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National Trends in Teacher Participation in ICTPD Cluster Programmes, 1999-2006: Results from the Baseline Surveys

Interim Report to the Ministry of Education

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Reports on the ICTPD School Clusters Project Surveys, 1999-2006

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2006

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Executive Summary

This Report summarises the findings of a comparative analysis of the baseline surveys for seven ICTPD Cluster cohorts (viz: 1999, 2001, 2002, 2003, 2004, 2005, 2006). For each of these cohorts participating teachers completed a baseline questionnaire at the beginning of the first year of their entry into the three-year ICTPD cluster programmes. The numbers of respondents for each of the cohorts were 882 (1999), 2185 (2001), 1714 (2002), 2562 (2003), 4136 (2004), 1950 (2005) and 4018 (2006) respectively.

The central question addressed by the analysis is: To what extent and in what ways have the demographic and professional ICT usage profiles of participants entering ICTPD Cluster programmes changed over time?

Table. 1 Timetable of Surveys in the ICTPD Cluster Cohorts

(Data for this Report is drawn from the shaded Baseline Surveys)

	1999	2001	2002	2003	2003	2004	2004	2005	2005	2006	2006	2007	2007	2008
1999 cohort	BL		**EOP**											
2001 cohort		BL			**EOP**									
2002 cohort			BL	**OL1**	**OL2**	**OL3**	**EOP**							
2003 cohort				BL	**OL1**	**OL2**	**OL3**	**OL4**	**EOP**					
2004 cohort						BL	**OL1**	**OL2**	**OL3**	**OL4**	**EOP**			
2005 cohort								BL	**OL1**				**EOP**	
2006 cohort										BL				**EOP**

Key: BL=Baseline survey; OL1,2,3,4 = Online surveys; EOP = End of Project survey

It is important to note that the report does not investigate the effects, effectiveness or impact of the ICTPD Cluster programmes as such. Rather it is an attempt to identify whether or not different groups of teachers have tended to take part in the programmes over time, and how, if at all, patterns of their '*entry-point*' ICT use, ICT skill levels, understandings about ICTs, and so on, have differed or changed among the various cohorts entering the programme since 1999.

Responses from the baseline surveys from the seven cohorts provide a picture of a teaching population changing significantly in one or two aspects of its entry-point ability and usage of ICTs, but changing little in most. Indeed, except for a steady increase in skills and administrative use among successive cohorts, and one particular point of increase in their confidence about the use of ICTs, the cohorts have been much more remarkable for their profile similarities than differences.

The social demographics of participating teachers have varied little from cohort to cohort. The teaching experience profile of cohorts has remained remarkably stable over time, as, with one exception, have gender and sector profiles. The 2003 cohort has been the only one so far in which males and females, secondary and primary teachers took part in the same proportions as in the general teaching population. In all other cohorts both males and secondary teachers have been significantly underrepresented in ICTPD programmes compared to females and primary teachers, although the extent of the under representation of secondary teachers has declined over recent cohorts (2004- 2006).

The professional development 'strategies of choice' for teachers entering the ICTPD programmes has varied little from cohort to cohort. Teachers from all cohorts 1999-2006 have been relatively consistent in their patterns of preferences about whom to best work with, session times, and preferred activities. Across all cohorts there has been a consistent preference for strategies that have teachers working one to one with experts or colleagues, for strategies which provided maximum amounts of release time, and a general preference for working with people of similar skill levels or from the same school sector when working in groups, though this was slightly less apparent in the 2004 and 2005 cohorts. For many strategies, however,

there have also been significant minorities of teachers who expressed very different preferences and this has varied much from school to school and cluster to cluster. Facilitators therefore probably need to plan on using a variety of strategies targeted to different preferences among their particular group of teachers, rather than adopting a 'one size fits all approach' to their PD strategies. There was resistance among all cohorts to PD in the school holidays or on too many weekends.

There has been an overall increase in the proportion of teachers joining the programmes who have rated professional development in ICTs as a low priority, especially since 2003. In 2003 and in 2006 a quarter of teachers entered the programme feeling that PD in ICTs was a relatively low priority, the main reason being the pressure of other PD initiatives and major changes in assessment.

The concerns, attitudes about ICT, and PD goals of teachers joining the ICTPD programmes have varied little from cohort to cohort. For all cohorts teachers' concerns have centred on equipment reliability, access to equipment for students, time for themselves to devote to ICT issues, and, to a lesser extent, their own lack of skills. Reflecting this, teachers' predominant goals on entering the programmes have consistently focussed on acquiring technical skills and to a slightly lesser extent on getting ideas for classroom use of ICTs.

Teachers joining all cohorts believed that there were significant potential benefits to students in using ICTs, though they were more ambivalent about the benefits to teachers. Around two thirds of teachers in all cohorts believed that ICTs were 'worth the investment' in terms of educational benefit, though about a third in all cohorts remained uncertain or had yet to be convinced of these benefits.

In general, the entry skills in ICT of teachers joining the ICTPD programmes have varied significantly according to particular ICTs. Generally teachers' entry point skill levels have been low, but have steadily increased from cohort to cohort, especially with regard to the use of the Internet and word processing. By 2006 the great majority of teachers entered the ICTPD programme with at least moderate skills in word processing and the Internet (though the latter dropped off significantly between 2005 and 2006), but rather lower skill levels in other ICTs. The general increase in skill levels across cohorts would indicate that there has been a moderate 'ICT upskilling effect' occurring in the general teaching population, independent of the ICTPD cluster programmes.

Entry levels of ICT usage for lesson planning and preparation have also increased over time, with the Internet and word processing again featuring much more highly in 2006 than 1999. In 2006 more than half (52%) of the cohort had used ICTs 'often' or 'always' for lesson planning and preparation, and more than two-thirds (68%) indicated that they used ICTs 'often' or 'always' for general school administration, before the PD programme. This again would indicate a general increase in usage for these two purposes nationwide that is occurring independent of the cluster programmes.

By contrast, but perhaps predictably given the purpose of the PD, teachers joining all seven of the ICTPD cohorts have reported consistently low levels of prior use of ICTs for teaching and learning. For those teachers who *had* used ICTs with classes before the programme, the highest proportions had been using word processors for writing or project work, the Internet for 'research', or content specific (eg: drill and practice) software. The only exception to the consistently low levels of classroom usage of ICTs prior to the ICTPD programme relates to Internet use, where the proportion of moderate to high users on entry has risen steadily over time.

This contrast implies that the 'non-cluster effect' reported in relation to increased prior skills and use of ICTs for preparation/administration still has not of itself translated for many teachers outside the cluster programmes into increased classroom use of ICTs for teaching and learning. It also implies that there is still a need among teachers and schools hitherto outside the cluster programme for PD programmes that effectively foster increased usage of ICTs for teaching and learning.

Comparative Profiles of Teacher Cohorts on Entry to ICTPD Programmes 1999-2006

Participant Demographics

Teaching Experience

From the data available over the five-year period from 2001-2005, the spread of experience was broad and spans the range almost evenly, with only a 5 - 6% difference in size among them. Over the five cohorts for which this data is available, this range remained substantially the same with little variation from cohort to cohort. In 2006, this question was eliminated from the surveys as it had not shown as a significant variable over the previous five-years.

Table 2. Teaching Experience of Teachers Entering ICTPD Cluster Programmes 1999-2006

Years of teaching	**1999 cohort**	**2001 cohort**	**2002 cohort**	**2003 cohort**	**2004 cohort**	**2005 cohort**	**2006 cohort**
0 to 2	**n/a**	15%	14%	15%	13%	14%	n/a
3 to 5	**n/a**	13%	12%	11%	13%	14%	n/a
6 to 10	**n/a**	13%	15%	15%	15%	15%	n/a
11 to 15	**n/a**	14%	14%	12%	13%	13%	n/a
16 to 20	**n/a**	12%	12%	12%	12%	12%	n/a
21 to 25	**n/a**	13%	14%	14%	15%	12%	n/a
26 to 30	**n/a**	9%	10%	11%	9%	9%	n/a
30+	**n/a**	10%	9%	10%	10%	11%	n/a
Number	n/a	**2,111**	**1,684**	**2,422**	**4,047**	**1899**	**n/a**

Gender

The proportion of females to males participating in ICTPD programmes has from a high of 81:19 in 1999 to a low of 68:32 in the 2003 cohort. Most of the under or over representation of gender within that tended to be among the *secondary* teachers taking part. Males and females, for example, have been represented in the primary school teacher cohort in all ICTPD programmes in relatively the same proportions as in the general population of primary school teachers (i.e.: c.14% males:c.86% females). However, among secondary teachers, males were significantly underrepresented in the 1999, 2001, 2002 and 2005 cluster intakes, while the proportion of male to female secondary teachers in the cluster intake was the same as that for the general population of teachers in 2003, 2004 and 2006 (i.e.: c.44% males: c.56% females).

Table 3. Gender Distribution of Teachers Entering ICTPD Cluster Programmes 1999-2006

Gender	**1999 cohort**	**2001 cohort**	**2002 cohort**	**2003 cohort**	**2004 cohort**	**2005 cohort**	**2006 cohort**
Female	81%	72%	77%	68%	73%	79%	71%
Male	19%	28%	23%	32%	27%	21%	29%
Total Number	**1043**	**2159**	**1703**	**2465**	**4083**	**1916**	**4003**

School Sector

In 1999 and 2002, primary teachers made up approximately three quarters of the participants in the ICT PD programme. In 2003, however, this difference reduced to the extent that secondary participants slightly outnumbered primary participants in that cohort. The participation of more or less equal proportions of primary and secondary teachers is a particular feature of the 2003 intake, and secondary teachers have been significantly under represented in all other ICTPD cohorts, although the extent of that under representation does seem to be declining over recent cohorts.

Table 4. Sector Distribution of Teachers Entering ICTPD Cluster Programmes 1999-2006

School Sector	**1999 cohort**	**2001 cohort**	**2002 cohort**	**2003 cohort**	**2004 cohort**	**2005 cohort**	**2006 cohort**
Primary	**80%**	62%	74%	43%	60%	59%	55%
Secondary	**17%**	30%	15%	48%	35%	37%	42%
Both	**3%**	8%	8%	10%	5%	3%	3%
Total Number	**1068**	**2185**	**1670**	**2502**	**3951**	**1942**	**4017**

Teachers' Preferred Professional Development Modes

Professional Learning options

Responses to most of the preferred learning options have remained very similar for the various cohorts.[1] To work one to one with a tutor rates highest for both 2001 and 2002 cohorts (53% and 51% rating it as a strong preference). To work regularly with a partner rated second highest with 36% in 2001 and 33% in 2002. Learning in a small group rated third highest for both years (36% and 33% respectively). Working alone with written support material scored fourth highest as a strong preference, and learning in a large group such as in a lab situation scored lowest with only 4% each year rating this as a strong preference. This question was changed for the 2003, 2004, 2005 and 2006 intake questionnaires, so direct statistical comparison is not possible. However, the same general trends are in evidence for those cohorts as for the earlier cohorts with the activities ranked in the same or very similar order of most to least preferred.

Working in a group

The responses to questions about preferences when working in a group remain remarkably similar across the two years 2001 and 2002. Working with others at a similar level of skill or experience regarding ICT scored highest in both years, with around 85% having a strong preference to work this way. Around 80% also indicated they had a preference or strong preference to work with staff from participants' own school. Both years had around 65% of respondents indicating they had a preference or strong preference to work with members of participants own department or syndicate. Around 45% for both years claimed they had a preference or strong preference to work in groups with separate primary and secondary groups. Around 40% from both years said they had a preference or strong preference to work with other departments, followed very closely by those with a strong preference to work with staff from other schools. Lastly, approximately 10% from each year had a strong preference to work with mixed primary and secondary groups.

This question changed for the 2003, 2004, 2005 and 2006 cohorts. Though not statistically comparable, the results for the 2003, 2004, 2005 and 2006 cluster cohorts did show some differences in the pattern of preferences. While respondents indicated that working with others of a similar level of skill or experience was still the strongest preference, it was only indicated by around 56% of respondents. Approximately the same percentages of respondents indicated that they would prefer to work with staff from their own rather than other schools as those who indicated that they had no preference who they worked with. Approximately

[1] The 1999 cluster teachers completed a very different baseline survey to that given to the other clusters. Hence data is not always available for that year. Where comparable data is provided, it is drawn either from the Victoria Survey given to that cohort, or from retrospective questions provided in the cohort's End-of-Project survey.

two-thirds of the respondents indicated that they had no preference in working with staff from their own or other departments. Approximately two-thirds of each of the 2003, 2004, 2005 and 2006 cohorts indicated that working in separate sector groups was their preference.

Session times

Data available from 2001, 2002, 2003, 2004 and 2005 show little deviation in terms of teachers' willingness to attend certain session times. Responses remained steady at around 70-75% of participants who were 'enthusiastic' or 'can arrange' session times after school. This trend remained the same for 2006 but with a slightly lower percentage (68%). The next most favoured time was a half-day in the holidays, followed by 1-2 Saturdays a year. Three to four Saturdays a year was the least favoured session, with a high proportion of each cohort (around 30% and up to 39% in 2006) regarding 3-4 Saturdays as 'beyond reasonable expectation'. For another 31-35% this session could be arranged but they would rather not. For around 20-25%% of respondents in each cohort, a whole day in the holidays would be beyond reasonable expectation, and another 27-30% said they could but would rather not.

It should be noted that for all the suggestions other than 'after school' there are consistently high proportions who felt negatively about these session times, i.e. 'felt (they) could arrange this session time, but would rather not', or felt 'it is beyond reasonable expectation.' Just under half of the respondents each year felt negatively about a half day session in the holidays; just over half feel negatively about doing 1-2 Saturdays. Between 51-60% each year feel negatively about a whole day session in the holidays with an even greater percentage (around 70%) negative about doing 3-4 Saturdays.

Preferred activities

The results in relation to teachers' preferred PD activities remained consistent over the six-year period 2001 - 2006. Having release time remained the most favoured option ranging from a high of 85% of teachers preferring the strategy in 2001 to 75% in 2006. In 2006 having technology mentors was rated as a most preferred option (75%) with tutorials (71%) being the next preferred activity. The popularity of the remainder of activities has varied little over the years. For all cohorts, Listserv groups or online communities and being provided with professional readings have been consistently favoured by 30-40% of teachers. (See Table 8 in Appendix for complete results of preferred PD activities.)

Teachers' Concerns and Goals

Concerns about ICT

Over the period 2001-2006, the pattern of responses changes very little in relation to participants' concerns regarding ICTs, although the respondents were given fewer choices of 'concerns' to comment on in later surveys.

The greatest concern for the 2001 – 2003 cohorts was consistently that of equipment breakdown/technical problems, with around 60% of those about to enter the ICT PD programme stating this as being a significant concern to them. This decreased for the 2004 cohort and further decreased for the 2005 cohort for whom lack of time was the greatest concern. In 2006, this concern was included in the 'lack of technical support' option, which remained consistent at approximately 19-25% for each of the cohorts. For the 2001 – 2004 cohorts, just slightly fewer claimed 'lack of time to cope with it all' was a significant concern. However, there was a decrease to 44% for this option in 2006. Around 50% of the 2001 – 2004 cohorts felt access to equipment for their students' use was of significant concern, although in 2005 and 2006 this was considered a significant concern by a reduce proportion of 40 - 42% of the respondents.

For the 2001, 2002, and 2003 cohorts, approximately 38% each year had a significant concern about the ongoing need to upskill themselves in using new software packages. This decreased in 2004 (35%), further decreased in 2005 and 2006 (31%). For the 2001, 2002, and 2003 cohorts, similar proportions (35%) consistently felt keeping up to date with new developments and access to equipment for their own professional use were significant concerns. This decreased in 2004 (32%) and 2005 (29%) but rose back to 34% in 2006. The decrease in the concern about access for their own use could be due to the laptops for teachers (TELA) scheme; however, this can only be speculation at this point without comparison to the data from this scheme. In 2006, 'access for teachers' was removed from the list of options for this question because of its declining significance as a concern.

The relatively low proportions of teachers across all the cohorts who identified PD and classroom use issues as of concern is perhaps notable. Lack of training was of significant concern to around 30% of respondents each year and in 2006 was not included as an option on its own but rather subsumed into the 'ongoing upskilling' option. Not knowing how to include the use of ICT in their teaching was consistently a significant concern for 22 to 25% of teachers entering the programmes across the 2001-2006 cohorts.

As shown in Table 5, the general trend seems to have been that the proportions of teachers expressing concerns in the various aspects tended to increase from 2001 to 2003, but then level off or slightly decline. Although the 2005 and 2006 cohorts had fewer options to comment on, the levels of concerns for these two cohorts all decreased except for 'lack of time', which showed a slight increase in 2005. Concerns about 'lack of support' remained the same for the 2004 and 2005 cohorts but increased slightly again in 2006. The new category of 'linking ICT with teaching and learning shows that it is a significant concern for 28% of the respondents in the 2005 cohort and 24% for the 2006 cohort.

Table 5. Proportions of Teachers Reporting Various Concerns as 'Significant Concerns' 2001-2006

Concern	**1999 cohort**	**2001 cohort**	**2002 cohort**	**2003 cohort**	**2004 cohort**	**2005 cohort**	**2006 cohort**
Ongoing upskilling	**n/a**	37%	38%	39%	35%	31%	31%
Access for teachers	**n/a**	35%	31%	34%	29%	24%	n/a
Access for students	**n/a**	53%	48%	52%	49%	42%	40%
Technical problems	**n/a**	61%	61%	62%	57%	52%	n/a
Teaching style change	**n/a**	9%	8%	8%	9%	n/a	n/a
Including ICT in class	**n/a**	23%	25%	23%	25%	22%	24%
Keeping up to date	**n/a**	35%	36%	35%	32%	29%	34%
Lack of time	**n/a**	56%	60%	57%	52%	54%	44%
Lack of support	**n/a**	19%	20%	24%	19%	19%	25%
Too much/quickly change	**n/a**	16%	18%	19%	16%	n/a	n/a
Lack of training	**n/a**	29%	30%	32%	29%	28%	n/a
Do not improve learning	**n/a**	9%	10%	11%	8%	n/a	n/a
Daily Timetable changes	**n/a**	7%	7%	7%	5%	n/a	n/a
Feeling too far behind	**n/a**	14%	12%	12%	11%	n/a	n/a
Lack of skills	**n/a**	12%	11%	11%	9%	n/a	n/a
Link ICT and Teaching & Learning	**n/a**	n/a	n/a	n/a	n/a	28%	24%

The main concerns for all cohorts seemed to be technical problems, lack of time, keeping up-to-date, and access for students, though we note a possible general decline in the proportions of teachers who expressed significant concerns about most issues over time.

Goals for the programme

For all of the cohorts there is a clear tendency for the teachers' goals on entering the ICTPD programmes to be focused on one or both of technical upskilling and acquiring ideas for classroom uses of ICT. For the 1999, 2001, 2002, 2003 and 2004 cohorts, about half of the teachers considered the acquisition of technical skills as a major goal for the programme, and about a quarter of teachers identified getting ideas on using ICTs in the classroom as second in their list of important goals. Technical skills acquisition remains the major goal for about half of the teachers and classroom ideas for about a quarter, consistently across all cohorts (see Table 6). For the 2004, 2005 and 2006 cohorts, a new goal category became evident. About 1% of the teachers listed gaining a formal qualification in ICT as a goal for their ICTPD programme.

Table 6. Teachers' Goals for ICTPD, 1999-2006

Goal Category	1999 cohort	2001 cohort	2002 cohort	2003 cohort	2004 cohort	2005 cohort	2006 cohort
Technical Skills	50%	51%	49%	48%	51%	55%	53%
Classroom/Student Use	24%	26%	26%	25%	24%	22%	24%
Admin./Prep./Plan.	11%	9%	10%	12%	10%	11%	10%
Better Teaching and Learning	6%	6%	5%	7%	7%	6%	6%
Support/Sharing	4%	4%	4%	4%	3%	3%	3%
Infrastructure	5%	3%	3%	3%	1%	1%	1%
General Goal	0%	1%	0%	1%	2%	0%	1%
Policy	1%	4%	1%	0%	1%	1%	1%
Qualifications	n/a	n/a	n/a	n/a	1%	1%	1%

Participation in Online Communities

In 2006 a question was added to the survey to find out the frequency of participation in online communities. 74% of the respondents had not participated in online communities at all on entry to the programme, while 20% indicated that they had occasionally participated in online communities. Only 6% of the respondents indicated that they had regularly participated in online communities.

Extent of ICT focus

Those who planned to give a substantial amount of their professional development time to ICT remained constant at around 28-29% each year, from 2001-2003, then jumped significantly to 43% in 2004 before decreasing slightly to approximately 40% in 2005 and 2006. For those who were able to spend 'some time developing skills and knowledge in this area…' the rate falls slightly from 57% in 2001 and 2002, to 43% in 2003, 40% in 2004, 42% in 2005 and decreasing to a low of 35% in 2006.

It should be noted that the proportion of those who deemed ICT to be a low priority in their Professional Development time increased from only 4% in 2001 and 2002, to 27% in 2003, dropped to 17% and 18% in 2004 and 2005, then rose to 25% in 2006. The 2003 and 2006 cohorts are the cohorts with the lowest levels of priority given to ICT in their professional development plans. Teachers were given the opportunity to comment on this and the most common reasons given were the number of other PD contracts, such as numeracy and literacy, that schools have been undertaking at the same time and the pressure of other priorities and high level commitments such as NCEA and curriculum reviews.

Teachers' Attitudes Towards ICTs

The 2001 and 2002 figures available for this show little or no difference between the cohorts in respondents' attitudes towards ICT. Teachers were ambivalent about how 'easy' ICT skills were to acquire. The greatest proportion (48 % in 2001 and 46 % in 2002) disagreed with the statement that 'ICT won't improve their

teaching'. The greatest proportion of respondents agreed that students should use ICT daily – 42% in 2001 and 43% in 2003. But another 32% in 2001 and 37% in 2003 were either not sure or disagreed that students should use ICT daily. Both years show consistent figures on the statement that 'ICT is worth it for administration purposes'. Around 60% either agreed or strongly agreed with that statement.

The statement that 'ICT will change my teaching' generated fairly evenly split responses for both cohorts, with about a third saying they agreed that it will, another third saying they were not sure, and almost another third saying they disagreed or strongly disagreed. That 'ICT is worth it for the students' also received very consistent responses over the two cohorts. Almost 60% either agreed or strongly agreed with this statement. Around 33% were unsure of whether or not ICT is worth it for the students, and around 10% each year felt it was not worth it for the students.

The wording of the questions that generated the above data was changed in 2003. However, the results from the 2003, 2004 and 2005 intake questionnaires, though not statistically comparable, show similar general trends. Data is unavailable on this issue for the 1999 cohort. The general picture given, therefore, is one of six cohorts of teachers who all perceive general benefit in using ICTs, but who were ambivalent, or on occasion divided, as to the exact nature of that benefit, especially in teaching and learning terms. If anything, the trend was for an increase in the proportion of respondents who 'agree' or 'strongly agree' with the statements presented each year in the 2003, 2004 and 2005 cohorts.

The question was again modified and made more generic for the 2006 Baseline survey. The respondents were asked to indicate the extent to which they agreed or disagreed with the following statements:

a) ICT can help improve curriculum provision in my classroom, and;
b) Overall, the investment by schools in ICT can be justified by the teaching and learning outcomes.

For the first statement, 84% of the respondents agreed or strongly agreed that ICTs can help improve curriculum provision in their classroom. Only 2% of the respondents disagreed or strongly disagreed with the statement. The remaining respondents indicated that they were neutral/not sure (14%). Slightly fewer respondents (75%) said they believed that that the investment by schools in ICTs can be justified by the teaching and learning outcomes. 4% of the respondents disagreed or strongly disagreed with the statement. A higher percentage (21%) indicated that they were neutral or not sure whether the investment in ICTs was justified in terms of the teaching and learning outcomes.

Teachers' Skills and Confidence in using ICTs

Data collected from all of the 1999, 2001, 2002, 2003, 2004, 2005 and 2006 baseline surveys shows that teachers entering the ICTPD programmes have variable but generally *increasing* levels of ICT skills. The respondents in the 2005 and 2006 intakes were asked to rate themselves as having 'very low/low' level of achievement to 'high/very high' level of achievement in each of the ICT competencies listed. The respondents in previous intakes were given a series of statements that had increased levels of achievement for each of the competencies and were asked to tick the ones that applied to their current level of achievement. These were then assigned 'very low/none' to 'high/very high' ratings by the research team.

The data for basic operations ability shows that a majority in 1999 (57%) were at the lowest end of the basic skills listed in this survey, (i.e. they use the computer to run one or two programmes that are available). By 2006 only 4% of teachers joined the ICTPD programme with this low level of skill in basic computer operations. By 2006 also there is a broader spread of skills across the spectrum with substantially decreased proportions at the lowest end for all but one of the skills investigated (see Table 9 in Appendix). It should be noted that in 2006 there was an increase in the percentage of respondents who indicated that they had very low or no skills in using the Internet, rising from a steady 3 - 5% in 2003, 2004 and 2005 to 16% in 2006.

File management and word processing show the greatest shifts in the abilities of those about to enter the programme. In 1999, for example, 22% of respondents claimed to be at the top end of the ability scale for file management (i.e. can move files between folders and drives; can understand directory paths and the use of folders and can use the find feature to locate files on the hard drive). By 2006, the proportion had almost doubled to 42%. At the other end of the scale, high levels of word processing skills also increased across cohorts, with 23% in 1999 putting themselves in the highest end of the spectrum listed compared to 59% in 2006. By 2005-2006 around 90% of teachers entering ICTPD already had moderate or high skills in basic computer operations and word processing.

Skill levels with email also increase significantly over time, from 19% of respondents being confident at the top level (use attachments, store addresses and nicknames, have a signature, forward mail and use listserv) in 1999, to 36% in 2004. Again this trend continued markedly in 2005, with 49% of respondents rating themselves as having 'high' or 'very high' levels of achievement. However, a decrease to 35% was noted for the 2006 cohort in those respondents rating themselves as having a high level of skill in using email.

Skills with spreadsheets increased, but not as much at the top end of the scale of skills as the other ICT skills. However, those who had not used a spreadsheet at all (i.e.: no skills) fell from 56% in 1999, to 41% in 2004 and then even further in 2005, when only 20% of respondents rating themselves as having 'very low/none' skill levels. This remained constant in the 2006 cohort. The overall increase in spreadsheet skills, as for several others, is explained more by a decline in the proportion of non-users than an increase in those with high-level skills.

Skills with graphics also rose over the cohorts, with a much higher proportion of respondents placing themselves at the moderate skill level of ability listed on the survey for the 2005 and 2006 cohorts compared to earlier cohorts. In 1999, 12% were at this level. By 2006 the proportion had increased to 27%, having hit a high of 30% in 2005.

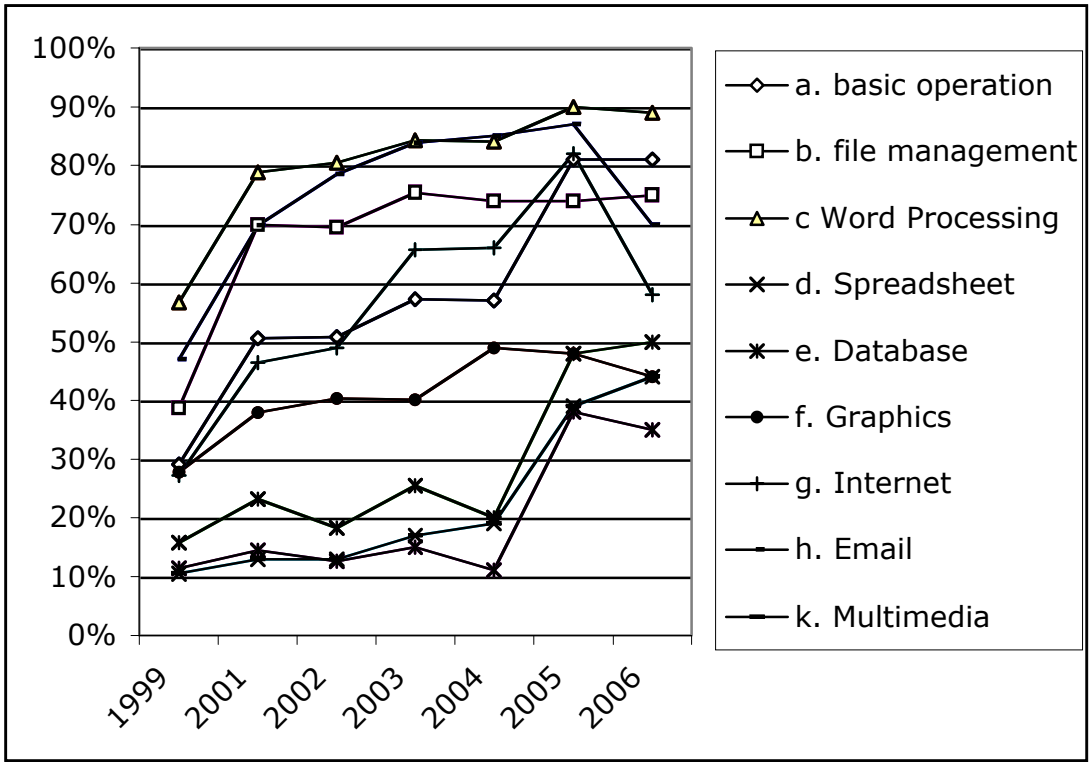
Database skill levels have also increased, particularly in the second of the 4 levels of ability. In 1999, 26% were at this level, whereas by 2006 48% felt they were at this level. Hence, those not using a database fell from 63% in 1999, to 28% in 2006. Changes were negligible for the two higher levels among earlier clusters but these two categories increased significantly in the 2005 cohort and remained at a similar level for the 2006 cohort.

The use of, and skills with, the Internet show a large increase over time. Only 3% in 2005 claimed not to use the World Wide Web, compared to a much higher 37% in 1999. However, there was something of a reversal of this trend in 2006, with 16% of respondents indicating that they were at the lowest skill level. Overall, for both Internet and email skills, there has been a substantial shift of skills up through the levels over time, but this has dropped back somewhat in the 2006 cohort.

Video and multimedia skills increased only slightly from 1999 – 2004, but jumped sharply upwards from 2005 on. The figures for the 2006 cohort show that some 44% of teachers entering ICTPD already had Moderate or High skill levels in video and multimedia (Second to bottom line in graph below, tags obscured).

The overall trends with regard to teachers' entry point skills with ICT are shown in Figure 1. This shows the steadily increasing skill levels of teachers on joining the programme over the period 1999-2006. The increase has been across the board, but has been most notable in relation to skills in word processing, the Internet (with the exception of the 2006 cohort), file management, and, in 2005 and 2006, spreadsheets databases and multimedia.

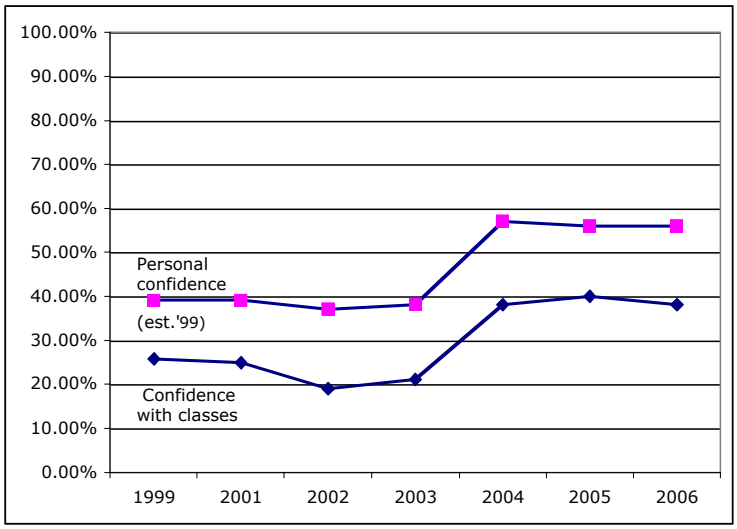
Figure 1. Percentage of Teachers Reporting Moderate or High Levels of Competence/Skill in Various ICTs on Entry to ICTPD Cluster Programmes, 1999-2006



Teacher Confidence with Personal and Classroom use of ICTs

The confidence levels of teachers entering the ICTPD programme have also been generally low, but increased notably around 2003-2004. In 2005 and 2006, over half (56%) of the respondents indicated that they felt 'confident' or 'very confident' using ICTs personally. The trend still remains that the teachers indicate a lower level of confidence about using ICTs in their class than they do with using ICTs personally. Although the general trend is an increase in confidence in using ICTs in the classroom, most of this increase occurred around 2003-2004 as can be seen in Figure 2. Confidence levels have remained relatively stable across cohorts both before and after these years.

Figure 2. Proportion of teachers' reporting moderate to high levels of confidence with ICTs on Entry to ICTPD programmes, 1999-2006



Teachers' Usage of ICTs for Lesson Planning and Preparation

For the majority of the planning/preparation uses provided as examples in this questionnaire there has been a considerable shift in how often respondents use ICT in this way. Internet use for accessing lesson ideas, assessment, reading official documents, and other professional readings all show similar trends over the time period 1999-2004. Respondents in the 2004 cohort were less likely to 'never' use ICT for these purposes. The data shows a significant drop (of about 40% in each use) of those who 'had never' used ICT for these Internet uses, with a corresponding rise in those who use it 'sometimes' – about 20% increase for each, and those who use it 'often' – between 15–22% increase for each. The use of CD ROMs, and Digital Camera and Videos, also see a fall in the proportion of teachers who 'never' use them, of around 20% from 1999 to 2004, and corresponding rises in the 'rarely' and 'sometimes' groups.

This question was changed for the 2005 and 2006 intakes and therefore is not statistically comparable. The teachers were asked to indicate the frequency with which they used ICTs for 'finding or producing resources for lessons'. In 2005, 52% of respondents indicated that they used ICTs 'often' or 'always' for lesson planning and preparation while 17% indicated that they 'rarely' or 'never' used ICTs for this purpose. In 2006, the trend remained the same (52% and 17% respectively). The general trend of increased usage of ICTs for lesson planning and preparation evident in the earlier cohorts is apparent right through to the 2006 cohort.

Teachers' Usage of ICTs for School Administration

Using ICTs for administrative purposes has increased substantially over the period 1999–2004, though from a predominantly low start. The change can be seen more at this lower end of the usage scale, where, across cohorts, there was an ever reducing bulge of those who said they 'never' used ICTs for administrative purposes. Over the period the bulge of 'non-use' becomes much less acute.

The general movement, therefore, consists of a substantial decline in those who said they 'never' used ICT for administrative purposes, and an increase in those who 'sometimes' and 'often' used ICTs in this way. The trend is yet to show any more than a 10% increase in those who 'always' used ICT for administration, with the exception of report writing for parents.

Again, this question was changed for the 2005 and 2006 intakes and therefore is not statistically comparable. In these cohorts, the teachers were asked to indicate the frequency with which they used ICTs for 'school administration' in general, undifferentiated into categories. In 2005, 58% of respondents indicated that they used ICTs 'often' or 'always' for school administration while 17% indicated that they 'rarely' or 'never' used ICTs for this purpose. In 2006, the trend changed considerably with an increase to 68% of respondents indicating that they used ICTs 'often' to 'always' for school administration and a corresponding decrease to 12% of respondents who indicated that they 'rarely' or 'never' used ICTs for school administration. The general trend of greater usage of ICTs for administration purposes in comparison to lesson planning and preparation evident in the earlier cohorts is still apparent in the 2005 and 2006 cohorts (See Tables 10 and 11 in the Appendix).

Classroom and Student use of ICTs

The extent to which respondents were integrating ICTs into classroom learning activities prior to the ICTPD programme has been generally low, and has changed very little from cohort to cohort over time.

There has been some overall decrease in the proportions of teacher reporting no or low usage of ICTs with classes, but little increase in the proportions reporting moderate or high usage. For example, in 2001 and in 2003 24% of both cohorts had not integrated ICTs into any learning activities into their classroom programme. This decreased in 2005 to 17% of respondents, and decreased further to 10% in 2006. The largest proportion of respondents (42%) in the 2005 cohort indicated that they used ICTs in 'one to two units' only per year.

This trend remained similar for the 2006 cohort, with 53% of respondents indicating that they used ICTs in 'a minority of units'. The small proportion of teachers who were already integrating ICTs into 'several' or 'most' or 'all' units of work decreased slightly from 2001 to 2004 and then picked up a little in 2005 and 2006. Overall, though, the proportion of teachers entering the programmes having not used ICTs with classes at all or only used them once or twice a year has remained consistently high across cohorts.

When the particular types of ICTs used are considered, the figures show little or no change in the frequency of student use of ICT in the classroom for most of the uses outlined in the survey although for the 2005 cohort, there is a decrease in the proportion of teachers who 'never' used the ICTs outlined in the survey (see Table 10 in Appendix). For most there is a well-defined bulge at the lower end of the frequency-of-use scale for most ICTs, which covers the 'never' and the '1–2 times per term' responses, with very few students using ICTs more than that. Within this trend, the most often used ICTs have been word processing, the Internet, online library catalogues and content specific drill and practice software, where small majorities of teachers in all cohorts report at least occasional levels of use.

The only classroom usage that has showed a consistent increase across all the cohorts has been Internet use by students. Usage of other ICTs has remained somewhat varied across ICTs but stable across time, although we do note an increase in 2006 in class usage of word processing for project work and multimedia (see Figure 3).

Figure 3. Teachers' Use of ICTs for Teaching and Learning by Cohort, 1999 - 2006. (Use more than 1-2 times per year)

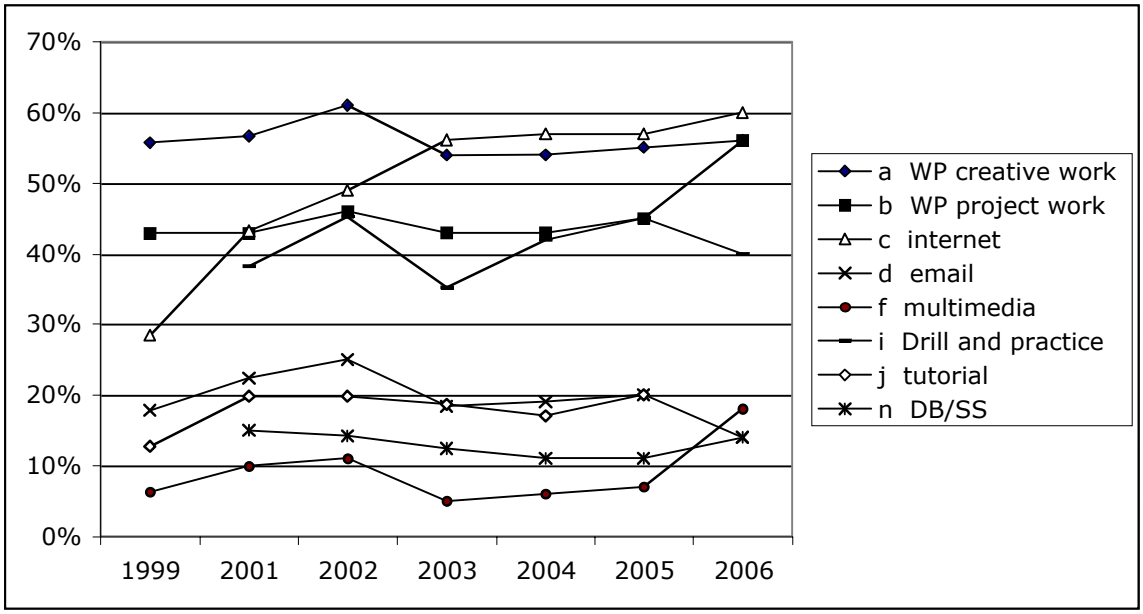


Figure 3 above makes the usage trend clear. Student use of ICTs in the classrooms of teachers about to join the ICTPD programme has remained fairly constant over all of the years analysed in this report. The striking but only exception has been in Internet usage, where the proportion of teachers who had classes using the Internet almost doubled 1999-2003, remained at a similar level for the 2004 and 2005 cohorts and increased again slightly in 2006.

In 2006, the question was changed to group some of the ICT activities and better focus on the *purpose* for which ICTs were used and not just the ICTs themselves (See Table 7). As a result, some of the figures are not statistically comparable to those of the earlier cohorts, but those that are have been included for comparison in Figure 3.

Table 7. The purpose and activities that ICTs are used for in the classroom

Purpose	Activity
Communication	*Static print* presentation: eg. making posters, journals, word processing (transactional writing), etc.
	Multimedia presentations: eg. presenting results of project using PowerPoint or Hyperstudio etc
	Online interaction: e.g. emailing or chatting with experts/other students on a current topic or a problem. Belonging to e-club or contributing to online communities
Creativity	e.g. designing and making slide shows, websites, editing and composing music, video etc., word processing for creative writing.
Information gathering/processing	e.g. accessing or searching for information on the internet, accessing school library electronic catalogue, or data logging using external devices connected to computers.
Problem solving	e.g. calculating/analysing data, working through concept simulations on computer, designing or developing their own spreadsheet or database to solve a problem; interactive fiction
Curriculum practice	e.g. learning from tutoring software, reinforcing pre-taught knowledge or practicing skills; drill and practice
Technical skills	e.g cut and paste, file management, importing digital photographs, key board skills, how to use Inspiration
Collaborative learning and social interaction	e.g. working in groups to solve a problem using spreadsheets etc, collaborating on DTP projects etc
Motivation/Reward/Engagement	e.g. working on a CD Rom or game as a reward

The most common purposes for which ICTs had been used in the 2006 entry cohort 'once or twice a week' or 'daily/almost daily' were information gathering/processing (22%), static print communication (19%), motivation / reward / engagement (17%), and curriculum practice and technical skills (each at 14%).

Conclusion

On the whole the ICTPD clusters programmes still appear to be drawing on a more or less demographically proportionate population of New Zealand teachers. However, the under-representation of secondary teachers remains a feature of all cohorts except that of 2003, though we note that the extent of this under representation seems to be reducing over time.

Predictably, given that they represent teachers who are about to undertake, and presumably therefore feel the need for, a long term programme of professional development in the area, the teachers entering each of the seven cluster programmes generally saw considerable potential benefit in integrating ICTs into teaching and learning programmes. Generally, the teachers were more confident about using ICTs personally than about utilising them in the classroom. However, the majority lacked confidence both about their own skills with ICTs and, even more so, their knowledge of how best to implement effective ICT-based teaching and learning opportunities with classes. There does seem to have been an across-the-board increase in teachers' confidence about ICTs around 2004, possibly as a result of the implementation at about that time of the STELA and TELA laptop schemes.

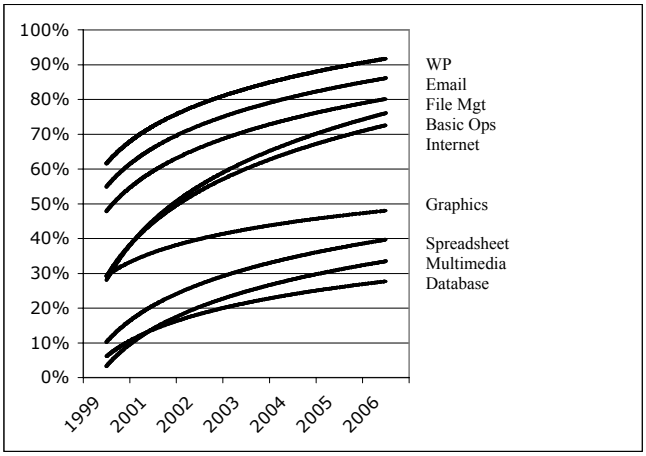
The proportions of teachers entering the programmes with no or low level skills with many ICTs other than word processing has been high, but has decreased significantly from cohort to cohort over time, with the exception of Internet skills in 2006. The proportion entering the programmes with no or relatively low levels of usage of ICTs for lesson preparation and administration was also initially high, but has also decreased significantly over time.

In most other respects the profile of the seven entry cohorts has remained remarkably stable over time, especially in regard to their views on what constitutes effective professional development practice in ICTs, and their levels of pre-programme usage of ICTs with classes.

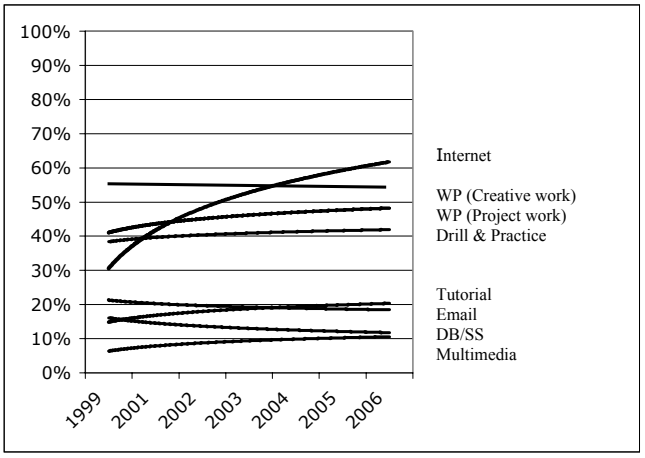
Perhaps the most significant finding to come out of the comparisons of baseline data from the various cohorts is the contrast between the growth in 'entry point' ICT skill levels of the cohorts over time, compared to the relatively static levels of 'entry point' classroom usage of ICTs for teaching and learning. These two trends are shown visually in the two charts below. In the first (skills) the trend lines increase steadily over time and in the other (usage) the trend lines are seen to remain fairly level over time, with the single exception of the Internet.

Figure 4. Comparison of Skills and Usage: Trends over Time

Proportions of teachers reporting moderate or high competence/skills levels with various ICTs, 1999-2006 trendlines only.



Proportions of teachers reporting classroom usage of various ICTs more than once or twice per year, 1999-2006 trendlines only.



The relative consistency over time of reported classroom usage of ICTs prior to entry into the ITCPD programme is potentially important given the increases shown in aspects of teacher skill and teachers' preparation/administration usage. Its importance lies in the fact that while those increases imply a general upskilling or increased administration/personal usage 'effect' in the general population of teachers *outside* the ICTPD programmes, there does not appear to be a similar movement outside the clusters with regard to classroom usage by students. It would appear that without the ICTPD cluster intervention, increases in New Zealand teachers' ICT skill levels have not been translating into increased usage of ICTs with classes as within the clusters.

It is acknowledged that the population surveyed are teachers beginning a PD programme in ICT, and that their usage and skill patterns therefore do not necessarily represent the skills or usage patterns of the population of non-cluster teachers generally. However, because the baseline surveys are done before the teachers begin their PD programme and, prior to 2006, they all come from schools that have not previously taken part in an ICTPD cluster programme, they do give us at least a hint of what is happening for teachers who are *not* in the cluster programme. It is tempting to conclude in this regard, that the pattern of increase in ICT skills and use for preparation/administration, when placed alongside the *lack* of similar increases in classroom usage across the cohorts, implies that without the intervention or stimulus of such a programme, increased classroom usage is not likely, or at least is less likely, to occur. In this respect the results reported here would appear to challenge the notion that increasing teacher skills or increasing ICT use for preparation/administration will *of themselves* lead to increased use of ICTs by students in classes.

Thus, since teachers are increasingly entering the programme with moderate to high level skills (at least across a few ICTs) but with low levels of classroom use, the ICTPD programmes need to continue their focus on effective classroom strategies and 'quality teaching and learning' with ICTs as the keys to translating that technical skill into pedagogical confidence and thence into quality student learning activity.

APPENDIX 1: Tables

Table 8. Teachers' Preferred PD Activities on Entering ICTPD Cluster Programmes 1999-2006

Intake	**1999**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**1999**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Usage	**Study Groups**							**Technology Coaches**						
Appeal														
I would hate it	n/a	7%	6%	6%	5%	5%	9%	n/a	5%	6%	5%	6%	6%	8%
Does not appeal	n/a	17%	14%	16%	17%	16%	22%	n/a	18%	19%	18%	18%	18%	22%
Neutral	n/a	14%	18%	16%	15%	14%	17%	n/a	24%	25%	24%	23%	20%	23%
Some appeal	n/a	40%	39%	39%	38%	38%	35%	n/a	36%	36%	38%	36%	41%	34%
Strong appeal	n/a	23%	22%	23%	25%	27%	17%	n/a	18%	15%	16%	17%	15%	13%
Total Number	n/a	2,185	1,714	2,167	4008	1903	3882	n/a	2,185	1,714	2,139	4025	1898	3882
	Tutorials							**Work Place Visits**						
I would hate it	n/a	2%	2%	2%	2%	3%	3%	n/a	3%	4%	5%	4%	6%	5%
Does not appeal	n/a	6%	6%	8%	7%	7%	10%	n/a	14%	14%	16%	15%	14%	16%
Neutral	n/a	14%	15%	13%	11%	14%	16%	n/a	20%	22%	22%	21%	21%	22%
Some appeal	n/a	35%	36%	37%	37%	39%	41%	n/a	34%	34%	32%	31%	32%	31%
Strong appeal	n/a	42%	40%	39%	43%	37%	30%	n/a	29%	26%	25%	29%	27%	26%
Total Number	n/a	2,185	1,714	2,112	4,036	1893	3892	n/a	2,185	1,714	2,155	3,991	1877	3856
	Professional Readings							**On Spot Support**						
I would hate it	n/a	9%	9%	8%	8%	9%	13%	n/a	1%	1%	1%	1%	1%	2%
Does not appeal	n/a	25%	25%	26%	25%	24%	26%	n/a	5%	5%	6%	5%	5%	8%
Neutral	n/a	25%	27%	26%	25%	29%	27%	n/a	19%	21%	20%	18%	21%	22%
Some appeal	n/a	29%	30%	29%	30%	29%	24%	n/a	36%	35%	36%	35%	37%	36%
Strong appeal	n/a	12%	9%	12%	12%	9%	10%	n/a	40%	38%	37%	41%	36%	32%
Total Number	n/a	2,185	1,714	2,117	4,028	1888	3858	n/a	2,185	1,714	2,100	4,004	1864	3851
	Work Shops							**School Visits**						
I would hate it	n/a	3%	3%	4%	3%	3%	5%	n/a	2%	3%	2%	2%	3%	4%
Does not appeal	n/a	11%	10%	12%	12%	11%	16%	n/a	9%	9%	12%	11%	10%	12%
Neutral	n/a	21%	23%	24%	22%	24%	28%	n/a	21%	22%	25%	23%	23%	24%
Some appeal	n/a	48%	46%	44%	45%	45%	39%	n/a	38%	38%	36%	38%	39%	38%
Strong appeal	n/a	17%	18%	16%	18%	17%	12%	n/a	30%	28%	24%	26%	25%	22%
Total Number	n/a	2,167	1,714	2,125	4,016	1880	3849	n/a	2,167	1,714	2,123	4,003	1883	3855
	Technology Mentors							**Release Time**						
I would hate it	n/a	1%	1%	1%	1%	2%	2%	n/a	1%	1%	1%	1%	1%	2%
Does not appeal	n/a	5%	5%	4%	4%	5%	7%	n/a	4%	4%	6%	4%	5%	7%
Neutral	n/a	13%	14%	12%	12%	12%	16%	n/a	10%	13%	15%	12%	12%	16%
Some appeal	n/a	40%	41%	41%	38%	40%	43%	n/a	30%	31%	36%	35%	36%	36%
Strong appeal	n/a	42%	38%	41%	45%	41%	32%	n/a	55%	52%	42%	48%	46%	39%
Total Number	n/a	2,185	1,714	2,170	4030	1907	3895	n/a	2,110	1,714	2,146	4,005	1879	3878
	Listserv/Online Communities							**Conferences**						
I would hate it	n/a	6%	7%	7%	7%	9%	14%	n/a	n/a	8%	6%	6%	6%	9%
Does not appeal	n/a	25%	26%	25%	26%	28%	35%	n/a	n/a	17%	16%	14%	13%	14%
Neutral	n/a	36%	36%	34%	32%	33%	29%	n/a	n/a	25%	24%	26%	26%	25%
Some appeal	n/a	24%	23%	25%	25%	23%	17%	n/a	n/a	21%	21%	22%	25%	23%
Strong appeal	n/a	9%	7%	10%	10%	7%	5%	n/a	n/a	29%	34%	32%	30%	29%
Total Number	n/a	2,185	1,714	2,144	4,014	1873	3838	n/a	2,185	1,714	2,150	3,833	1814	3705

Table 9. Percentages of Teachers Reporting Various Skill Levels with Various ICTs on Entry to ICTPD Cluster Programmes

Intake	**1999**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**1999**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Skill Competence	**Basic Operations**							**File Management**						
Lowest level/No skills	57%	33%	32%	25%	25%	4%	4%	18%	5%	3%	2%	3%	7%	6%
Low level skills	14%	17%	18%	18%	22%	15%	15%	44%	25%	27%	22%	23%	19%	19%
Moderate level skills	14%	27%	28%	25%	42%	42%	41%	17%	31%	32%	31%	34%	33%	33%
High level skills	15%	24%	23%	32%	15%	39%	40%	22%	39%	38%	44%	40%	41%	42%
Total Number	860	2,002	1,619	2,339	3,962	1908	3917	905	2,022	1,626	2,366	3,993	1913	3920
	Word Processing							**Spreadsheet Use**						
Lowest level/No skills	10%	2%	1%	2%	1%	2%	2%	56%	41%	43%	34%	41%	20%	20%
Low level skills	33%	17%	18%	14%	15%	8%	9%	28%	36%	39%	40%	39%	32%	30%
Moderate level skills	34%	41%	45%	42%	45%	34%	30%	11%	17%	14%	18%	15%	26%	26%
High level skills	23%	38%	35%	42%	39%	56%	59%	5%	6%	4%	8%	5%	22%	24%
Total Number	882	2,043	1,642	2,371	4,018	1908	3846	794	2,015	1,607	2,325	3,908	1912	3901
	Database Use							**Graphics Use**						
Lowest level/No skills	63%	44%	44%	38%	41%	27%	28%	38%	23%	21%	22%	22%	21%	23%
Low level skills	26%	41%	43%	46%	48%	35%	37%	34%	31%	30%	29%	29%	31%	33%
Moderate level skills	8%	12%	10%	12%	9%	24%	24%	12%	18%	19%	18%	27%	30%	27%
High level skills	4%	2%	2%	3%	2%	14%	11%	16%	19%	21%	22%	22%	18%	17%
Total Number	756	1,985	1,610	2,310	3,875	1909	3905	836	2,026	1,626	2,358	3,940	1912	3904
	Internet (WWW) Use							**E-mail Use**						
Lowest level/No skills	37%	14%	9%	5%	5%	3%	16%	33%	10%	7%	4%	3%	2%	7%
Low level skills	36%	40%	43%	30%	29%	15%	26%	20%	19%	15%	12%	12%	11%	23%
Moderate level skills	13%	26%	28%	38%	59%	41%	33%	28%	43%	48%	47%	49%	38%	35%
High level skills	9%	15%	15%	19%	7%	41%	25%	19%	26%	31%	37%	36%	49%	35%
Total Number	880	2,037	1,628	2,378	3,986	1911	3900	835	2,046	1,633	2,377	3,970	1910	3899
	Presentation/Multimedia Use													
Lowest level/No skills	66%	57%	55%	55%	48%	31%	28%							
Low level skills	24%	28%	32%	28%	33%	30%	28%							
Moderate level skills	5%	9%	8%	12%	14%	22%	25%							
High level skills	5%	4%	5%	5%	5%	17%	19%							
Total Number	753	1,978	1,585	2,306	3,904	1908	3889							

(NB: Respondents were asked to rate themselves on a four-point scale of levels with descriptors of skills typical of that level. In all cases except Basic computer operations, the lowest level on the scale was ‘no skills’)

NOTE: For the 2005 and 2006 intake survey, this was changed to a five-point scale with ‘high’ and ‘very high’ combined to give figure for the highest skills category for comparison purposes.

Table 10. Teachers' Previous Usage of ICTs for Lesson Preparation/Planning on Entering ICTPD Cluster Programmes

Intake	1999	2001	2002	2003	2004	1999	2001	2002	2003	2004	1999	2001	2002	2003	2004
Usage / Frequency	**WP/DP use for lesson preparation**					**Internet for lesson ideas**					**Internet for assessment items**				
Never	10%	7%	6%	6%	5%	46%	19%	13%	9%	7%	67%	40%	34%	21%	8%
Rarely	n/a	8%	8%	7%	7%	26%	21%	21%	18%	17%	20%	27%	28%	23%	25%
Sometimes	33%	21%	22%	20%	20%	16%	33%	36%	37%	35%	8%	22%	23%	31%	30%
Often	34%	34%	35%	34%	33%	8%	21%	23%	27%	30%	3%	8%	11%	18%	21%
Always	23%	30%	27%	33%	35%	3%	6%	6%	9%	11%	2%	2%	3%	6%	6%
Total Number	882	1,984	1,614	2,272	3,897	867	1,967	1,598	2,283	3,905	842	1,950	1,588	2,265	3,873
	Tutorial					**CD ROM for lesson ideas**					**Digital Camera/Video for lesson ideas**				
Never	69%	39%	33%	17%	19%	58%	39%	38%	35%	34%	74%	60%	58%	56%	54%
Rarely	17%	22%	23%	20%	21%	22%	28%	28%	32%	33%	15%	22%	23%	23%	25%
Sometimes	9%	23%	25%	29%	25%	14%	23%	25%	23%	23%	7%	13%	12%	15%	15%
Often	3%	12%	13%	22%	22%	4%	7%	7%	8%	8%	2%	4%	5%	5%	5%
Always	2%	5%	5%	12%	13%	2%	2%	1%	2%	2%	1%	1%	1%	1%	1%
Total Number	847	1,971	1,603	2,291	3,919	836	1,927	1,587	2,240	3,836	834	1,935	1,579	2,236	3,822
	Internet (www) for professional readings														
Never	71%	42%	39%	29%	28%										
Rarely	17%	23%	27%	26%	28%										
Sometimes	9%	20%	20%	27%	27%										
Often	3%	10%	11%	13%	13%										
Always	1%	4%	2%	5%	4%										
Total Number	824	1,948	1,592	2,256	3,898										

NB. This question was changed in the 2005 and 2006 Baseline surveys. These different aspects were combined to create one category – finding or producing resources for lessons.

Table 11. Teachers' Usage of ICTs for School Administration on Entering ICTPD Cluster Programmes

Intake	1999	2001	2002	2003	2004	1999	2001	2002	2003	2004	1999	2001	2002	2003	2004
Usage / Frequency	**Recording assessments**					**Recording running records**					**Accessing staff notices**				
Never	61%	38%	42%	25%	22%	59%	64%	45%	59%	42%	80%	64%	63%	54%	44%
Rarely	16%	15%	13%	14%	12%	12%	10%	13%	12%	44%	10%	11%	11%	12%	14%
Sometimes	11%	18%	16%	20%	20%	11%	8%	15%	11%	15%	5%	9%	8%	13%	13%
Often	7%	16%	18%	25%	25%	9%	9%	15%	9%	16%	2%	8%	10%	10%	15%
Always	4%	12%	10%	17%	21%	8%	7%	12%	8%	13%	4%	8%	8%	11%	14%
Total Number	876	1,962	1,595	2,264	3,865	842	1,937	1,581	2,219	3,762	850	1,943	1,583	2,245	3,836
	Email correspondence with colleagues					**Writing reports**					**Recording absences**				
Never	71%	47%	45%	32%	28%	62%	45%	37%	21%	17%	95%	88%	85%	77%	79%
Rarely	14%	15%	17%	18%	16%	8%	7%	6%	6%	5%	2%	5%	4%	8%	7%
Sometimes	9%	17%	16%	20%	19%	7%	10%	11%	12%	10%	1%	2%	1%	3%	3%
Often	4%	13%	14%	17%	20%	7%	12%	13%	17%	16%	1%	2%	2%	4%	3%
Always	3%	7%	7%	13%	17%	16%	25%	31%	44%	52%	2%	4%	7%	8%	8%
Total Number	865	1,960	1,598	2,300	3,907	848	1,944	1,587	2,259	3,861	821	1,911	1,558	2,175	3,699

NB. This question was changed in the 2005 and 2006 Baseline surveys. These different aspects were combined to create one category – school administration.

Table 12. Teachers' Previous Usage of ICTs for Teaching and Learning on Entering ICTPD Cluster

Intake	1999	2001	2002	2003	2004	2005	1999	2001	2002	2003	2004	2005
Usage	**WP/Creative Work**						**WP/Projects**					
Frequency												
Never	27%	30%	27%	26%	24%	19%	37%	41%	40%	34%	33%	26%
1-2 times over the year	18%	14%	12%	20%	20%	26%	20%	16%	14%	23%	24%	29%
Avg. 1-2 times a term	19%	11%	14%	27%	29%	29%	17%	11%	13%	27%	26%	28%
Avg. 1-2 times a month	19%	16%	16%	n/a	n/a	n/a	15%	13%	14%	n/a	n/a	n/a
Avg. 1-2 times a week	13%	16%	17%	18%	19%	18%	8%	9%	9%	12%	12%	12%
Daily or almost daily	5%	9%	9%	9%	8%	8%	3%	4%	3%	4%	5%	5%
Total Number	872	2,185	1,714	2,167	3,568	1695	766	2,185	1,714	2,139	3,542	1685
	E-mail						**Slide Shows**					
Never	68%	60%	57%	61%	59%	57%	70%	67%	66%	69%	61%	55%
1-2 times over the year	14%	18%	18%	21%	22%	23%	17%	16%	16%	20%	25%	30%
Avg. 1-2 times a term	9%	6%	2%	12%	12%	12%	7%	6%	7%	8%	10%	11%
Avg. 1-2 times a month	6%	6%	7%	n/a	n/a	n/a	4%	4%	3%	n/a	n/a	N/a
Avg. 1-2 times a week	2%	4%	3%	4%	5%	6%	1%	1%	2%	3%	3%	3%
Daily or almost daily	1%	1%	1%	2%	2%	2%	1%	1%	0%	1%	1%	1%
Total Number	738	2,185	1,714	2,112	3,523	1682	758	2,185	1,714	2,155	3,546	1681
	Data Logging						**Simulation**					
Never	91%	82%	84%	92%	91%	87%	85%	80%	82%	82%	81%	77%
1-2 times over the year	6%	10%	7%	5%	6%	8%	9%	11%	8%	11%	11%	15%
Avg. 1-2 times a term	2%	1%	1%	2%	2%	3%	3%	1%	2%	5%	5%	6%
Avg. 1-2 times a month	1%	1%	1%	n/a	n/a	N/a	2%	1%	2%	n/a	n/a	N/a
Avg. 1-2 times a week	0%	0%	0%	1%	1%	1%	0%	1%	0%	2%	2%	1%
Daily or almost daily	0%	0%	n/a	0%	0%	1%	1%	0%	0%	0%	1%	1%
Total Number	601	2,185	1,714	2,117	3,493	1656	605	2,185	1,714	2,100	3,466	1645
	Tutorial						**Programming**					
Never	76%	69%	69%	67%	68%	62%	91%	83%	83%	93%	94%	91%
1-2 times over the year	12%	11%	11%	14%	15%	18%	6%	9%	9%	4%	4%	5%
Avg. 1-2 times a term	5%	4%	4%	10%	9%	12%	1%	1%	1%	2%	1%	2%
Avg. 1-2 times a month	5%	4%	4%	n/a	n/a	n/a	1%	1%	1%	n/a	n/a	n/a
Avg. 1-2 times a week	2%	4%	4%	6%	6%	6%	0%	0%	0%	1%	1%	1%
Daily or almost daily	1%	2%	2%	3%	2%	2%	0%	0%	0%	0%	0%	1%
Total Number	653	2,167	1,714	2,125	3,517	1665	602	2,167	1,714	2,123	3,520	1683
	Web Design						**Database/Spreadsheet**					
Never	n/a	82%	82%	88%	89%	85%	n/a	74%	75%	72%	73%	70%
1-2 times over the year	n/a	9%	9%	8%	8%	10%	n/a	11%	11%	16%	16%	19%
Avg. 1-2 times a term	n/a	1%	1%	3%	2%	3%	n/a	4%	3%	9%	7%	8%
Avg. 1-2 times a month	n/a	1%	1%	n/a	n/a	n/a	n/a	3%	3%	n/a/	n/a	n/a
Avg. 1-2 times a week	n/a	0%	0%	1%	1%	1%	n/a	2%	1%	2%	3%	2%
Daily or almost daily	n/a	0%	0%	0%	0%	1%	n/a	0%	0%	1%	1%	1%
Total Number	n/a	2,167	1,714	2,136	3,528	1689	n/a	2,185	1,714	2,145	3,541	1689
	Internet						**Multi-Media**					
Never	54%	42%	39%	23%	23%	22%	84%	77%	78%	85%	81%	75%
1-2 times over the year	17%	15%	12%	21%	18%	21%	10%	13%	11%	11%	13%	18%
Avg. 1-2 times a term	12%	12%	12%	31%	32%	31%	4%	3%	2%	3%	4%	4%
Avg. 1-2 times a month	9%	12%	13%	n/a	n/a	n/a	2%	1%	1%	n/a	n/a	n/a
Avg. 1-2 times a week	5%	10%	13%	19%	20%	19%	0%	0%	1%	1%	2%	2%
Daily or almost daily	2%	3%	4%	6%	7%	7%	0%	0%	0%	1%	0%	1%
Total Number	809	2,185	1,714	2,170	3,585	1685	651	2,110	1,714	2,146	3,542	1689
	Drill & Practice						**CD ROM**					
Never	48%	52%	47%	52%	44%	36%	n/a	51%	50%	42%	42%	39%
1-2 times over the year	14%	9%	8%	13%	14%	19%	n/a	12%	11%	24%	26%	30%
Avg. 1-2 times a term	10%	6%	7%	12%	17%	21%	n/a	11%	11%	26%	24%	23%
Avg. 1-2 times a month	12%	7%	10%	n/a	n/a	n/a	n/a	12%	13%	n/a	n/a	n/a
Avg. 1-2 times a week	12%	11%	13%	14%	17%	16%	n/a	7%	6%	7%	7%	7%
Daily or almost daily	4%	8%	9%	9%	8%	8%	n/a	2%	1%	2%	1%	1%
Total Number	773	2,185	1,714	2,144	3,548	1687	n/a	2,185	1,714	2,150	3,556	1683
	Library Catalogue											
Never	n/a	n/a	51%	50%	42%	42%						
1-2 times over the year	n/a	n/a	12%	11%	24%	26%						
Avg. 1-2 times a term	n/a	n/a	11%	11%	26%	24%						
Avg. 1-2 times a month	n/a	n/a	12%	13%	n/a	n/a						
Avg. 1-2 times a week	n/a	n/a	7%	6%	7%	7%						
Daily or almost daily	n/a	n/a	2%	1%	2%	1%						
Total Number	n/a	n/a	2,185	1,714	2,150	3,556						

NB. This question was modified for the 2006 survey and the purpose that the ICTs was used for was examined rather than individual activities.

APPENDIX 2

BASELINE DATA SURVEY

This questionnaire is designed to assist Facilitators with the planning of appropriately targeted professional development, and to contribute to independent research into the ICTPD School Cluster project. Individual responses will be kept strictly confidential to the cluster Facilitator and a Research team contracted to the Ministry, though the results of statistical and other analyses of the data may be published in non-attributable and aggregated form.

Cluster Name or Lead School: _____

Your Name: _____

School: _____

Gender: ☐ Female ☐ Male

School Sector: ☐ *Primary* ☐ *Secondary* ☐ *Both*

1. How many days (or day equivalents) of formal ICT Professional Development had you had in the last 2 years prior to the Cluster project?

eg: night classes, in-service courses, after school sessions, holiday courses, online courses, tertiary papers etc.

☐ None ☐ 1 to 5 days ☐ 6 to 10 days ☐ more than 10 days

2. How many ICT-focused conferences have you attended in the last 2 years? _____

3. How do you prefer to learn new ICT skills?

Please rank the following options in order of preference (5 being the MOST preferred option and 1 being the LEAST preferred)

		Ranking
a	On my own, with written support material	
b	One to one with a tutor	
c	Working regularly with a partner	
d	In a small group	
e	In a large group *ie. lab situation*	

4. What are your preferences when working in a group? Do you prefer to work in groups with…

Please tick the appropriate box for each of questions a-d.

a	☐ others at the same/similar levels of skill or experience re. ICT	or	☐ a mixture of levels of skill or experience re. ICT	or	☐ either / no preference
b	☐ staff from my own school	or	☐ staff from other schools	or	☐ either / no preference
c	☐ members of my own department or syndicate	*or*	☐ *members of other departments or syndicates*	*or*	☐ either / no preference
d	☐ separate primary or secondary groups	or	☐ mixed primary-secondary groups	or	☐ either / no preference

5. How able/willing are you to attend some sessions in your own time throughout the year?

Please rate each of these options with a 1,2,3,4 or 5 rating as described below:
1 = This is beyond reasonable expectation. 2 = Would but can't arrange it. 3 = Can but would rather not. 4 = Can arrange it. 5 =Enthusiastic.

		Rating
a	After school sessions	
b	Occasional Saturday mornings, *i.e. perhaps one or two a year*	
c	Several Saturday mornings, *ie. perhaps three or four a year*	
d	School holiday programme - half day, *i.e. during the July &/or September breaks*	
e	School holiday programme - whole day, *i.e. during the July &/or September breaks*	

6. How often do you participate in a professional online community? e.g.Teachers@Work, Talk2Learn

☐ Not at all ☐ Occasionally ☐ Regularly

7. To what extent are you able to focus on ICT issues in your PD this year?

Please tick the box alongside ONE of the following descriptors

☐ ICT is the major focus of my PD this year
☐ ICT is a secondary focus for my PD this year
☐ ICT is a low priority for my PD this year

Comment	

8. Professional Development Goals

Please list up to 3 specific goals or objectives that you would like to achieve as a result of your participation in the ICTPD Schools Cluster Programme. Please indicate how important these goals are to you by a number 1 – 3 in the box alongside each objective to indicate priority.

1= A minor goal. 2= An important but secondary goal. 3= A major goal.

GOALS (BE AS SPECIFIC AS POSSIBLE)	***Priority***
a _____	☐
b _____	☐
c _____	☐

9. Preferred PD Activities

Facilitators in the ICT Clusters are planning to use a range of types of professional development activities. Please read the following explanation of each type, and indicate your preferred option/s in the grid below. **Note that clusters are not necessarily contracted to offer <u>all</u> of these types of PD. This is to get some idea of your current preferences.**

Write in each box a number 1-5 representing the extent of appeal of the activity.
1= I would hate it 2 = Does not appeal 3= No view either way 4=Has some appeal 5=Has strong appeal

		Rating
a	**Study Groups:** Teachers join a study group of three or more members with common interests and goals. The group meets regularly (eg lunchtimes, after school, evenings) to explore new and better ways of teaching, to share tips, resources, stories and to develop trial projects. The results of these trials form the basis of discussion at subsequent meetings. Project directors would provide ongoing advice and support.	
b	**Technology Coaches:** Every teacher could become a technology coach - good at something and prepared to help and support others accomplish this. The idea is that everyone can make a	

	contribution to the ongoing learning culture in the school. Responsibility is shared broadly so that each teacher has an area of expertise and everyone is an expert in something.	
c	**Technology Mentors:** Teachers who are highly skilled in certain areas are paired for a short time with less skilled teachers in order to pass on their expertise.	
d	**Tutorials:** Short bursts of on-site learning – perhaps an early morning session on inserting graphics into text or organising bookmarks in a browser for those unsure of the methods. The agendas for these short tutorials would be based on teachers' needs.	
e	Workplace Visits**: Visits to ICT intensive workplaces would be organised so that teachers can see the impact of ICT and better understand the implications for learners and classrooms**.	
f	**Retreats or Intensive Practicums:** Teachers given several days out of classroom at one time for intensive PD or training. May be followed by occasional further single release days.	
g	**Release Time:** Time given to discuss and translate new ideas and strategies into practical classroom unit plans with the help of a mentor.	
h	**On-the-spot Support:** Facilitators will be available to provide classroom support for those teachers who feel unsure when first trialing the use of ICT with their classes.	
i	**Professional Reading**: A regular selection of reading material will be available, which describes the latest developments in teaching and learning with ICT and also developments which could have an effect on schools in the future. Those choosing this option will receive hard copies of key readings for personal study.	
j	**Listserv Membership and/or Online Discussion Groups:** This is an online informal discussion group using email or websites where teachers in the cluster can talk over problems and successes, ask questions and offer solutions. Teachers can gain confidence and may wish to join one or more of the many other listservs available for teachers.	
k	***Workshops/Seminars:*** *These will offer a varied programme of activities and will be scheduled outside school hours.*	
l	**School Visits:** Visits to other schools both within and beyond the cluster to investigate initiatives that are being, or have been implemented.	
m	**Financial support to attend or present at Conferences.**	
n	**Lead Teachers:** Teachers with particular interest or expertise are put through a PD programme & then expected to provide ongoing mentoring, run workshops etc for others on their staff.	
o	**Other (specifiy)**	

10. Please indicate with a tick in the appropriate box the extent to which you agree or disagree with each of the following statements

(a) ICT can help improve *curriculum provision* ***in my classroom.***

☐ ***Strongly Agree*** ☐ ***Agree*** ☐ ***Not sure/Neutral*** ☐ ***Disagree*** ☐ ***Strongly Disagree***

(b) Overall, the investment by schools in ICT can be justified by the teaching and learning outcomes.

☐ ***Strongly Agree*** ☐ ***Agree*** ☐ ***Not sure/Neutral*** ☐ ***Disagree*** ☐ ***Strongly Disagree***

11. How confident are you about using ICTs? *Please tick the appropriate box.*

(a) How confident are you about using ICTs **personally:**

☐ **Anxious** ☐ **Not Confident** ☐ **Neutral** ☐ **Confident** ☐ **Very Confident**

(b) How confident are you about using ICTs **with classes:**

☐ **Anxious** ☐ **Not Confident** ☐ **Neutral** ☐ **Confident** ☐ **Very Confident**

12. What are your greatest current concerns about using ICTs with classes? *Please rate each of the following as it applies to you, on a 1-3 scale*

*1 = No concern 2 = Some concern **3** = Significant concern.*

		Rating
a	Access to equipment for my students' use	
b	Insufficient technical support	
c	Making the links between ICTs and quality teaching and learning	
d	Lack of ideas on how to use ICTs with classes	
e	Lack of time to cope with it all	
f	Need for ongoing professional development	
g	Keeping up-to-date with required skills and knowledge on ICT developments	
h	Others: Please specify	

IF YOU CURRENTLY DO NOT USE A COMPUTER AT ALL, PLEASE TICK THIS BOX ☐. THIS IS THE LAST QUESTION ON THE SURVEY THAT YOU NEED TO COMPLETE. IF YOU DO CURRENTLY USE A COMPUTER, PLEASE COMPLETE

13. Please indicate your current level of achievement in each of the following ICT competencies.

*Enter a rating 1,2,3,4 or 5 which best reflects your **current** level of knowledge/skill attainment. (Be honest, but be kind to yourself! We will be asking the same questions again at the end of the programme.)*

1= Very low/None 2= Low 3= Moderate 4= High 5= Very high

	ICT Competencies	***Level***
A	Basic Computer Operation (running programmes, trouble shooting, etc.)	
B	File Management (manipulation of documents, folders, etc.)	
C	Word Processing (manipulation of text – programs such as Word)	
D	Spreadsheet (create charts/graphs, use for record keeping purposes – programs such as Excel.)	
E	Database (use pre-made databases such as library catalogue database through to creating own databases)	
F	Graphics (manipulation of pictures and images – programs such as KidPix, Photoshop, etc.)	
G	Internet (searching to designing your own website)	
H	Telecommunications (email, chat, discussion boards, etc.)	
I	Presentation / Multimedia (slideshows through to making movies and animations)	

14. Please indicate the frequency with which you use ICT for:

Enter a rating 1,2,3,4 or 5 in the box on the right.

1 = Never 2 = Rarely 3 = Sometimes 4 = Often 5= Always

		Frequency
A	Finding or producing resources for lessons	
B	School administration	

15. What proportion of your units of work contains ICT based learning activities?

Please tick the appropriate box

☐ *Not applicable* ☐ *No units* ☐ *A minority of units* ☐ *Most units* ☐ *All or almost all units*

16. Please indicate the average frequency (using the 1-5 scale below) with which some or all students have done any of the following during your lessons over the last year.

1 = Not at all *2 = Once or twice in the year* *3 = Once or twice a term*
4 = Once or twice a week *5 = Daily/almost daily*

	Purpose	**Activity**	***Frequency***
a	**Communication**	*Static print* presentation: eg. making posters, journals, written stories etc	
		Multimedia presentations: eg. presenting results of project using PowerPoint or Hyperstudio etc	
		Online interaction: e.g. emailing or chatting with experts/other students on a current topic or a problem. Belonging to e-club or contributing to online communities	
b	**Creativity**.	e.g. designing and making slide shows, websites, editing and composing music, video etc. creativity focus	
c	**Information gathering/processing.**	e.g. accessing or searching for information on the internet, accessing school library electronic catalogue, or data logging using external devices connected to computers.	
d	**Problem solving**.	e.g. calculating/analysing data, working through concept simulations on computer, designing or developing their own spreadsheet or database to solve a problem; interactive fiction	
e	**Curriculum practice.**	e.g. learning from tutoring software, reinforcing pre-taught knowledge or practicing skills; drill and practice	
f	**Technical skills**	e.g cut and paste, file management, importing digital photographs, key board skills, how to use Inspiration	
g	**Collaborative learning and social interaction**	e.g. working in groups to solve a problem using spreadsheets etc, collaborating on DTP projects etc	
h	**Motivation/Reward/Engagement**	e.g. working on a CD Rom or game as a reward	

Thank you for completing this survey. We appreciate the attention you have given it.

If you have any queries or comments regarding the questionnaire, please contact: Sandra Williamson-Leadley, Email: sandra@*core-ed.net* or Hasan Toubat, Email: *hasan@core-ed.net*