 - First week, Day 1, Time slot 01, Grouping 06,
D1_01G07 - First week, Day 1, Time slot 01, Grouping 07,
D1_01M01 - First week, Day 1, Time slot 01, Media 01,
D1_01M02 - First week, Day 1, Time slot 01, Media 02,
D1_01M03 - First week, Day 1, Time slot 01, Media 03,
D1_01M04 - First week, Day 1, Time slot 01, Media 04,
D1_01M05 - First week, Day 1, Time slot 01, Media 05,
D1_01M06 - First week, Day 1, Time slot 01, Media 06,
D1_01M07 - First week, Day 1, Time slot 01, Media 07,
D1_01M08 - First week, Day 1, Time slot 01, Media 08,
D1_01Y01 - First week, Day 1, Time slot 01, Enjoy 01,
D1_01Y02 - First week, Day 1, Time slot 01, Enjoy 02,
D1_01Y03 - First week, Day 1, Time slot 01, Enjoy 03,
D1_02A01 - First week, Day 1, Time slot 02, Activity 01,
D1_02A02 - First week, Day 1, Time slot 02, Activity 02,
D1_02A03 - First week, Day 1, Time slot 02, Activity 03,
D1_02A04 - First week, Day 1, Time slot 02, Activity 04.

Appendix 8-A: Instruction for qualitative evaluation of the proposed framework

Please also find the enclosed draft paper that tells you about the model that I am using to promote the use of information and communication technology to support literacy and numeracy. That is not a part of the questionnaire, but it would be greatly appreciated if you can comment on:

1. any specific path of the model (please state the path number), with reference to your practical experience as example,
2. the strengths and weaknesses of the model and any other suggestions, and/or
3. the tripartite relationship in promoting out-of-class usage of ICT

Appendix 8-B: A copy of the paper on which the proposed framework is based on

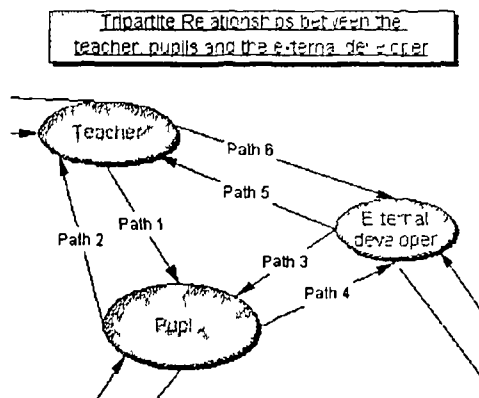
A preliminary model of promoting the use of ICT to support teaching and learning literacy and numeracy in primary schools

Aim

The purpose of this paper is to give an outline of the model that I am using to promote the use of ICT to support subject teaching in primary school. Relevant experience in teaching literacy and numeracy will be used as examples. It is hoped that it can trigger responses from serving teachers to contribute, validate, refine and improve the present model.

Introduction

Instead of discussing about the ways to support the use of ICT in the classroom, I would like to start by drawing your attention to the relationships between three major parties in the process. They are the teacher, pupils and the external developer, illustrated in the diagram below:



Each of the one-way arrows on the diagram is called a "path" in this model. It shows the influence of a party on another. In each of the sections below, I am going to give a brief description of each path with elaborations. When it is appropriate, I shall try to draw some authentic examples from my personal experience in the project and in my PhD study.

Path 1

This path represents the influence of the teacher on the pupils. The teacher plays an important role in helping pupils to learn with ICT. These include:

- arranging the physical environment,
- providing hardware & software,
- making decisions on the focus of ICT usage e.g. instead of focusing on developing pupils' ICT skills, this study stresses the importance of using ICT to support subject teaching,
- preparing and planning planning the use of ICT

in subject curriculum, preparing meaningful use of ICT, planning specific activities to support a computer program, planning specific activities for children with different abilities, etc.,

- acting as a demonstrator, a facilitator and/or a supervisor,
- training pupils' ICT skills e.g. a teacher in the project suggested that individual teaching at the beginning stage seemed to be essential for low-ability children,
- giving technical and operational support,
- checking progress and record keeping, and
- other learning arrangements e.g. an investigation about the grouping of children at computer is still going on in two schools.

Path 2

There are a lot of factors affecting the success of promoting the use of ICT, but this path is focusing on the influence of pupils on the work of the teacher. At this stage, there isn't enough classroom evidence to illustrate the nature of the influence in this model, but it may include:

- pupils' feedback - learning attainment, attitude, motivation,
- information about pupils' characteristics - age, sex, ability, experience in ICT, attitude towards ICT, and
- pupils' learning style/ approaches.

Path 3

This path shows the direct influence of the external developer on pupils. I prefer the term "instructional facilitator" to describe my role in this aspect. I think there are things that the external developer can do directly to facilitate pupils to use ICT, these include:

- preparing a user-friendly computer interface for pupils e.g. I prefer creating an icon on the computer screen so that children can get onto the software that they need by double-clicking it. Teachers generally found the idea very useful, as it can save their time in teaching pupils the essential ICT skills and it successfully avoid interruptions during the operation.
- ensuring an error-free hardware and software environment e.g. The instructional facilitator has to develop the awareness of detecting technical error or operational obstacles. As an example, in one of the project schools, it was found that a scroll bar of the educational software was blocked by Windows 95's scroll bar. The problem was solved by operating Window 95's scroll bar in "auto-hide" mode
- giving direct operation instruction e.g. preparing

written instruction about the operational steps for pupils' use. Teachers in the project suggested that instruction sheet had to be concise, presented in point form and illustrated with colourful icons.

- teaching essential operation skills e.g. In one of the project schools, essential operation steps were pre-recorded as a computer file, with sound, motion images and oral instructions. It was a labour-cost saving alternative in teaching operation skills. Furthermore, it was fairly easy to produce this type of computer file with "Lotus: ScreenCam" or "Microsoft: Camcorder" software application.

Path 4

This path represents the influence of pupils on the work of the instructional facilitator. At this stage, it is the weakest part of the preliminary model because there isn't a great deal of classroom evidence about the nature of the influence. Similar to path 2, the path may include:

- pupils' feedback - learning attainment, attitude, motivation,
- information about pupils' characteristics - age, sex, ability, experience in ICT, attitude towards ICT, and
- pupils' learning style/ approaches.

Path 5

This path shows the influence of the external developer on the teacher. In fact, the term "instructional supporter" is a more proper term. The major elements in this aspect include:

- supporting teacher's work e.g. At the early stage of the project, it was found to be very difficult or inappropriate to abolish the existing curriculum material and to introduce a new thing when the old one was still functioning well. In one of the schools, an electronic version of the existing teaching material was prepared as a supplementary teaching aid to be used with text-to-speech support facilities on the computer. Unfortunately, the work in that school was found to be too labour-intensive for the instructional supporter, while the short-term effect to pupil-learning was unclear.
- acting as a staff developer e.g. When used properly, I think this is a long-term and effective measure. It is worthwhile spending time in training teachers to prepare a user-friendly computer interface for pupils and to prepare existing teaching material in electronic format. This might include the skills of using a specific educational software or the operation of a scanner

and Optical Character Reading (OCR) applications.

- teacher-based service e.g. Discussion with the teacher is essential. This will enable the instructional supporter to identify good practice. Through proper dissemination, experience of one school can be very useful to another school. Careful selection and matching teachers could be the next step forward.

Path 6

This path represents the influence of the teacher on the instructional support given by the external developer. The major elements in this aspect may include:

- teacher's needs and intentions,
- personal relations between the teacher and the instructional supporter,
- feedback given by the teacher, and
- resources available to the teacher e.g. providing supply cover for staff ICT training.

Summary

This paper highlights two major routes to promote the use of ICT to support subject teaching. A direct route from the instructional facilitator's input to pupils' learning and an indirect route from the instructional supporter's work to the teacher's work and eventually to pupils' learning. In an actual classroom environment, the role of an external developer can be taken over by a parent helper or any relevant party. Classroom teachers need to have clear ideas about the roles and duties of helpers in supporting ICT activities.

Implication to out-of-class usage of ICT

In applying the discussion above, do you think the tripartite relationships between the parent, pupils and the teacher (i.e. as an external developer) is important for promoting the out-of-class usage of ICT?

Your contribution

It is obvious that the model needs validation, refinement and improvement. If you would like to make contribution to the model, please write on the last page of the questionnaire about:

1. any specific path of the model (please state the path number), with reference to your practical experience,
2. your general comment about the validity of the model and any other suggestions, and
3. your view and practical experience about the importance of tripartite relationship for promoting out-of-class usage of ICT.

Prepared by Harrison Tse on 23 February 1999.

Draft paper as a part of PhD study, University of Newcastle upon Tyne

Appendix 9-A: A comparison of ICT in primary schools survey
1995/96 to 1999/00 results

SURVEY OF ICT IN SCHOOLS									
Issue number	3/97	11/98	13/99	07/00					
Academic Year of the survey	95/6	97/8	98/9	99/0	97/98	97/98	98/99	98/99	
Date of the survey	Mar 1996	Mar 1998	Mar 1999	Mar 2000	C.I Upper	C.I Lower	C.I Upper	C.I Lower	
Connected to the Internet									
% of primary schools connected to the internet		17	62	86	19	15	65	59	
number of internet access points (average per school)		2	4	8	-	-	4	2	
% of schools linked to internal network		9							
% of schools who had their own web sites			21	34					
E mail Access									
teachers (% with personal e-mail address)		1.7	15	37	3	1	17	13	
pupils (% with personal e-mail address)		0.2	4	9	-	-	5	3	
Use of external electronic communication service (teaching & learning)									
Electronic Mail		10	39	53					
Video conferencing		1	2	4					
Bulletin Boards		1	1	3					
Other on-line services		3	7	12					
ICT Development Plan									
Percentage of schools with a plan		53	79	91	56	50			
<i>Percentage of schools which included in their plan:</i>									
curriculum planning incorporating the use of ICT / development of new curriculum opportunities using ICT			76	86					
teachers' professional development or staff training and development in the use of ICT for teaching and learning			92	96					
development of the hardware provision, equipment upgrades, networking etc			86	81					
acquisition of new software and content and sharing with other schools			83	67					
repair and maintenance of equipment (98 99) / depreciation cost of equipment and disposal of redundant equipment (99 00)			63?	24?					
ICT staff recruitment			11						
the use of ICT facilities outside school hours and including their use for community purposes			30	36					
Teacher use of ICT									
% of teaching staff that used computers regularly (at least twice a week on average)		81							
percentage who feel confident to use ICT within the curriculum		64.7	67.8	67.1	67.4	62.0	70.5	65.1	
percentage who have received some training in ICT		90.3	91.9	82.0	92.0	88.6	93.5	90.3	
percentage who have received updated training within the last two years		45.3	45.6	60.0	48.2	42.4	48.5	42.7	
have access to a computer at home or have desktop laptop computer assigned for their personal use		-	-	66.3					

SURVEY OF ICT IN SCHOOLS

Issue number	3/97	11/98	13/99	07/00				
Academic Year of the survey	95/6	97/8	98/9	99/0	97/98	97/98	98/99	98/99
Date of the survey	Mar 1996	Mar 1998	Mar 1999	Mar 2000	C.I. Upper	C.I. Lower	C.I. Upper	C.I. Lower
Connected to the Internet								
% of primary schools connected to the internet		17	62	86	19	15	65	59
number of internet access points (average per school)		2	4	8	-	-	4	2
% of schools linked to internal network		9						
% of schools who had their own web sites			21	34				
E mail Access								
teachers (% with personal e-mail address)		1.7	15	37	3	1	17	13
pupils (% with personal e-mail address)		0.2	4	9	-	-	5	3
Use of external electronic communication service (teaching & learning)								
Electronic Mail		10	39	53				
Video conferencing		1	2	4				
Bulletin Boards		1	1	3				
Other on-line services		3	7	12				
ICT Development Plan								
Percentage of schools with a plan		53	79	91	56	50		
<i>Percentage of schools which included in their plan:</i>								
curriculum planning incorporating the use of ICT / development of new curriculum opportunities using ICT			76	86				
teachers' professional development or staff training and development in the use of ICT for teaching and learning			92	96				
development of the hardware provision, equipment upgrades, networking etc			86	81				
acquisition of new software and content and sharing with other schools			83	67				
repair and maintenance of equipment (98 99) depreciation cost of equipment and disposal of redundant equipment (99 00)			63?	24?				
ICT staff recruitment			11					
the use of ICT facilities outside school hours and including their use for community purposes			30	36				
Teacher use of ICT								
% of teaching staff that used computers regularly (at least twice a week on average)		81						
percentage who feel confident to use ICT within the curriculum		64.7	67.8	67.1	67.4	62.0	70.5	65.1
percentage who have received some training in ICT		90.3	91.9	82.0	92.0	88.6	93.5	90.3
percentage who have received updated training within the last two years		45.3	45.6	60.0	48.2	42.4	48.5	42.7
have access to a computer at home or have desktop laptop computer assigned for their personal use		-	-	66.3				

Appendix 9-B: More ICT in primary schools survey results

Contribution of ICT as reported by headteachers (1995/96)

	Substantial	Some	Little	None
Teaching	21	67	11	1
Learning	29	65	6	-
Administration	83	14	2	1

Contribution of ICT as reported by headteachers (1997/98 and 1998/99)

Percentage of schools reporting contribution of ICT to:						
	Substantial 1 (97/98)	Substantial 1 (98/99)	Some (97/98)	Some (98/99)	None (97/98)	None (98/99)
Quality of teaching	13	15	81	83	6	3
Quality of whole class or group learning activities	10	14	81	79	9	8
Quality of individual learning activities	24	27	73	71	3	2
Improvement in pupil motivation to learning	34	38	63	60	3	2
Improvement in pupils' learning skills	14	17	81	79	4	3
Efficiency of school administration	67	71	30	26	4	3
Improvement in home/school links	8	6	33	31	59	63

Use of information technology in areas of the curriculum in primary schools (95/96 - 98/99)

Percentage of primary schools												
	Substantial 95/96	Substantial 97/98	Substantial 98/99	Some 95/96	Some 95/96	Some 98/99	Little 95/96	Little 97/98	Little 98/99	None 95/96	None 97/98	None 98/99
English	66	57	52	33	39	44	1	2	3	0	1	-
Mathematics	21	24	22	67	62	66	12	13	12	-	1	-
Science	4	4	6	47	52	55	44	38	35	4	6	3
Design and Technology	5	1	1	35	25	27	42	49	48	18	24	23
History	10	7	7	49	52	50	30	32	35	12	9	8
Geography	6	4	3	45	47	50	41	42	43	8	7	4
Art	17	10	10	54	48	47	24	33	35	5	9	8
Music	1	1	1	27	19	21	42	51	46	30	29	32
Physical education	0	0	0	2	1	1	8	8	10	91	91	89
Religious education	0	0	-	6	8	11	26	31	38	67	61	51
Other	2	1	2	4	2	2	2	1	3	93	96	20

Percentage of schools that use ICT in areas of the curriculum (1999/2000)

	Substantial	Little	None
Art	36	61	3
Design and technology	8	83	9
English	87	12	1
Geography	24	72	4
History	35	62	4
Humanities	11	63	26
Information technology	89	8	3
Mathematics	66	32	2
Modern foreign languages	0	47	53
Music	4	81	15
Physical education	0	90	10
Religious education	3	75	22
Science	35	60	5
Other	2	3	95

Percentage of primary schools where computers were used by pupils with special educational needs (1998/99)

Overall	64
<i>of which:</i>	
Pupils with moderate learning difficulties and specific learning difficulties	60
Pupils with severe learning difficulties	14
Pupils with sensory or physical disabilities	19
<i>Proportion of pupils who have statements which prescribe access to a computer</i>	<i>0.2</i>

Percentage of schools where computers were used by pupils with special educational needs (1997/98 and 1998/99)

	97/98	98/99
<i>Overall (% of schools which computers were used by pupils with SEN)</i>	<i>62</i>	<i>64</i>
Pupils with moderate learning difficulties and specific learning difficulties	58	60
Pupils with severe learning difficulties	11	14
Pupils with sensory or physical disabilities	14	19
<i>Proportion of pupils who have statements which prescribe access to a computer</i>	<i>0.1</i>	<i>0.2</i>

Pupil experience of computers during a typical week (in 1995/96 and 1997/98)

	% of pupils who used a computer during a typical week (95/96)	% of total lesson time per week in which computers were used by pupils (95/96)	% of total lesson time per week in which computers were used by pupils (97/98)
Reception	65	42	48
Year 1	62	43	47
Year 2	61	45	48
Year 3	54	41	45
Year 4	57	43	45
Year 5	56	44	46
Year 6	58	45	46
Overall Average	59	43	46 (including Yr 7/8)

Percentage of teaching staff shown at their highest level of training in the use of IT (1993/94 - 1998/99)

Training	93/94	95/96	97/98	98/99
Initial awareness training only	22	31	27	23
One short in-service course	26	25	21	20
More than one short in-service course	43	35	41	47
Award bearing in-service course	2	1	2	2
No training	6	8	10	8

Access to computers as reported by headteachers (1995/96)

Access to computers	(% of computers)
In library	5
In computer room	3
In other rooms	55
Available throughout school	30
Assigned to specific children with SEN	3
Other	4
Percentage on school network	4

Deployment of computers as reported by headteachers (1997/98 and 1998/99)

Deployment of computers (% of computers available)	97/98	98/99
Library or central learning resource area	5	6
Permanently located in ICT room	6	12
Permanently located in study area or classroom	64	56
Freely available throughout school	22	19
Assigned to specific children with SEN	2	2
Other	2	4

How ICT is taught in primary schools in 1997/98

	Across the curriculum	As a separate subject	Both
Reception	50	1	49
Yr 1	46	1	53
Yr 2	43	0	56
Yr 3	41	2	57
Yr 4	41	2	57
Yr 5	41	2	58
Yr 6	38	2	60

How ICT is taught in primary schools in 1998/99

	Across the curriculum	As a separate subject	Both
Reception/Yr 1/Yr 2	41	2	57
Yr 3/Yr 4/Yr 5/Yr 6	30	3	67

Appendix 10: An overview of the statistical procedures performed in the thesis

The major purpose of the appendix is to provide a brief overview of the statistical procedures performed in this thesis. To be authentic and consistent, the examples of the statistical procedures presented below are based on the data collected for the purpose of this thesis e.g. data presented in appendix 2-H.

Descriptive statistics

The "descriptive statistic" command is one of the most common statistical procedures performed throughout the thesis. Often, the results of the procedure would include the statistical information that is similar to the example below:

Descriptive statistics concerning the number of computers in the classroom

(Source: Table T4-D1-2b)

Variable	N	Mean	S.E.	S.D.	Minimum	Maximum
Cncom	251	2.18	.14	2.21	.00	20.00

The example above provides the information about the number of computers in the classroom (cncom). The results was obtained from 251 teachers (i.e. N refers to the number of samples) in a teacher questionnaire in 1997/98. The mean statistic shows that on average there were two computers available for the class. However, the difference between the minimum and the maximum number of computers in class is large, ranging from 0 to 20. The extent of variation can be reflected by the standard deviation statistics (S.D.), which links to the standard error of the mean (S.E.).

Pearson correlation test

Pearson correlation test is often used to show the direction and the degree of association of two variables. For example, we might ask ourselves whether the frequency of class computer usage in 1997/98 was positively associated with the frequency a typical pupil in class to have a turn on the computer in 1997/98, at $p < .01$ level of statistical significance. In this thesis, the investigation can be carried out by performing a Pearson correlation test on the expected relationship between the variable "pc_com_u" and "pp_com_u". The results are presented in the table below:

The results of Pearson correlation test between the frequency of class computer usage and the frequency of pupil computer usage

	PC_COM_U pc_com_u: Frequency of class computer usage	PP_COM_U pp_com_u: Frequency of pupil computer usage
PC_COM_U pc_com_u: Pearson correlation	1.00	.361**
Frequency of class computer Sig. (2-tailed)	.	.000
usage N	241	240
PP_COM_U pp_com_u: Pearson correlation	.361**	1.00
Frequency of pupil computer Sig. (2-tailed)	.000	.
usage N	240	246

The results of data analysis give support to the expected positive correlational relationship between the two variables, at $p < .01$ level (two-tail test) with $N = 240$. The size of the Pearson correlation statistic (r) is 0.36.

Partial correlation

Imagine that we are told from the results of a Pearson correlation test that the adaptation of computers to make ICT suit those with special needs in 1997/98 was

negatively associated with pupil academic learning gains in maths at $p < .05$ level, with $N = 67$ and $r = -0.297$. We might query whether the result is really useful to form as the evidence of the relationship between the pedagogy concerning the use of computers and maths learning gains because the number of pupils with special educational needs in the class were not under control. As a result of this, the difference in learning gains in maths could be caused by the difference in the number of pupils with special needs.

In relation to the above problem, partial correlation test seems to be a better statistical procedure. We can perform a Pearson correlation test between the adaptation of computers to make ICT suit those with special needs in 1997/98 and pupil academic learning gains in maths, with control for the number of pupils with special education needs in class. The results suggest that the two variables are correlated at $p < .05$ level, with $N = 64$ and $r = -0.299$. Since the number of pupils with special needs is taken into account in the statistical procedure, the result is relatively better to be used as an evidence of the relationship between the pedagogy concerning the use of computers and maths learning gains than the result of the Pearson correlation test above

Linear regression analysis and residual analysis

Correlation statistic is linked to linear regression statistic. For example, given that we know that pupils' developed ability is positively related to their educational performance, we can plot the values of the two variables as observation points on a graph. A regression line can be drawn to show the pattern of the relationship. In this thesis, it is clear that the higher the pupils' developed ability, the higher the educational performance and vice versa. In other words, one might expect a pupil with low developed ability would have low educational performance.

The regression line can be described as a line of 'best fit' because it has the smallest sum of squared vertical distances between the line and the observation points. The vertical distance of each point on the linear regression line carries the information

about the level of educational performance that we can reasonably expect from a typical pupil with a specific level of developed ability. All the observation points that are above the regression line can be interpreted as having a better than expected educational performance, in relation to their level of developed ability. Similarly, all the points that are below the regression line can be interpreted as not performing as well as they are expected. The 'residual' is computed by the difference in vertical distance between the observation point and vertical distance of the point on the regression line. The value-added measures (or learning gain measures) in this thesis are computed by the application of this statistical approach. Further information about the computation of value-added can be found in Chapter 2 Section 2-1-4 "A technical study on the calculation of value-added measures in this thesis".

Multiple regression analysis

Instead of using one variable to predict educational performance, statistical procedure nowadays can allow more than one variable to perform the prediction simultaneously. That means, the outcome variable "educational performance" can be predicted by the simultaneous work of a group of predictors.

In this thesis, this statistical procedure was widely used in Chapter 4 and Chapter 5. There were times when multiple regression models were used in a structured way to form as a series of models. Some of them were named as path models because they implied cause-and-effect relationships between the variables being involved. Two-wave two-variable (2W2V) path modelling procedures, as presented in Chapter 4 Section 4-5-2-2, were typical examples of causal modelling.

Paired T-test

Paired t-test is often used to examine the difference between two mean statistics. For example, the t-test results showed that the mean statistic of the number of turns that a pupil had on the computer in 1998/99 was significantly different from the mean statistic in 1997/98, at $p < .01$ level with $N = 117$. The former was close to "several

times a month", while the latter was between "several times a week" and "several times a month". So, we can conclude that the pupils in the study were less likely to have a turn on the computer in 1998/99 than in 1997/98.

Chi-square statistic

Chi-square statistic is a non-parametric test that uses to examine the significance of a pattern of the distribution of samples in terms of their categorical classification. The procedure was used in Chapter 6 Section 6-4 to examine the relationship between reading gain and reading attainment in terms of the frequency distribution of the samples in the specified categorical groups in the study.

One-way analysis of variance

Paired t-test is used to compare the difference between two mean statistics. One-way ANOVA can be use to compare the difference between two or more than two mean statistics.

For example, the results of a one-way ANOVA suggested that there was a significant difference in the average number of computers between the three levels of primary education in 1997/98, at $p < 0.05$ level (one-tailed). In other words, the results showed that the number of computers available to pupils was affected by the primary education level factor. Pupils in lower primary had fewer computers, and vice versa. The detail of the results are presented as below:

The results of ANOVA (one-tailed) that examine the difference in the number of computers between different levels of primary education

(Source: Table T4-D1-2d)

Names of var.	Pupils' level in primary education	Sample size	Mean	ANOVA Sig.
cncom	Level 1	99	1.93	.043*
	Level 2	70	2.02	
	Level 3	78	2.63	

Keys/Remark: *cncom* refers to the number of computers in the classroom. *Level 1* refers to below year 2, *Level 2* refers to Year 2 and below Year 4, *Level 3* refers to Year 4 and above.

Two-way analysis of variance

The one-way ANOVA procedure is often used to examine the impact of an independent variable (or a factor). Two-way analysis of variance is often used when there are two independent variables (or two-factors). According to the feature of the procedure, there are three potential channels that affect the value of the dependent variable(s), which include:

1. the main effect of the first independent variable,
2. the main effect of the second independent variable, and
3. the interaction effect between the two independent variables.

For example, it started by using the value of the data variable 'adapting the use of programs to suit children with special educational needs' (asad97) and the value of the data variable 'inclination towards the use of ICT in the classroom' (td97) to divide teachers into two groups. This included 21 teachers who did not support the adaptation of programs and 12 teachers who supported the adaptation of programs. The alternative classification of the same group of teachers included 15 teachers who had low inclination towards using ICT and 18 teachers who had high inclination

towards using ICT. The dependent variable was maths attainment (z). The major criterion for drawing the division line was to form two sub-groups of roughly equal size, in relation to the nature of the data variables. The results is presented in the table below:

An illustration of 2-way ANOVA (Tests of Between-Subjects Effects)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model [^]	367.372(a)	3	122.457	9.456	.000
Intercept	71653.099	1	1653.099	5532.929	.000
G_ASAD97	128.274	1	128.274	9.905	.004
G2_TD97	240.446	1	240.446	18.567	.000
G_ASAD97 * G2_TD97	108.197	1	108.197	8.355	.007
Error	375.559	29	12.950		
Total	82487.922	33			
Corrected Total	742.931	32			

Remark: Dependent Variable "T_O_ZMA" refers to maths attainment in 97/98 expressed in T-score (standardised at pupil level)

Key: [^] refers to R-Squared = .494 (Adjusted R Squared = .442)

The results of the above example show that the two main effects and the interaction effects were statistically significant at $p < .01$ level. The table below shows the mean statistics of the two-ANOVA design. It suggested the significance of interaction effects. The difference in maths attainment between the group of teachers who did not support the adaptation of programs and the group of teachers who supported the adaptation of programs was significant among teachers who had low inclination towards using ICT. Such a difference was not significant among teachers who had high inclination towards using ICT.

Mean statistics of the 2-way ANOVA

g2_asad97 \ g2_td97	1	2
0	50.03 (10)	51.89 (11)
1	42.09 (5)	51.55 (7)

Remark: the number in bracket refers to the sample size. The dependent Variable "T_O_ZMA" refers to maths attainment in 97/98 expressed as T-score (standardised at pupil level).

The two-way ANOVA procedure was used in Chapter 3, 4 and 5.

Alpha statistic (internal consistency)

In this thesis, alpha statistics is often used as a procedure for the construction of a measurement scale. The scale appears as a composite variable that is formed by linking a group measures together. The alpha statistic is an index showing the internal consistency between the variable items within the group. In relation to the nature of the quantitative data in this thesis, a scale with an alpha statistic between 0.7 to 0.8 is regarded as reasonably reliable. A scale with an alpha statistic between 0.6 and 0.7 is regarded as marginally reliable, but a scale with an alpha statistic below 0.6 would imply that the measurement scale is not reliable enough.

Factor analysis (exploratory)

Due to the complexity of the statistical procedure, no example about the computation processes will be given here. Instead, examples of the procedure can be found in many textbooks concerning data analysis e.g. Comrey and Lee, 1992; Norusis, 1998.

In this thesis, the procedure was used to demonstrate the existence of five dimensions of pedagogical preferences as mentioned in Chapter 5, Section 5-1-2-2

Confirmatory factor analysis (i.e. a specific mode of structural equation model)

The only confirmatory factor analysis performed in this thesis is presented in Chapter 5, Section 5-1-1-2-2. The results demonstrated the goodness of fit of a four-factor model of reflection.

Hierarchical cluster analysis

When performing a hierarchical cluster analysis procedure for a group of variables, the closest pair of variables will be identified and linked together according to a specific criterion of grouping (e.g. Squared Euclidean distance). The procedure will be repeated until all the variables in the group are being linked up as a cluster.

In this thesis, hierarchical cluster analysis was used to investigate the structure of the links between measures of perceived challenge concerning the use of ICT for teaching and learning purposes, as presented in Chapter 5, Section 5-2-2. With the support of alpha statistics, the results showed that the 18 questionnaire items can be sub-divided into 4 clusters of perceived challenge concerning.

Qualitative data analysis

There are various types of qualitative data collected and analysed in this thesis. These include interview transcripts, textual responses to questionnaire items, comments and suggestions made by teachers and parents. Due to the size of the data collection, the full set of data will not be presented here.