

Evaluation of the Intel Getting Started Pilot in South Africa Gauteng Province

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Evaluation of the Intel Getting Started Pilot in South Africa: Gauteng Province

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Acronyms and Abbreviations

ACE	Advanced Certificate in Education
ATM	Automatic Teller Machine
BA	Bachelor of Arts
CAPS	Curriculum and Assessment Policy Statements
CAT	Computer aided training
CD	Compact Disk
CV	Curriculum Vitae
DSL	Digital Subscriber Line
DVD	Digital Versatile Disk
ECD	Early Childhood Development
GDE	Gauteng Department of Education
GOL	Gauteng Online
HED	Higher Education Diploma
HOD	Head of Department
ICT	Information Communication Technology
PGCE	Postgraduate Certificate of Education
SAMS	South African Schools Management Administrative System
SMS	Short Message Service
SMT	School Management Team
Unisa	University of South Africa
UPS	Uninterrupted Power Supply

Introduction

The Intel Teach *Getting Started* is a capacity building course for teachers. It offers teachers an introduction to software productivity tools and student-centred approaches to learning. This introductory level course comprises fourteen modules. Thirteen modules focus on approaches to using ICT applications in teaching and learning and one module focuses on 21st Century learning skills (with a focus of learner-centred pedagogy). The course was been localised by SchoolNet SA for use in South Africa.

The Intel Getting Started Programme was piloted in Gauteng province, Tshwane South, District 4, between October 2010 and March 2011 by SchoolNet SA.

Saide was contracted to conduct an evaluation of this pilot, and this report presents the results of the evaluation.

Objectives

The objectives of the evaluation are:

- Provide an assessment of the suitability/appropriateness of the Getting Started programme to the South African context
- Assess how teachers experience the Getting Started course
- Evaluate whether, after attending training, the teachers have been able to transfer some of the skills learnt to the classroom.

This also involved an examination of tasks undertaken by the teachers, such as the implementation of the Action Plan that they were required to prepare as part of their training, or any existing classroom tasks that have been adapted or changed.

Getting Started Course implementation

Intel requested SchoolNet to conduct training using the Getting Started course in selected schools in the Tshwane South district.

The Tshwane South District 4 coordinator worked together with Intel and compiled a list of 33 schools targeted for training. Circulars were sent to these schools offering them the course, and asking them to identify teachers interested in improving their computer knowledge and skills. The training was not mandatory but was strongly encouraged.

Before starting the school-based training, the ICT coordinators from the selected schools were invited to participate in the Getting Started training course. This took place at a school in Gauteng in September 2010.

Teachers from a total of 18 out of the 33 schools received training. Reasons provided for why some schools did not participate in the training include¹:

- Some school indicated they had other departmental and school commitments;

¹ As indicated by SchoolNet SA

- ICT coordinators reported that there was insufficient interested from the teachers in their school;
- For some schools the timing was inconvenient even with the proposal of clustering; and
- Some schools did not respond to the invitation and only stated that they were not interested in the training.
- Curriculum Assessment Policy Statements (CAPS) training for primary schools also took place during the training and caused some workshops to be rescheduled.

It appears that the schools were not involved in the planning of the training. This may have contributed to low participation rates in some instances.

The fact that the training was not mandatory was also seen as a limiting factor.

The teacher training was planned for the fourth term of 2010 and the first week of the December 2010 holiday. As schools were preparing for their year-end exams and were not interested in scheduling training for their teachers during that time it was agreed that negotiations for dates would restart in the new year. However, the new academic year included new administrative responsibilities that schools needed to adhere to and this affected the agreed dates and so most training took place in February and March 2011.

The training was four days in length, held on four consecutive Saturdays.

Although the district was very supportive of the initiative, they were unable to assist with technical difficulties that were experienced. These had to be logged with the Helpdesk for Gauteng online but even when a query number was given – it didn't mean that the problem would be resolved quickly.

Methodology

Saide set out to evaluate the training in terms of the objectives as outlined above.

A Kirkpatrick model was adopted, focusing on satisfaction with training (level 1), learning (level 2), and transfer of training to the classroom (level 3). The fourth level of the Kirkpatrick model (organisational impact) could not be measured in the timeframe.

There were three main components to the evaluation:

- Assessment during the training (focusing on satisfaction and learning)
- Discussions with trainers; and
- Site visits at selected schools (focusing on learning and transfer of skills to the classroom).

Assessment during training:

- Profile questionnaire: Teachers were required to complete a profile questionnaire on the first day of training. The aim of this questionnaire was to establish current levels of computer use at school, at home, and in teaching and learning.

- Assessment tasks to assess learning: Teachers were required to complete a pre-training assessment task (four simple tasks on computer applications - Word, Excel, PowerPoint and email) and then to complete similar tasks on the last day of training. The intention was to provide a baseline of knowledge, and then to assess skills gained during training.
- Post training questionnaire: Teachers were required to complete a post training questionnaire on the last day of training. The questionnaire included sections on the extent to which expectations were met, satisfaction with training, current confidence levels with computers, perceived relevance of the course, action plans, support required and anticipated challenges.

SchoolNet SA also provided Saide with some reflections on the training, and these reflections are incorporated into the sections discussing teachers and trainer perceptions of the training.

Discussions with trainers and follow up trainer questionnaire:

A focus group discussion was held where two trainers participated. Following this, a questionnaire was designed based on the results of the focus group. This was sent out to all trainers to elicit their views and experience of the training process. Eight trainers completed questionnaires.

Site visits at selected schools:

Site visits were conducted three months post training to assess the extent to which teachers were able to practice and implement the skills they had learnt in the training and transfer these skills to the classroom.

Three schools were randomly selected:

- Motsweding Primary School;
- Himalaya Secondary School; and
- Flavius Mareka Secondary School.

At each site, the ICT coordinator was interviewed, the teachers who participated in the training were required to complete a questionnaire and a focus group was conducted with the teachers.

The ICT coordinator interview focused on the profile, skills and responsibilities of the ICT coordinator, the infrastructure and resources at the school; an assessment of the teachers' experiences with the training and the extent to which they had applied their skills in the classroom and levels of access and support at the school.

The teacher questionnaire and focus group included questions on skills levels prior to training; previous computer training courses attended, confidence levels, assessment of the training sessions, reflections on implementing skills in the classroom after the training, challenges facing teachers in applying their skills, and support required in order to do this.

Sample of schools in the pilot

The 18 schools that participated in the training comprised 13 Primary schools, 4 Secondary schools and one Middle school. In total, 270 teachers participated in the Intel Getting Started Pilot Training Course.

The schools and teachers that participated in the pilot are represented below.

	School Number	Number of teachers as per SchoolNet records
1	Bajabulile Primary	9
2.	Bohlabatsatsi Primary ²	20
3.	Morakoma Primary	
4	Ezazi Primary	10
5	Flavius Mareka Secondary	15
6	Himalaya Secondary	19
7	Jan Kotlolo Primary	19
8	Kalafong Middle Hospital School	4
9	Koos Matli Primary	25
10	Mamelodi Secondary	30
11	Mogale Primary	23
12	Motsweding Primary	20
13	Nellmapius Primary	14
14	Nwa Mhinga Primary	9
15	Refentse Primary	13
16	Sikhanyisele Primary	16
17	Vlakfontein Secondary	16
18	Zakhele Primary	8
	Total number of Teachers	270

Structure of the report

The report begins with a discussion of the results of the profile questionnaire that teachers completed prior to training in order to set the stage and to understand the contextual situation of the participants and their schools. The results of the assessment task and the teachers' perceptions of the training are discussed. The next

² These two schools were trained together

section then focuses on how the trainers perceived the training. Following this, the results of the three site visits are discussed.

The final section presents a summary of the main themes emerging from the different components of the evaluation and addresses the main objectives of the evaluation.

Results: Teacher experience and teaching and learning practices prior to training

To assess experience and teaching and learning practices prior to the Intel Getting Started training, teachers were required to complete a profile questionnaire. The profile questionnaire included:

- Biographic details such as years of experience and highest qualification;
- Use of computers at school and home;
- Use of email;
- Use of ICTs in teaching and learning; and
- Previous training experience.

A total of 115 teachers out of a possible 270 teachers who participated in the training (43% response rate) completed the profile questionnaire.

Table 1: Number of pre-training profile questionnaires

School Number	Number of teachers as per SchoolNet records	Number of profile questionnaires completed
Bajabulile Primary	9	13
Bohlabatsatsi Primary	20	4
Morakoma Primary		4
Ezazi Primary	10	6
Flavious Mareka Secondary	15	5
Himalaya Secondary	19	18
Jan Kotlolo Primary	19	4
Kalafong Middle Hospital School	4	2
Koos Matli Primary	25	
Mamelodi Secondary	30	15
Mogale Primary	23	
Motsweding Primary	20	11
Nellmapius Primary	14	8
Nwa Mhinga Primary	9	2
Refentse Primary	13	8
Sikhanyisele Primary	16	11
Vlakfontein Secondary	16	2

School Number	Number of teachers as per SchoolNet records	Number of profile questionnaires completed
Zakhele Primary	8	
Other ³		2
Total		115

Biographical details of teachers

School Type: Just under two thirds (63%) of the sample were primary schools, with 35% of the sample being secondary schools.

Table 2: School Type (Pre-training profile questionnaire)

Type	Number of teachers	Percentage
Primary	72	63%
Secondary	40	35%
Middle School	2	2%

There were 72 teachers out of a possible 190 (38% response rate) from Primary schools. There were 40 teachers out of a possible 80 teachers from Secondary schools, representing a 50% response rate.

Number of years of teaching experience: The teachers in the sample had many years of teaching experience, with 73% having 11 or more years of teaching experience.

Table 3: Number of years of experience (Pre-training profile questionnaire)

Number of years	Number of teachers	Percentage
1 to 5 years	10	9%
6 to 10 years	21	18%
11 to 15 years	13	11%
16 to 20 years	15	13%
21 years or more	41	36%
Unspecified	15	13%

Of those who have responded to the questionnaire, 60% have had extensive teaching experience of over 11 years. This also suggests that the participants were mature ages.

³ These were respondents who participated in the training but not from the 18 schools in the sample.

Highest qualification: Teachers had a variety of qualifications, with 8% having a post graduate (honours qualification) and 44% having degrees with a professional teaching qualification (BA, BSc, B Tech with teaching diploma which is the current minimum requirement for teaching. More than half of the respondents (57%) have a two/ three year diploma or lower qualification and are thus deemed to be under qualified. This result is consistent with mature age teachers who qualified long before 1994. It is also congruent with the fact that the majority of these teachers have been teaching for many years (as seen in Table 3 above).

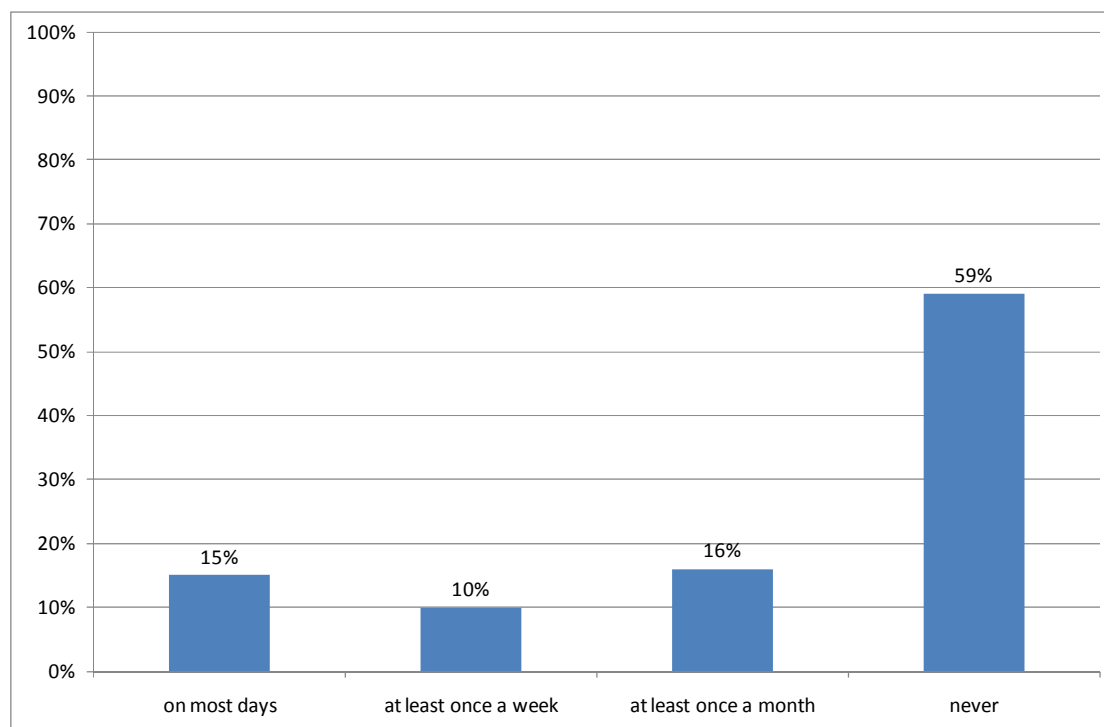
Table 4: Highest qualification (Pre-training profile questionnaire)

Qualification	Number of teachers	Percentage
Honours degree	9	8%
Degree or BTech + HED/PGCE/ACE	51	44%
3 yr Diploma	22	19%
2 yr National Professional Diploma in Education (NPDE)	8	7%
Early Childhood Development (ECD) Certificate	1	1%
Grade 12	2	2%
MAS	2	2%
Unspecified	20	17%

Use of computers at school and home

As can be seen on the figure below, 59% of the teachers never used a computer at school, a moderate number (26%) used a computer once a week or less. Very few teachers (15%) used a computer at school on most days.

Figure 1: Use of computers at school (Pre-training profile questionnaire)



Access to a computer at home

59% of the teachers indicated that they did have a computer at home.

Use of email

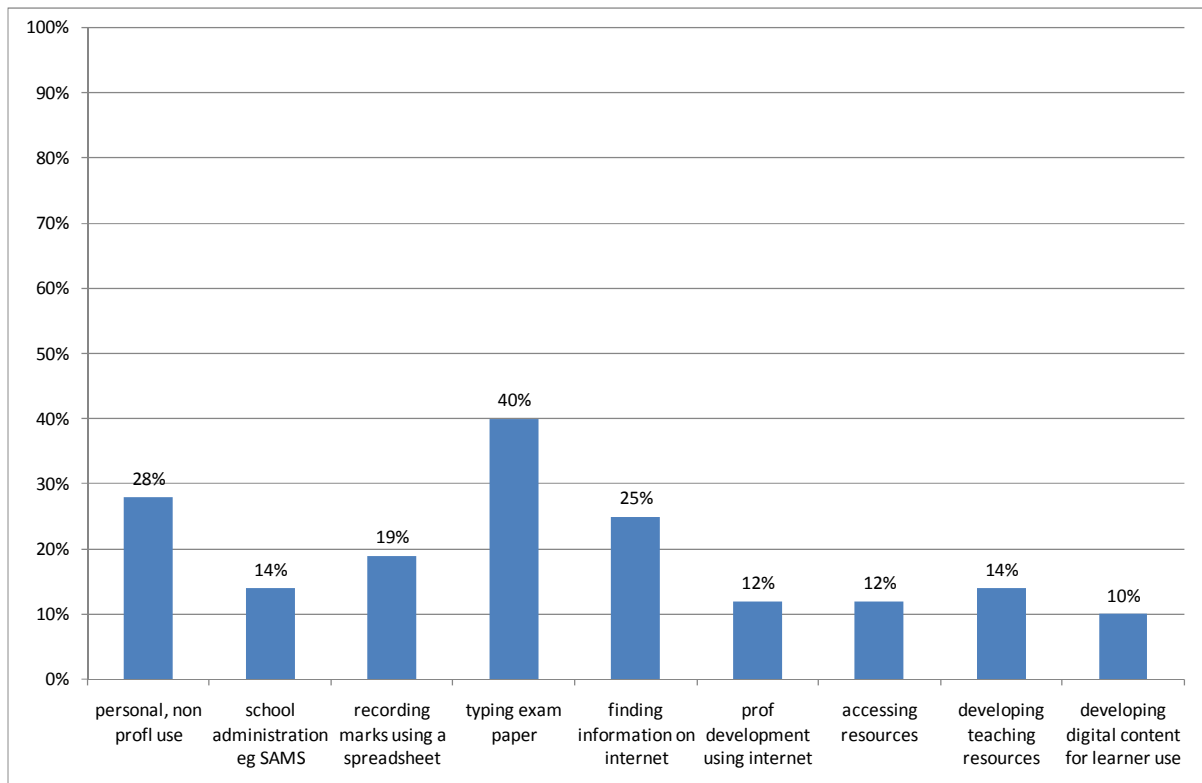
Just over two thirds (70%) of the sample did not have email addresses.

From the sample of teachers that did have email addresses, few used email regularly with 11 teachers using email every day, 16 teachers using email a few times a month and 5 teachers using email about once a month or less.

Use of ICTs

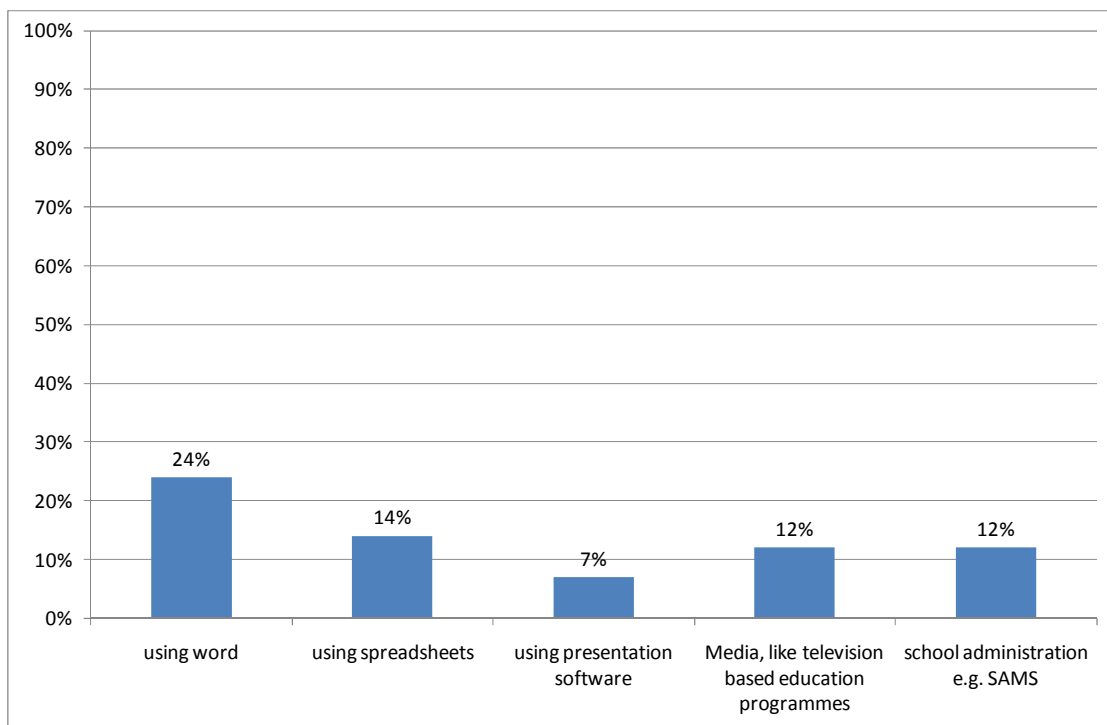
Some teachers were using ICTs prior to attending training, with the most common use being typing of exam papers (40%), followed by personal, non professional use (28%) and finding information on the internet (25%). This finding is supported by statements made by teachers during the site visits, which is discussed in a later section.

Figure 2: Use of ICTs (Pre-training profile questionnaire)



Few teachers used ICTs for teaching and learning prior to attending training with use of Word (24%) being the most common, followed by spreadsheets (14%), media (12%), SAMS (12%) and presentation software (7%).

Figure 3: Use of ICTs for teaching and learning (Pre-training profile questionnaire)



Learner use of ICTs: Only a small percentage of teachers indicated that they requested learners to use ICTs for various purposes. These purposes included using the internet to research information (37%), working on projects (37%) and solving problems, making decisions or forming opinions (23%).

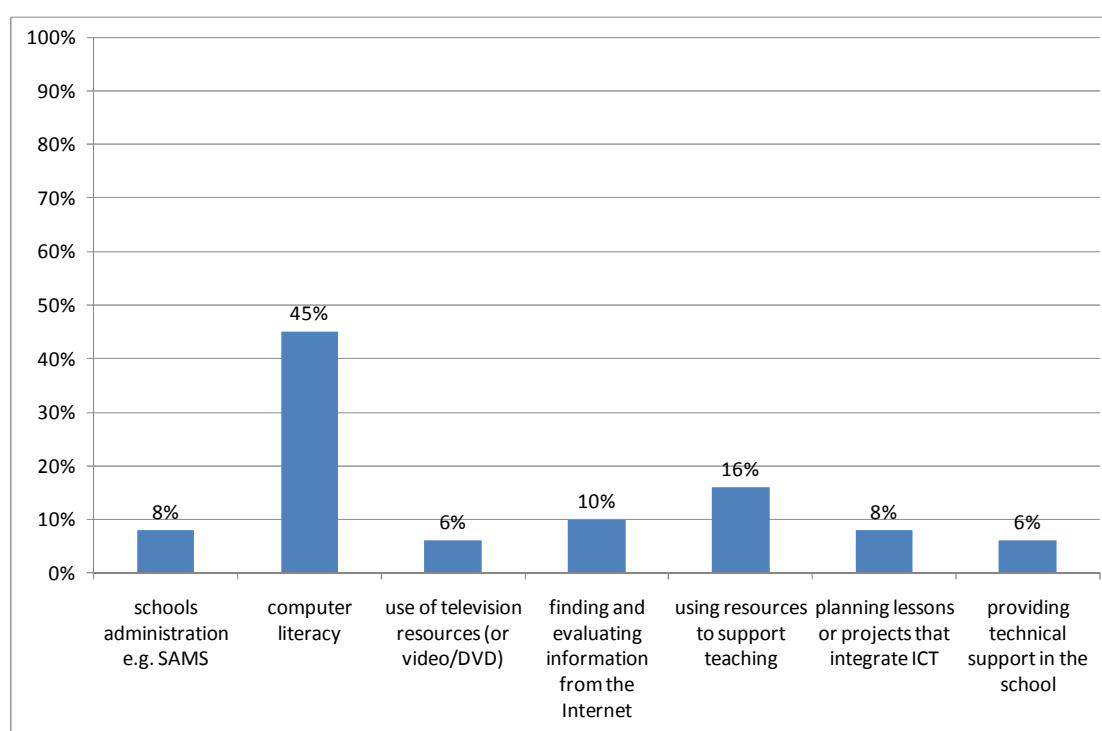
Previous training

Less than half (45%) of the teachers indicated that they had previously attended training on computer literacy. This means that more than half (55%) of the teachers had never had any computer literacy training.

Of those that had had ICT training, a large proportion (71%) of teachers had attended less than four hours of ICT related training in the last 12 months, with 29% with 5 hours or more.

Other types of training that teachers had attended are presented in the figure below:

Figure 4: Previous training (Pre-training profile questionnaire)



Summary

The sample of teachers that completed the questionnaire were experienced teachers with many having upward of 11 years of teaching experience but with only about half having the required qualifications for teaching (as seen in Table 4 above).

Overall there is limited use of computers at school (59% had never used a computer at school). Of those (15%) who did use computers at school, the most common uses were typing exam papers, using the internet and personal, non professional use. The application most used is Word.

Just over half of the sample (55%) did not have any previous computer literacy training.

These findings are supported by the comments made by teachers during the site visits.

Results: Teacher performance on assessment tasks

Prior to the training, teachers were asked to complete an assessment task. The purpose of the activity was to understand the level of knowledge and skills in selected computer applications – Word, Excel, PowerPoint, internet and email.

This activity would assist the trainers to understand the level of computer knowledge and skills of the teachers in order to pitch the training at the most appropriate level.

All teachers were encouraged to attempt the tasks, but if their computer knowledge was below basic they did not have to do the task.

The trainers could provide clarification of instructions but could not assist the teachers in the task in order for the assessment to provide data on pre-training computer knowledge and skill level.

The teachers were required to complete four tasks:

1. Opening a Word document and writing a short description of themselves, in a specified font (5 minutes were allocated for the task);
2. Opening an Excel document and typing in a simple budget that involved totalling a set of figures (8 minutes were allocated for the task);
3. Opening a PowerPoint document and compiling three slides, one with a picture, one involving reference to the internet, and one involving inserting a table (10 minutes were allocated for the task); and,
4. Sending an email attaching the document from the first three tasks (5 minutes were allocated for the task).

The assessment also provided a means for collecting baseline data. In order to measure the skills and knowledge that participants gained during the training a post assessment task was also administered at the end of the last of training. The teachers were required to complete the same four types of tasks, where the examples were different but the required activities were the same.

Limitations and challenges

There were some limitations and challenges in the administration of the assessment tasks.

Firstly, many schools did not have internet access and so were unable to complete the fourth task.

Secondly, problems with viruses meant that many of the teachers' documents were corrupted, and so could not be accessed by SchoolNet. Though some trainers saved the documents on their flash drives, the workstations at the labs had viruses on them and additionally in the school labs that were GOL the work was erased at 2am of the following morning so the files could be re-accessed and cleaned. This meant that the sample of teachers who were able to submit tasks to SchoolNet that could be accessed and scored was small.

Results

As the sample of tasks collected was small, the trainers were asked to provide an assessment of the overall skills levels of the teachers when they completed questionnaires after the training sessions. Results are presented below:

Table 5: Trainer perception of teacher performance in assessment tasks

Name of school	Approx number of teachers	Teacher performance on pre-workshop technical task	Teacher performance on post-workshop technical task
Bajabulile Primary	4	Poor	Average
Ezazi Primary School	07	Poor	Average
Flavious Mareka Secondary	08	Average	Good
Himalaya Secondary	24	Average	Good
Koos Matli primary	19	Average	Good
Mamelodi Secondary	25	Average	Good
Morakoma Primary	08	Poor	Average to good
Motsweding Primary School	15	Poor	Average
Nellmapius Primary	13	Poor	Average
Refentse Primary	12	Average	Good
Sikhanisele Primary	12	Poor	Average
Vlakfontein Secondary	10	Poor	Average
Zakhele Primary	9	Poor	Average

The table above shows that trainers indicated that all schools improved, with eight schools moving from 'poor' to 'average' and five schools moving from 'average' to 'good'. The table, however, does not represent all schools as two trainers did not submit questionnaires.

This shows that there was improvement between the pre and post assessment tasks, and the teachers' computer knowledge and skills were enhanced as a result of the training, i.e. learning did take place.

The sample of assessment tasks that were scored included 38 pre-assessment tasks and 25 post-assessment tasks.

- On task 1(in Microsoft Word), teachers scored an average of 2.89 in the pre-test (out of a possible 6) and 4.04 in the post-test;
- On task 2 (Microsoft Excel), teachers scored an average of 2.89 in the pre-test (out of a possible 6) and 5.24 in the post-test;
- On task 3 (Microsoft PowerPoint) teachers scored an average of 2.21 in the pre-test (out of a possible 6) and 3.84 in the post-test;

The results show that teachers scored just below 50% on all three tasks in the pre-test but that this increases markedly in the post-test, particularly for Excel and Word. Performance on PowerPoint did not increase as much as the other two tasks. It is

noted that this task also included pasting pictures and creating tables which teachers may have struggled with.

There is evidence that teachers gained basic knowledge and skills in Word, Excel and PowerPoint during the training. Given that the main focus of the training was on these three applications (as well as internet) these results are encouraging. As the tasks set were relatively simple in nature, these scores provide an indication of basic skills only.

Analysis of training sessions: Teacher perspectives

After completing training, on the last day, teachers were requested to complete a post training questionnaire. This was administered to assess teacher experiences of training, their confidence levels after training, and reflections on implementing what they learnt in the training in the classroom.

The questionnaire included sections on:

- The extent to which teacher expectations of the training were met;
- The levels of satisfaction with the training;
- Confidence levels for various computer skills and applications;
- Perceptions of relevance of different sections of the course;
- Working with action plans;
- Level of understanding of the potential use of applications such as Word, Excel, PowerPoint and the internet in teaching and learning;
- Anticipated challenges and support required.

A total of 96 teachers completed the post training questionnaire.

Table 6: Number of post-training questionnaires received

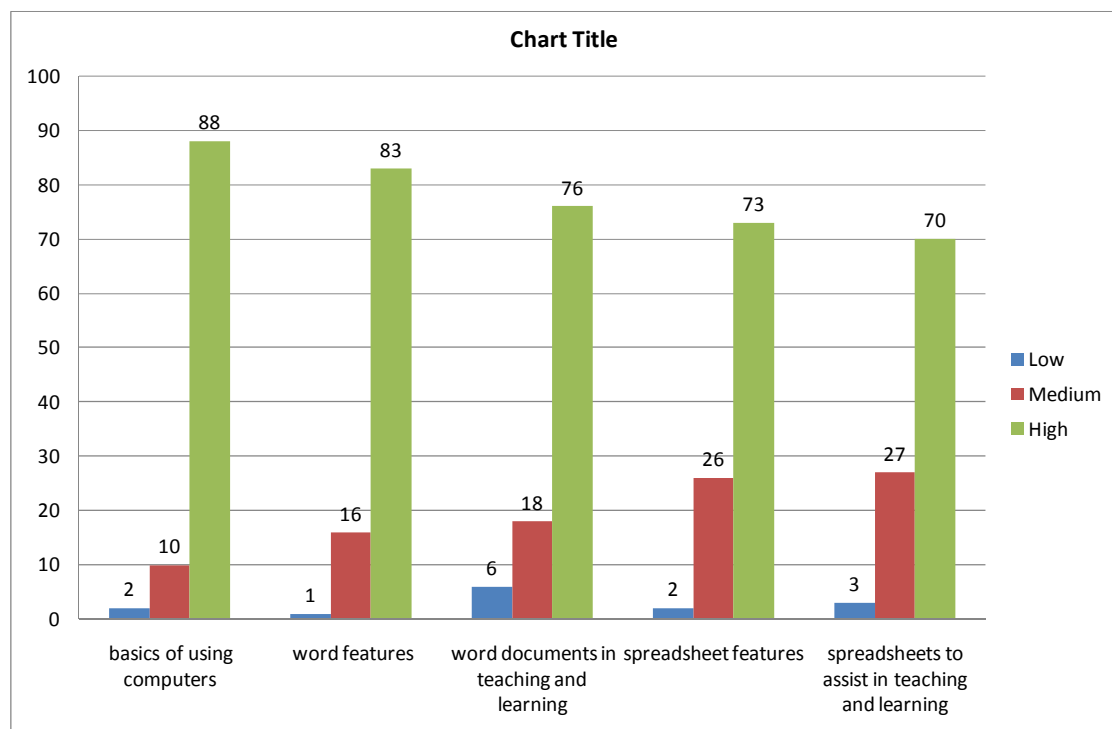
School Number	Number of teachers as per SchoolNet records	Number of post training questionnaires completed
Bajabulile Primary	9	
Bohlabatsatsi Primary	20	1
Morakoma Primary		1
Ezazi Primary	10	5
Flavious Mareka Secondary	15	6
Himalaya Secondary	19	21
Jan Kotlolo Primary	19	5
Kalafong Hospital Middle School	4	
Koos Matli Primary	25	
Mamelodi Secondary	30	17
Mogale Primary	23	
Motsweding Primary	20	10
Nellmapius Primary	14	8
Nwa Mhinga Primary	9	2
Refentse Primary	13	8

School Number	Number of teachers as per SchoolNet records	Number of post training questionnaires completed
Sikhanyisele Primary	16	
Vlakfontein Secondary	16	10
Zakhele Primary	8	
Other ⁴		2
Total		96

Expectations

Teachers were requested to indicate the extent to which their expectations of the training were met. Results are presented in the two figures that follow.

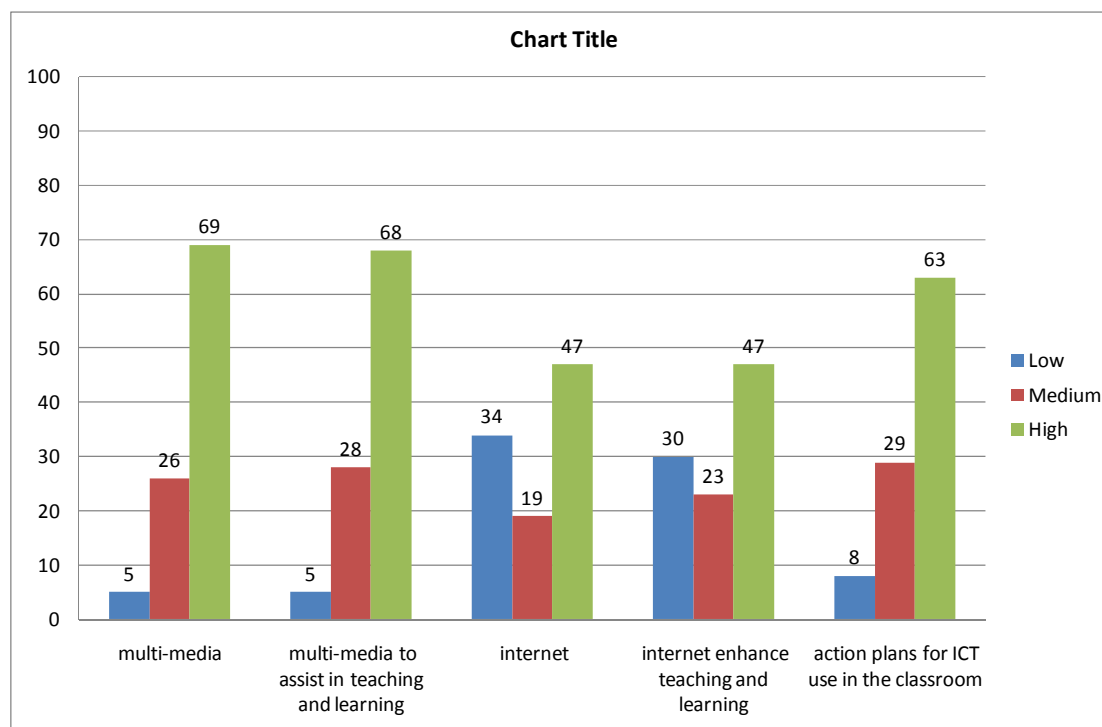
Figure 5: Expectations met in percentages graph 1 (Post-training questionnaire)



Teacher expectations of receiving training in the basics of using computers (88%), features of Word (83%) and using Word in teaching and learning (78%), features of spreadsheets (73%) and using spreadsheets in teaching learning (70%) were met to a high degree.

⁴ These were respondents who participated in the training but not from the 18 schools in the sample.

Figure 6: Expectation met in percentages graph 2 (Post-training questionnaire)



Teachers expectations of training in using multi media were high for just over two thirds (69%) of the sample.

The component of training which appears to have met fewer teacher expectations was the internet and the ways in which the internet can enhance teaching and learning. Just over half (53%) of the teachers indicated felt that their expectations had not been met. This was mostly due to the fact that many schools did not have reliable and sufficient internet coverage.

Using the internet was not met because the knowledge I have is just basic knowledge and we didn't get to have a hands-on approach because the venue had no internet connection. I would have loved to explore the internet more, use Thutong, set up wiki and many more

Satisfaction

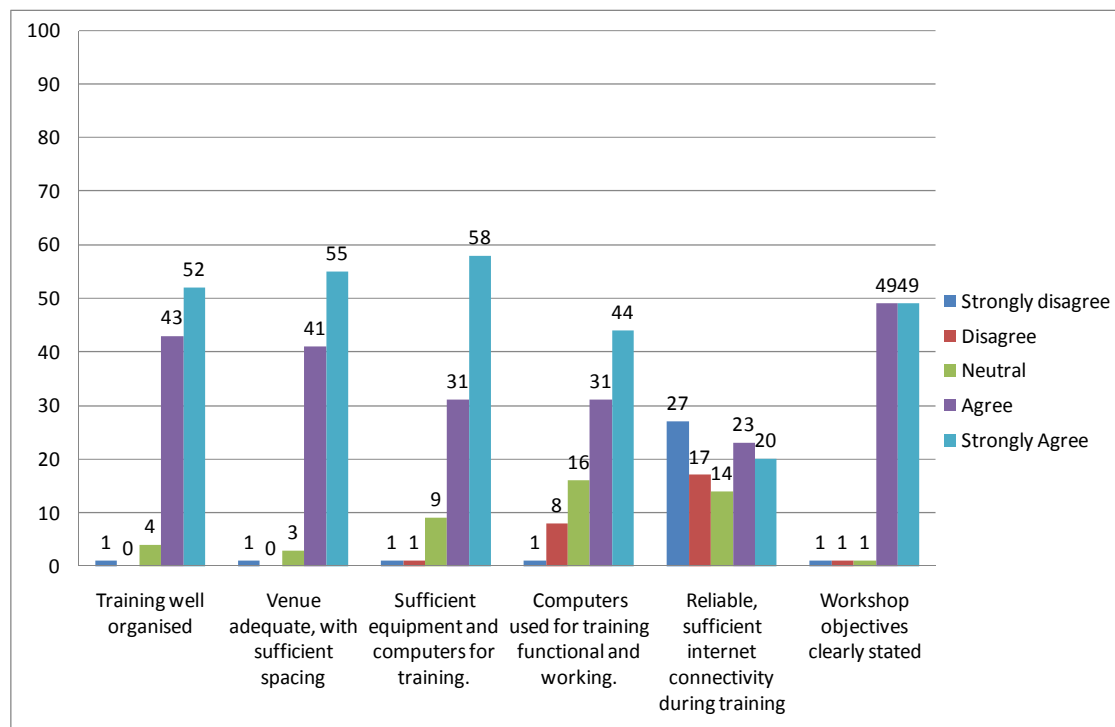
Teachers were requested to indicate the extent to which they agreed or disagreed with statement relating to their satisfaction with the training, ranging from the organisation and logistics of the training to the facilitator to the training methodologies. Results are presented below.

Areas where teachers were most satisfied included:

- The organisation of the training (95% agreed or strongly agreed);
- The training venue (96% agreed or strongly agreed);
- The sufficiency of equipment including computers (89% agreed or strongly agreed);

- The extent to which the workshop objectives were stated (and the extent to which they were met⁵)
- The user-friendly nature of the course materials;
- The extent to which the trainer was perceived to be knowledgeable and qualified (99% agreed or strongly agreed);
- The extent to which the training was practical and hands-on (98% agreed or strongly agreed); and
- The extent to which the training methodologies were conducive to learning (98% agreed or strongly agreed).

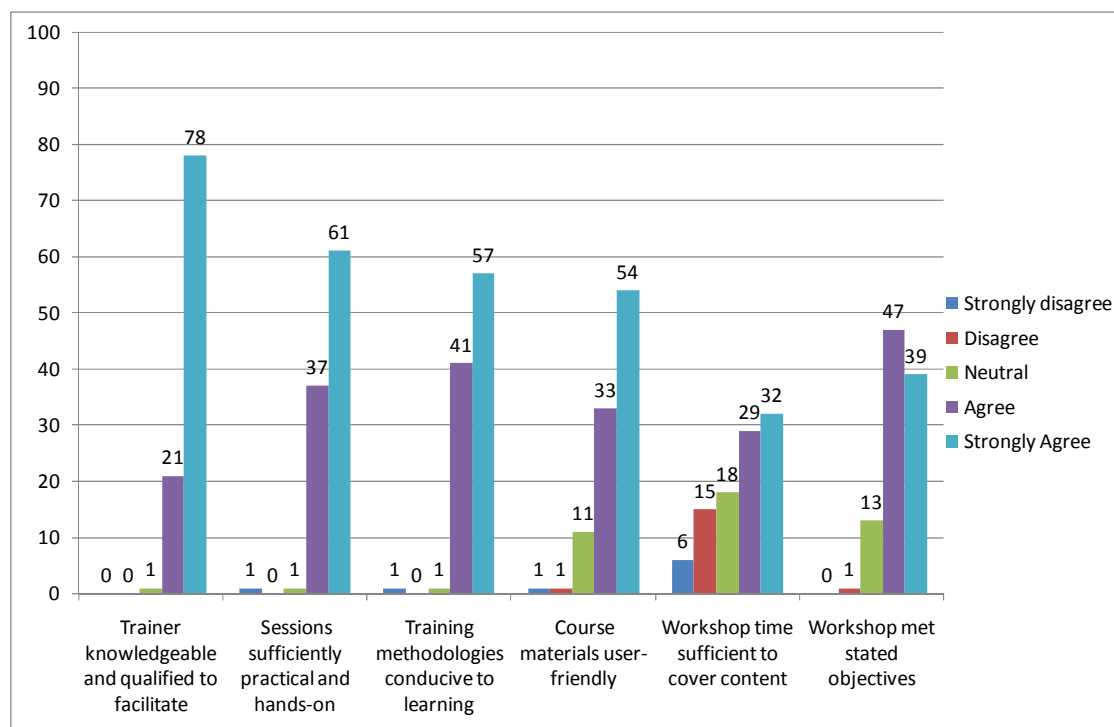
Figure 7 Satisfaction with training in percentages graph 1 (Post-training questionnaire)



Almost all teachers (98%) agreed or strongly agreed that the workshop objectives had been clearly stated and 86% indicated that these objectives had been met.

⁵ Slightly lower percentage

Figure 8 Satisfaction with training in percentages graph 2 (Post-training questionnaire)



Areas where teachers were least satisfied included:

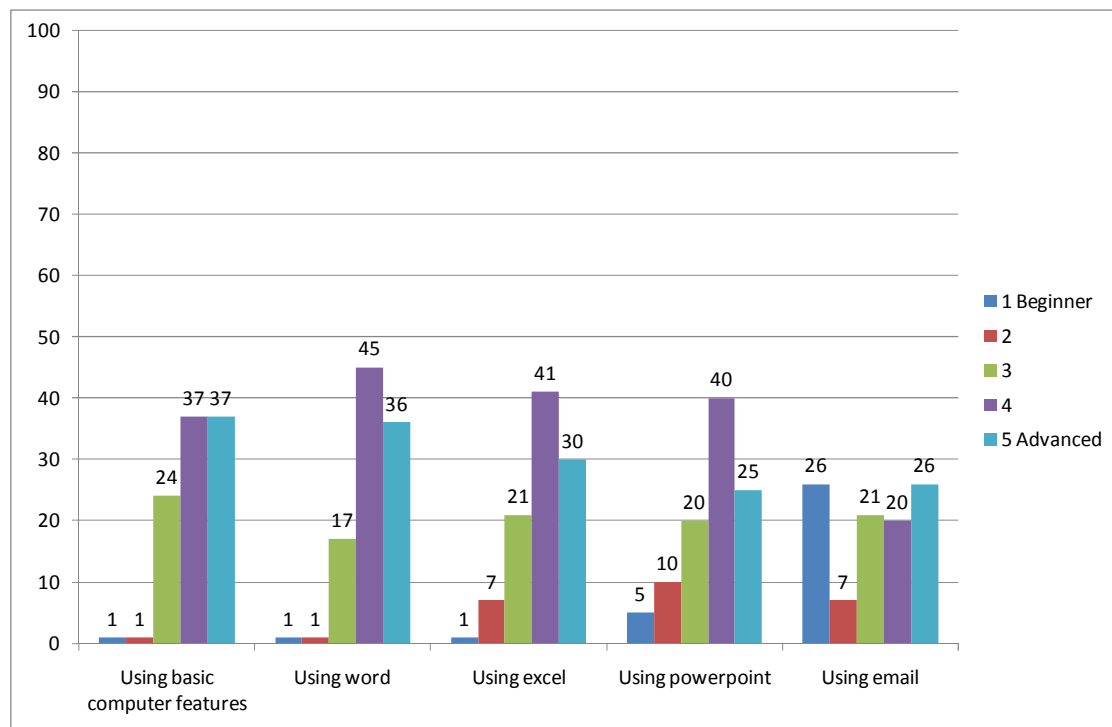
- The reliability and sufficiency of internet connectivity;
- The functionality of the computers;
- The sufficiency of the workshop time to cover the course content.

These themes were also evident from teacher focus groups during the site visits, and from feedback from the trainers, as discussed in later sections.

Confidence

Teachers were requested to indicate their level of confidence in using various computer applications after attending the training. The aim was to assess whether confidence levels had increased as a result of the training, and also to provide data that could be used for comparison purposes during the site visits.

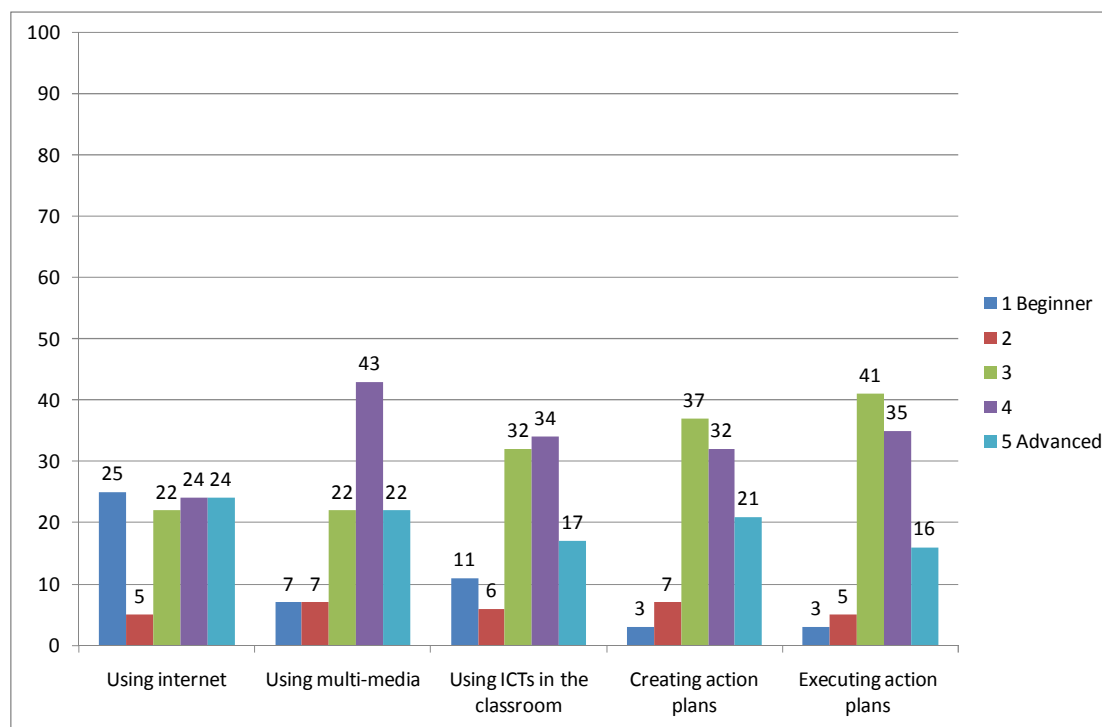
Figure 9 Confidence levels in percentages graph 1 (Post training questionnaire)



Data taken from figures 9 and 10 shows that overall confidence levels were highest for:

- Using basic computer features (with 74% reporting good confidence levels);
- Using Word (with 81% reporting good confidence levels);
- Using Excel (with 71% reporting good confidence levels);
- Using PowerPoint (with 65% reporting good confidence levels); and
- Multimedia (with 52% reporting good confidence levels).

Figure 10: Confidence levels in percentages graph 2 (Post training questionnaire)



Confidence levels were more evenly spread for using email and internet. This makes sense given that many venues did not have reliable and sufficient internet connectivity. Some teachers would have had the opportunity to practice their skills and increase confidence, whilst others would not have had an opportunity to practice. For many, their only exposure to the use of the internet would have been by proxy, by reading about it in the course materials or by observing the trainer using the internet.

Confidence and use of computers at school

Teacher confidence levels to use ICTs in the classroom were moderate. This is supported by the finding that 59% of teachers reported not having used a computer at school. This may be influenced by circumstances at schools such as sufficiency of computers; internet connectivity, support structures, learner numbers and workload.

Confidence and years of experience

Results for teacher confidence with computer applications was compared against years of teaching experience to ascertain whether age was a factor in the extent to which teachers were confident in their skills after the training. Results are presented below:

Table 7: Average number of years of teaching experience per confidence level - selected computer applications

Skills	Rating of 1 Beginner	Rating of 2	Rating of 3	Rating of 4	Rating of 5 Advanced
Basic computer skills	N/A	11.00	18.08	17.37	11.55
Using Word	N/A	35.00	21.89	16.75	10.37
Using Excel	N/A	18.75	18.83	15.82	10.87
Using PowerPoint	11.00	22.80	17.45	16.14	12.14

The results show that teachers who rated higher levels of confidence on Word, Excel and PowerPoint had less years of teaching experience than teachers scoring lower in confidence. This may mean that years of teaching experience, used as a measure of age in this case, is a factor in the extent to which teachers are confident in their abilities to apply what they have learnt in the training. It may be suggested that many of the older teachers did not use computers as part of their initial teacher training.

Confidence levels for internet and email were not measured as many schools did not have internet connectivity during training.

Perception of relevance

Teachers were requested to indicate their perceptions of the relevance of the various components of the training, including basic computer skills, computer applications like Word, Excel and PowerPoint, use of the internet and development of action plans.

Perceptions of relevance were highest for:

- Using basic computer features (87% at high levels);
- Using Word (83% at high levels);
- Using Excel (82% at high levels); and
- Using PowerPoint (82% at high levels).

Figure 11: Perceptions of relevance in percentages graph 1 (Post training questionnaire)

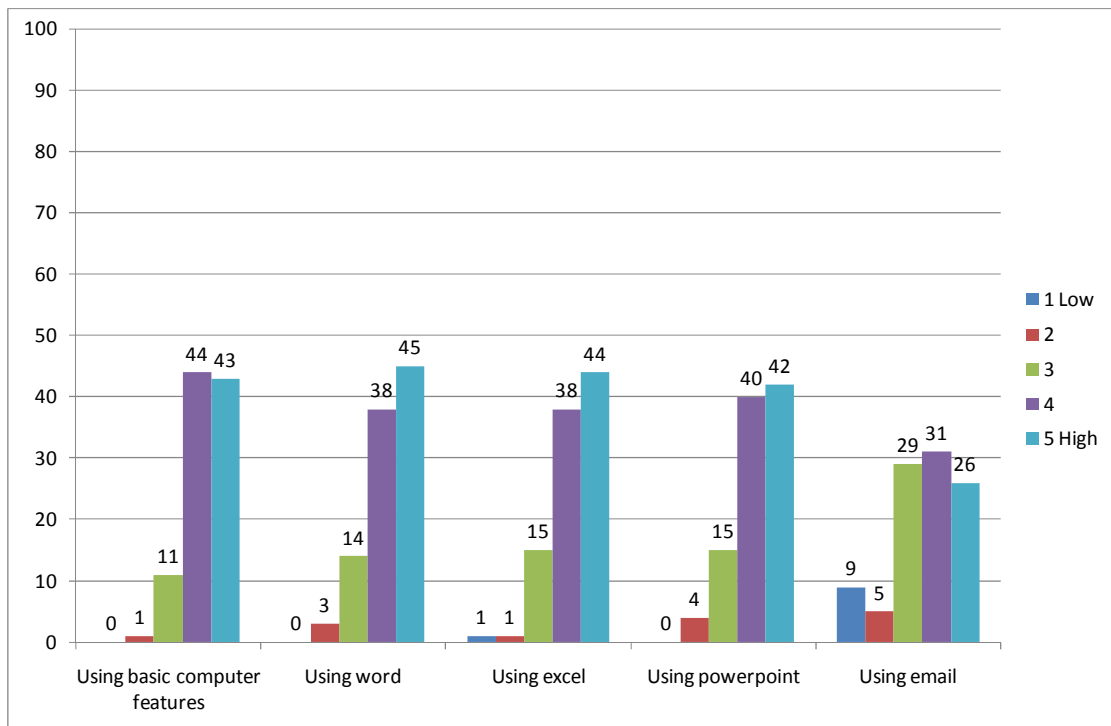
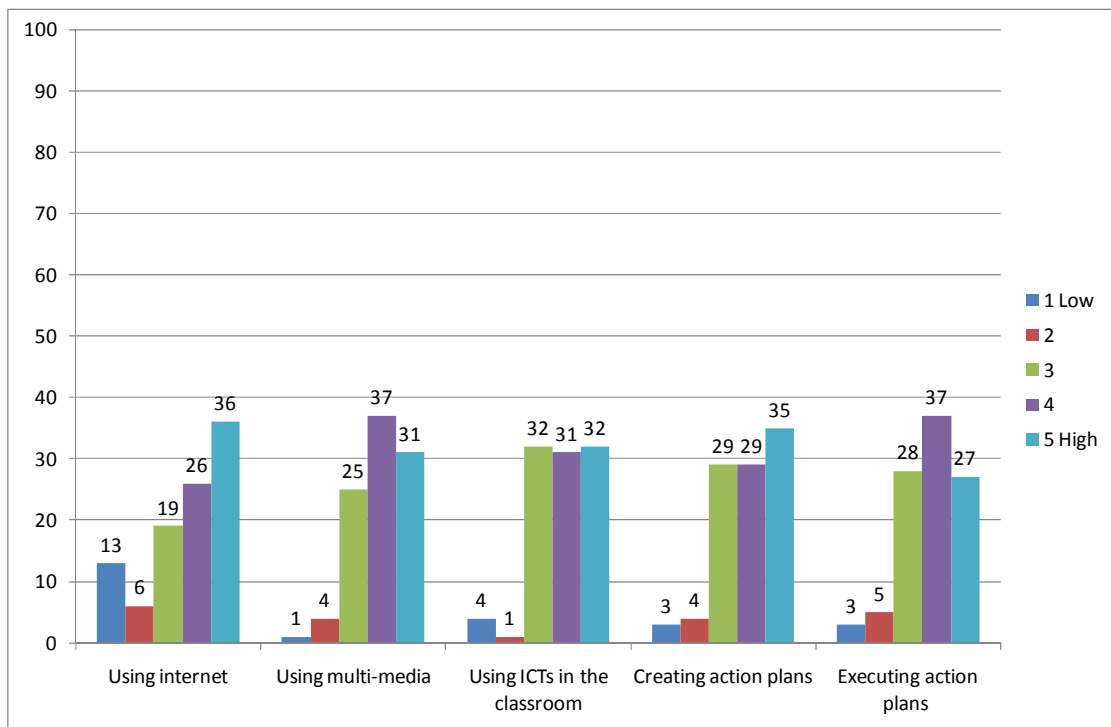


Figure 12: Perceptions of relevance in percentages graph 2 (Post training questionnaire)



Perceptions of relevance were moderate for all other areas (evenly spread across levels 3, 4 and 5) including email, internet, multi-media and creating and executing action plans.

None of the areas were indicated to be of low relevance to the teachers for teaching and learning practices.

Action plans

Just under two thirds of the teachers (65%) indicated that they had started to develop action plans during the training sessions, and 50% indicated that they had completed their action plans during the training.

Teachers were asked to indicate what the main focus areas of their action plans were:

- Some teachers (4) referred to the general approach of designing activities, reviewing, sharing and analysing results;
- Other teachers referred to long term goals (4), short term goal (2), strategies (4), solutions to problems (3) and linking strategies to timelines (1);
- 3 teachers focused on collaboration and motivation and 3 on integrating teaching and learning;
- Teachers mentioned specific areas that they would focus on:
 - 6 teachers indicated that their focus was their learning area, but did not provide specifics;
 - 5 teachers mentioned focusing on 21st century approaches, as they were described in the course;
 - 3 teachers mentioned lesson planning;
 - 2 teachers mentioned developing computer literacy classes for learners;
- Some teachers mentioned specific tasks they would do:
 - Class lists (3 teachers)
 - Minutes of meetings (1 teacher)
 - Hyperlinks in slides (2 teachers)
 - Slide (4 teachers)
 - Pictures (1 teacher)
 - Record results/marks (1 teacher).

In summary the teachers seemed to focus on disparate elements of the action planning process – either on aspects of immediate interest or areas that they possibly felt comfortable to engage with. Overall though, it does not appear that the action plan was sufficiently or coherently and systematically developed during the training.

Applications in teaching and learning

Teachers were asked to provide examples of the ways in which the different applications could be used in teaching and learning:

Table 8: Applications in Word (Post training questionnaire)

Application in Word	Number of teachers
Set tests, exams memo	17
Certificate	11
Worksheets	11

Application in Word	Number of teachers
Letterhead/letter	9
Plan lesson	8
writing/typing	6
class list	5
Agenda	3
Newsletter	3
Timetable	1
Diagrams	1
Marks list	1
Learning support material	1
Rubrics	1
Projects	1

Emphasis on use was on administration type applications and setting tests and exams, rather than on applications that could be integrated into teaching and learning easily. Issues around low connectivity may account for this.

Table 9: Applications in Excel (Post training questionnaire)

Application in Excel	Number of teachers
Marks schedules	36
Class lists/database	12
Calculations	9
Graph	6
Pictograph	4
Budget	3
Timetable	2
Analyse data e.g. in Natural Science	2
Alphanumeric sorts	2
Agenda	1
Report cards	1
Seating arrangement	1
Attendance	1

The most common uses mentioned were marks schedules (31%) and class lists.

Table 10: Applications in PowerPoint (Post training questionnaire)

Application in Excel	Number of teachers
Lesson presentation	22
Meeting presentation	7
Class rules	5
Inserting pictures	5
Action plan	4
Creating cards	2
Timetable	1
Images and sound in presentation	1

Though the most common use specified was for lesson presentation (19%), teachers commented that insufficient computers and a lack of projectors at the school limited the extent to which they could present lessons in class using PowerPoint.

General Comments

When asked about the kind of support that teachers believed they would need in order to implement the skills they had learnt during the training in the classroom, the following responses were provided:

- 25 Teachers indicated that the schools needed more computers;
- 14 Teachers indicated that they needed more time in the computer labs ;
- 22 Teachers indicated that they needed more ICT related training ;
- 20 Teachers requested additional equipment such as projectors, laptops, printers and big screens;
- 5 Teachers felt that technical and administrative support from the ICT coordinator would be beneficial;
- 20 Teachers indicated that internet connectivity needed to be improved in the schools; and
- 5 teachers wanted learners to have more access to computers, even after school.

Some other comments from teachers:

I think we need more training as most educators are BBT (born before technology) therefore its difficult for them to grasp fast

The tutor tried her best to meet our needs. Given more time than this I believe that I would Excel with her assistance. She was really the best so far from all tutors I have met

The computer skills. Very knowledgeable, patient, using correct language and could help the rest of the group.

I need more practice in my school. At least if the SMT make 2 computers available in the library I will be able to practice

Summary

It is evident that most teachers started the training with below basic to basic skills levels. Most indicated that they were satisfied with the training, and that the training had met their expectations, in the areas of basic computer features, Word, Excel and PowerPoint (with between 70-88% indicating that their expectations had been met to a high degree). Many of the teachers also indicated that these areas were relevant to their teaching. However, more than half (53%) indicated that their expectations regarding the use of various internet applications had not been met. This can largely be ascribed to the fact that many of the schools do not have reliable internet connectivity.

Teachers indicated that they had worked on action plans, and while some teachers indicated the action plans focused on specific strategies and goals others were more fragmented and simply mentioned some of the skills they wanted to learn. But some teachers were less specific, and merely mentioned the learning area they were teaching as a focus area of the action plan, without providing details of what specifically in their learning area they would do to integrate teaching and learning into the classroom.

In general the teachers were satisfied with the content of the materials, found the materials relevant, and gained in skills as evidence by their performance on the assessment tasks and their increased confidence levels. Contextual factors limited the efficacy of the training, and so it is the logistics of the training and the poor resources and infrastructure at the school that limited the extent to which teachers gained in skills from the training:

- **Functionality of computers:** Some of the computers were not in working order, or the processing speed was low. Whilst a predominant number of schools have Gauteng Online Labs there were many technical challenges as in some instances the lab was not fully functional.
- **Internet connectivity:** In many venues there was no connectivity or the connectivity was unreliable and so trainers could only present the sections on email and internet in a theoretical manner, although some trainers were able to at least present the section on their own laptops with their own data bundles. Given the large potential of the internet to provide information for teachers to use in the integration of computers in teaching and learning this is a severe limitation of the training. Many teachers felt dissatisfied, as this is one of the interest areas for teachers and an area which encourages motivation and enthusiasm.
- **Loading the course on the computers:** In many cases the trainers were unable to load the CDs onto the computers, and couldn't access the materials on the internet. The option of placing the material onto a flash disk and then installing it onto individual workstations was time consuming and led to trainers getting viruses on their flash disks.
- **Workshop length:** Most teachers found that the length of the workshop was insufficient to cover the content of the course. One of the reasons for this is the level of computer skills which teachers started with, which in some cases was below basic. This meant that some teachers were unfamiliar with the

computer, the basic concepts of opening different windows, using a mouse etc., and these needed to be covered before moving on to the different computer applications. Additionally, the course focuses not only on the basic features of the programmes, but the different ways in which it can be used in teaching and learning, and some teachers felt the time had been insufficient for them to learn the skills, especially in programmes such as Excel. PowerPoint also appears to have been a challenge given the slightly lower scores in the assessment task.

One of the mediating factors in the levels of confidence of teachers is age (measured in this case by number of years of teaching experience) particularly in Word. The results showed that teachers who rated higher levels of confidence were the younger teachers with fewer years of teaching experience and that teachers with more years of teaching experience (and so more mature) were less confident.

Many of these themes are also evident in the comments and reflections from the trainers and these are highlighted in the next section.

Results: Analysis of training sessions: Trainer perspectives

Trainers were requested to complete a questionnaire and to participate in a focus group discussion. From a total of 10 trainers, 8 trainers completed questionnaires and 2 trainers participated in a focus group discussion (interview).

The trainer questionnaire and focus group discussions examined the trainers' previous computer experience, experience as a trainer, confidence levels, understanding of the school infrastructure, assessment of teachers, perceptions of course materials and methodologies and reflections on training logistics and administration.

Trainer profile

Years of experience: Five of the 8 trainers are primary school teachers and teach the following grades and subjects:

- Grade 7 Natural Science, 9 years teaching experience
- Grade 6 and 7 Maths and EMS, 16 years teaching experience
- Grade 4-7 Maths, English and Natural Science, 17 years teaching experience
- Grade 4 and 5 English and EMS, 30 years teaching experience
- Grade 7 Maths, Grade 4-9 Computer literacy, Grade 9 Technology, 12 years of teaching experience.

Two trainers are senior education specialist and one trainer is a district official

Only one of the five trainers teaches Computer Literacy at school. All trainers have upwards of nine years of teaching experience.

Qualification levels: These varied, including:

- 5 trainers had Honours degrees;
- 1 trainer had a degree +HED;
- 1 trainer had a Secondary Teachers Diploma (STD) and ACE in management and leadership; and
- 1 trainer had a Secondary Teachers Diploma (STD) and IT Project Management Certificate.

Five of the eight trainers had a postgraduate qualification; one had a degree while two only had diplomas.

Trainer: Own levels of computer training

The trainer' own levels of computer training are also varied. They range from computer literacy within formal degrees or diplomas (5 people), to a six month course, name unspecified (1 person) to short courses. The short course listed by the trainers where they themselves were participants included:

- GDE workshops (1 person);
- Intel teach to the future (2 people);
- Training on SA SAMS (1 person);

- One step further (1 person);
- IT essentials and CCNA (Cisco) 1(1 person);
- Partners in learning (2 people); and
- Future kids (1 person).

Trainer: Train- the-Trainer qualifications

Train- the-Trainer courses attended by the eight trainers include, the Intel train-the-trainer Getting Started course. Other train-the-trainer courses include:

- Intel teach to the future (2 people);
- One step further (1 person);
- Partners in learning (2 people);
- Webquest (1 person);
- Skills for success (1 person); and
- Future kids (1 person).

Trainer: Previous experience in offering training

Five of the eight trainers had considerable experience in training around the use of computers. This varied from three to 14 years of training experience. Two of the trainers had training experience, but this was not related to the use of computers and one had no previous experience in offering training of any kind.

Confidence levels

Trainers were requested to indicate their *own* level of confidence in using various computer applications.

Table 11: Trainer confidence levels

	1 Beginner	2	3	4	5 Advanced
a. Using basic computer features					100%
b. Using Word				13%	87%
c. Using Excel				25%	75%
d. Using PowerPoint/presentation software					100%
e. Using email				13%	87%
f. Using internet				13%	87%
g. Using multi-media			13%	37%	50%
h. Using ICTs in the classroom			28%	29%	43%

Overall, the trainer confidence levels are high. The highest level of confidence was registered in the use of basic computer features and PowerPoint (100%). Use of Word, email and internet (87%) and using Excel (75%). Confidence levels are lowest for using multi-media and using ICTs in the classroom.

Context: School infrastructure and challenges

To understand the context in which the training occurred and in which the teachers are typically required to work, the trainers were asked to provide information on the infrastructure of the schools in which they offered training. This included information on the sufficiency of working computers, the existence of a Gauteng online (GOL) laboratory or other independent computer laboratory, teacher and learner access to computers and internet connectivity.

Information is available for 13 of the 18 schools in which training was held. The results are presented in the table on the next page.

Computers: The table shows that nearly half the schools from which data was received did not have sufficient computers. One school had very few computers, five schools had some computers but were insufficient in number, and the remainder had a reasonably sufficient number of computers.

According to the two trainers interviewed, the challenge was the limited capacity of the computers at the schools, and the thin client servers used. This meant that downloading the course contents onto the school computers took time (the help guide is quite large), and so sometimes the help guide was not loaded into all the computers. Additionally, some of the application such as the help guide (which is a database) and using graphics took time to open.

Table 12: School infrastructure according to the trainers

Name of school	Are there sufficient working computers for teaching and learning	Is the Gauteng Online lab set up and are the computers working? What operating system is used (e.g. Ubuntu or Microsoft)	Do teachers have access to the computers for planning and preparation?	Do learners have access to the computers in classes?	Is there internet connectivity and if yes, how reliable is the connectivity?	If the school has an independent lab, is the operating system Ubuntu or Microsoft?
Bajabulile Primary	reasonably sufficient number of computers	Yes	Yes	yes	Yes, average	
Ezazi Primary	reasonably sufficient number of computers	Yes, Microsoft	Yes	Yes	No internet access	No
Flavius Mareka	some computers, but insufficient number	Yes, Microsoft	Not sure	Not sure	Yes but is on and off	
Himalaya Secondary	reasonably sufficient number of computers	Yes	Yes	yes	Yes, average	
Koos Matli Primary	reasonably sufficient number of computers	Yes, Ubuntu	Not all	No	Yes, very reliable	
Mamelodi Secondary	some computers, but insufficient number	Yes, Microsoft	Yes	no	Yes , reliable	No independent lab
Morakoma Primary	reasonably sufficient number of computers	Yes. Not all were working. Microsoft	Yes	Yes	Yes. Not reliable	
Nelmapius Primary	few computers	None	No	no	no	No independent lab
Refentse	some computers, but insufficient number	Not sure	Yes	no	no	
Sikhanyisele Primary	reasonably sufficient number of computers	Yes	Yes	yes	Yes, average	
Sizanani LSEN	some computers, but	Yes, Microsoft	Yes	no	no	No independent lab

Name of school	Are there sufficient working computers for teaching and learning	Is the Gauteng Online lab set up and are the computers working? What operating system is used (e.g. Ubuntu or Microsoft)	Do teachers have access to the computers for planning and preparation?	Do learners have access to the computers in classes?	Is there internet connectivity and if yes, how reliable is the connectivity?	If the school has an independent lab, is the operating system Ubuntu or Microsoft?
	insufficient number					
Vlakfontein Secondary	reasonably sufficient number of computers	Yes, Microsoft	Yes	Yes	No internet access	No
Zakhele Primary	some computers, but insufficient number	Not sure	Yes	No	No	

Summary of findings regarding infrastructure and challenges

GOL: 9 of the 13 schools had GOL computer laboratories. One school did not have a computer lab. Information on the other three schools was not provided.

The two trainers interviewed noted that Gauteng Online is moving to Ubuntu, which is freeware, and include Openoffice.org. This is a serious challenge as some of the features of the Intel Getting Stated CD do not work on Ubuntu (compatibility issues). Additionally the course content is focused on Microsoft office not Openoffice.org.

Teacher access to computers: In 12 of the 13 schools, the teachers had some access to computers. However, the extent of access varied, and some schools had very few computers and/or the teachers had limited time to use the computers.

Learner access to computers: Less than half the schools (6 out of 13) provide learners some access to computers.

Internet access: Seven schools reported having access to the internet, but it appeared that this was only reliable in 2 of the 13 schools.

The problem of poor connectivity was highlighted by the two trainers interviewed. They reported that using the internet modules was challenging due to the lack of internet connectivity at the schools. They also indicated that they ended up using their own internet bundles (3G access) and illustrating some of the features on their own machines, but then the teachers did not get an opportunity to practice internet and email skills.

Training logistics

Venues: Five of the eight trainers indicated that most of the venues were suitable for training with sufficient computers, and where the teachers were not required to travel far. Those indicating problems with venues stated that some had problems with power failures and several had internet connectivity problems.

[The] Venue was reliable but on the first day there was power failure. Modem was used for internet connection but the fund loaded was insufficient.

Computers are loaded with viruses and they keep on freezing.

The computer froze on the second last sessions. Internet was connected on the first day only. Due to freezing of computers, we ended using to laptops.

The security settings and the power supply were a great challenge.

The challenge was of the unreliable internet connectivity, which made it difficult for other activities to be done successfully.

Working computers: Six trainers indicated that there were sufficient working computers at their training venues.

Laptops were used and teachers were sharing computers that were reliable.

The computers were not sufficient and teachers worked together in pairs

Loading course materials: Five trainers indicated that they were able to load the course materials onto the computers, with the other three trainers reporting problems with processing speed, or not having a port to install disks.

Processing Speed: Four trainers (half) indicated problems with processing speed of computers:

When working on line sometimes a help guide was not opening but when working using a disc it was opening well.

Yes. To access a site the computers took a very long time to load.

Because these computers did not allow the use of CDs, it was difficult to check on their speed.

Teacher skills and competency level

At the start of the course

All trainers indicated that the teachers' skills before attending the training were below basic to basic.

In the five schools of the two trainers interviewed, the level of computer literacy was extremely low. The trainers reported that the teachers were struggling and in one case, one teacher struggled to even hold the mouse correctly. *It was below basic*

Despite the fact that most schools had computer labs, in general the teachers did not use the computers (Before training 59% of the teachers indicated that they did not use computers at school). The trainers felt the teachers were making excuses for not using computers, such as the principal not allowing access to the lab. In cases where principals did allow access to the labs, some teachers admitted they were scared to touch the computers – 'cyberphobia' or fear of embarrassment.

Once again the issue of teachers' age came up as a possible reason for the reluctance of some of the older teachers who were more hesitant and fearful of using technology.

Pre and post-workshop technical tasks

The trainers reported that most teachers struggled with the pre-workshop tasks, and were not able to complete them. This makes sense given that the many teachers were at a pre-basic level. However, performance improved on the post-workshop technical tasks.

At the end of the course

The two trainers interviewed indicated that the teachers gained in skills and confidence after attending the training course.

For most teachers who had been at the below basic literacy level, basic skills and understanding such as mouse control, coordination, opening and closing programmes etc improved greatly.

For some, the logic of working in different models became clearer, but not for all teachers who still struggled with it.

The two trainers interviewed reported that some teachers contacted them after the training session when they were trying to implement some of their skills, such as recording a marks sheet, and were encountering problems.

When we leave, they normally take our contact details such that when we are gone relaxing at home they keep calling us and saying “I’m trying to work on my recording sheet and I was clicking on this and then suddenly it went off... I don’t know what to do” To me that serves as an achievement, it means learning really happened.

Course content

Presentation

The trainers indicated that the Getting Started course is quite a well presented and interactive course, but it is difficult for the teachers who are below basic level in their computer literacy skills to interact with the CD.

It is like you are giving somebody who doesn’t know how to drive a Mercedes Benz to play around with.

A challenge cited by one of the teachers interviewed was that teachers were required to work in different windows at the same time and this was confusing for some of the teachers who had little computer experience.

So, for example, they will open a Word document, then they need to open the CD through explorer, and perhaps then refer to the help guide which is another window. So they have to work on different windows at the same time and it is confusing for them. Unless if they are at a certain level like intermediate level

Modules

Most trainers (7) indicated that all the modules were relevant.

Some mentioned that the handbook section could be shortened or left out:

Remove the filling of answers to questions from module 4 to 11 in the Handbook, rather let them be class discussions. Teachers don’t like them at all hence they do not do justice on them

For now I don’t think there is anything to add since teachers are struggling to complete their task due to time allocated to this course.

Help guide

Three trainers reported that the teachers were able to use the help guide.

Yes, they referred when looking for information on how to create certain templates and for completion of some activities

Yes they did because they were able to do some of their activities on their own following the help guide

Yes, they were working in groups and others managed to do the activities at home.

However five trainers reported that teachers struggled to use the help guide, and this is supported by findings in the site visits:

Teachers had to rely on my laptop because computers at the lab did not allow for the use of the disks.

Most of the them were struggling to use it, but a facilitator was there when they needed help to view it or to give help.

They had difficulty in using and following the help guide. They had challenges in interchanging between programmes on the task bar.

I became the help guide.

The two trainers interviewed provided the following explanation:

I introduced the help guide thing but they failed to follow the help guide, in such a way that I just had to change and be the help guide myself in order for them to understand it better.

When you refer them to that help guide or tip sheet they get totally lost and if you keep on following, reinforcing, and referring them to the use the help guide believe me the next time they won't come

South African context

All 8 trainers indicated that they felt the course was relevant to the South African context.

Most of the trainers indicated that the course was suitable to the South African context, particularly the concepts of '21st century skills' which is highlighted in the course and the focus on integrating ICTs into teaching and learning.

It [shows then] ...they are acquiring skills not just for themselves as educators but for them to use during your teaching and learning ... paradigm shifts ... changing the way you teach.

Yes it is relevant. It is enhancing teaching and learning, contributing to 100% participation of learners and minimising discipline problems we face in our schools. We are leaving an era whereby global collaboration is taking place. The course material is enabling South Africans both learners and educators to collaborate effectively and be par with development in other countries worldwide

Yes it is relevant because education system now requires educators to apply their skills on a daily basis.

However, one of the trainers interviewed indicated that the inclusion of 21st century skills shifted the focus of the training, which needed to be more at a 'below basic to basic level' providing the teachers with basic computer skills and knowledge.

The trainers added that the examples were also appropriate to the classroom situation such as the recording sheets and reporting.

When they have to do recording sheets and reports manually with calculators, so when you show them that you can do this on Excel, then it becomes more relevant to them.

One trainer indicated the relevance of the handbook, but felt that it was time consuming:

Yes, it is very much relevant because it is our curriculum based and it allows individuals to participate in a broader way. It also allows critical thinking and creativity. The handbook is the one that allows hands-on the most, which makes educators to gain typing skills although it is too long and repeat some of the questions. That is why not all educators complete it fully.

One trainer captured the relevance of the course well:

Yes, because:

- It assists SA educators to discover the differences between teacher centred and learner centred approaches and the professional practices.
- Assist educators with strategies to develop skills for promoting and facilitating collaboration, skills of listening, speaking and problem solving.
- Assist educators in understanding the purpose and components of an action plan and its importance in the teacher's teaching life.
- All the practical examples in Word, Power point and Spreadsheet are relevant to the teachers' needs.
- The use of multimedia to enhance teaching and learning.
- The use of advance tools to search for in depth components of a chosen topic.

Approach

The trainers' emphasise when they start the class that the focus is integration of ICTs into the curriculum rather than purely an ICT training course.

According to the two trainers interviewed, the 'shaping and fading model' was not easy to implement and the trainers found that over the four days they were still shaping and there was not much fading. The aim was to encourage them to use the tip sheets and help guides before asking for assistance from the trainer, but some teachers still struggled with this.

The two trainers interviewed indicated that they taught the course in a very hand-on, practical manner as the main aim of the training is for the teachers to learn skills. This was even more than indicated in the course, where the trainers found that they had to adapt to the different levels of the teachers, such as those that struggled to use the help guide (where the trainers stated that they 'became the help guide'). The eight trainers felt that most modules were a mixture of theory and practice although the two trainers interviewed did reflect that modules 1-3 were too theoretical. They advocated the inclusion of scenarios to illustrate the contents of these modules.

The ICT focused modules were reported to be very practical in nature.

Table 13: Trainer perception of course modules

Module	Mostly theoretical	Mixed theory and practice	Very practical
Module 1: 21 st Century skills	50%	33%	17%
Module 2: Computer basics	17%	66%	17%
Module 3: Collaboration	33%	67%	
Module 4: Discover Word processing		50%	50%
Module 5: Apply Word processing		17%	83%
Module 6: Discover internet:		33%	67%
Module 7: Explore internet		33%	67%
Module 8: Discover multi-media	17%	33%	50%
Module 9: Apply multi-media		17%	83%
Module 10: Discover spreadsheet		50%	50%
Module 11: Apply spreadsheet		17%	83%
Module 12: 21 st Century approaches		17%	83%
Module 13: Discover action plan	40%	40%	20%
Module 14: Sharing your action plan	40%	20%	40%

The trainers noted that the first module (21st Century skills, higher order thinking skills etc.) was more theoretical and did not hold the teachers' attention who were more interested in actively using the computers in front of them. One of the trainers indicated that she developed her own summary presentation based on these modules to make it more interesting and stimulating for the teachers (who could then read the more detailed version on the CD). So the recommendation for Intel is to make the first three modules more interactive or a different structuring of the course to avoid a lot of theoretical input in the beginning.

The modules on discovering and sharing action plans were also rated as being more theoretical than practical.

The approach also includes homework exercises, where the teachers are required to write their reflections in a handbook. Whilst the two trainers interviewed felt that this was a good activity, they reported that teachers found the task was somewhat repetitive and tedious, and that many teachers did not complete this task (many teachers did not have computers at home to do the task). The two trainers interviewed indicated that instead they started each session with a review and reflection on the previous session.

Attendance and participation

The levels of attendance in the various schools were mixed. The two trainers interviewed indicated that many teachers reported 'competing priorities' in

Saturdays, and that attendance was better when training was conducted on weekday afternoons rather than weekends.

In week one and two there was continuous power failure. The attendance of trainees was not consistent. In week one and two there were new faces each week. The teachers complained of attending on a Saturday. They indicated that they had a lot to do in a weekend.

In general the teachers did actively participate in the training according to the two trainers interviewed. When working on practical tasks, some teachers would start the task, but then wait for the facilitator to assist them:

It's like they don't want to go further, they wait for you, with the fear that if they can press anything the whole work will get lost and they don't want this to happen – the fear factor, fearing to mess up on their computers.

The two trainers interviewed also indicated that there was peer support, where those teachers that managed the tasks would assist those who were struggling.

In two or three schools, the principals attended the training. This was perceived by the two trainers interviewed as being very helpful.

Suggested changes

Extending time

The majority of the trainers (7 of the 8 trainers) indicated that the time was insufficient to cover all the course content, particularly given the low computer literacy levels of the teachers.

Not sufficient to those educators without basic computer skills, A handbook was suffering a lot because it is long as well as an action plan .

Yes to fast trainees, No to slow trainees

The training time was not enough. The action plan did not get enough time and thus done in a rush because of time.

Seven trainers suggested that the time be extended from 4 days (28 hours) to:

- 8 days (3 trainers indicated this)
- 5 full days (two trainers indicated this)
- 10 days (one trainer indicated this)

Introductory Course

The two trainers interviewed indicated that for some teachers who are below basic level an introductory course needs to be provided before this course, would be better such as the SchoolNet Partners in Learning course. This is a course which teaches basic ICT skills, and the Getting Started course would build on this, with the focus on integration of ICT into teaching and learning.

Training principals

Specific sections or a specific course could be focused on principals, and the management of ICTs.

Demonstrations:

One trainer suggested that trainers should be able to demonstrate integrating of ICTs in their classrooms:

I am suggesting that facilitators should demonstrate one or two lessons how they personally integrate ICT in the classroom to their trainees.

Success at her own school

The one trainer stated that she had also provided the Getting Started training to her own school. She indicated that she had trained 20 teachers from her school, and that some had bought laptops after the training from Game on a special (the school itself does not have any computers). She related that the success of the training course was increased by the fact that she was at the same school with the teachers, and so had been able to provide them with follow up support after the actual training sessions.

General remarks

Some general remarks made by some of the trainers include:

Younger and more middle aged teachers were more likely to implement what they have learnt than those teachers slightly older. Some were even asking for the next level of ICT skills training.

The district official from TN was making follow up rounds to the schools. During the training he informed the teachers that he would be making follow up visits to the schools, and would be looking for lesson plans, recording sheets, mark-books etc that were done using computers etc.

Continuous follow up to evaluate how educators are integrating ICT in their daily teaching and give assistance where needed.

As trainers, if we can be given resources to use in the field like laptop, projector, internet modem, air time and data bundles

Summary

While some variation in the qualifications and experience of the trainers is evident, they all reported high levels of confidence in their own ICT and training abilities.

The trainer's perceptions of the level and skill of the teachers matches the results obtained from the teachers. The trainers indicated that the teachers were at different levels, and that many were below basic to basic. This is not surprising given that 59% of the teachers reported having not ever used a computer prior to the training. Most trainers felt that the teachers had gained in skills during the training, and that confidence levels had increased. The approach used to achieve this was a very practical, hands-on methodology, with individual attention and peer support to those that needed it.

Some aspects of the training were not performed in line with the approach used in the training CD, e.g. the help feature. In some instances this was due to the processing speed of the computers which took time to open the help guide. However, some trainers also felt that the teachers struggled to open the help guide and navigate between different windows. This meant that the trainers provided the assistance themselves. This resulted in the teachers being unable to utilize the help guide facility when they returned home/to their schools.

The trainers also indicated the contextual factors that limited the efficacy of the training – the functionality of the computers, the lack of reliable internet connectivity (only 2 of the 13 schools reported reliable connectivity) too few computers and the insufficiency of the workshop time to cover the course content. Some trainers even suggested that an initial introductory course be given to teachers before the Getting Started course, especially for those teachers below basic level.

Whilst the trainers felt that most areas of the training were relevant, they felt that some sections, particularly, the first three modules of the course were more theoretical and that it was difficult to hold the teachers' attention in these modules. Whilst the trainers indicated that the section on 21st Century skills was also theoretical, the teachers interviewed during the site visits were positive about this aspect of the training and felt that it was particularly relevant for the South African curriculum.

Results: Site Visits (three months post training)

Site visits were conducted three months post training to assess the extent to which teachers were able to practice and implement the skills they had learnt in the training and transfer these skills to the classroom.

Three schools were randomly selected:

- Motsweding Primary School;
- Himalaya Secondary School; and
- Flavius Mareka Secondary School.

At each site, the ICT coordinator was interviewed, the teachers who participated in the training were required to complete a questionnaire and a focus group was conducted with a selection of the teachers who had participated in the Getting Started training.

The ICT coordinator interview focused on the profile, skills and responsibilities of the ICT coordinator, the infrastructure and resources at the school; an assessment of the teachers' experiences with the training and the extent to which they had applied their skills in the classroom and levels of access and support at the school.

The teacher questionnaire and focus group included questions on skills levels prior to training; previous computer training courses attended, confidence levels, assessment of the training sessions, reflections on implementing skills in the classroom after the training, challenges facing teachers in applying their skills, and support required in order to do this.

A summary overview of results of all three schools from the teacher questionnaire is first presented. This is followed by a discussion of the three schools. Each school provides a slightly different context for understanding the issues and challenges of implementing ICT skills in teaching and learning:

- One school does not have computers for teachers and learners, and so implementation of skills was challenging;
- One school has some access to computers, but does not offer computer studies as a subject at their school so technical expertise at the school is limited;
- The third school has access to computers and also offers computer studies as subject at the school.

Summary overview

A total of 22 teachers completed questionnaires, 4 teachers from Flavius Mareka Secondary, 9 teachers from Himalaya Secondary and 9 teachers from Motsweding Primary.

Confidence levels

Confidence: Teachers were requested to indicate their level of confidence in using various computer applications. The aim was to assess whether confidence levels had increased as a result of the training. Despite the fact that one of the schools did not

have computers for teachers to use, confidence levels were similar across the three schools.

Results are presented in the graphs that follow.

Figure 13: Confidence levels in percentages graph 1 (Site visit data)

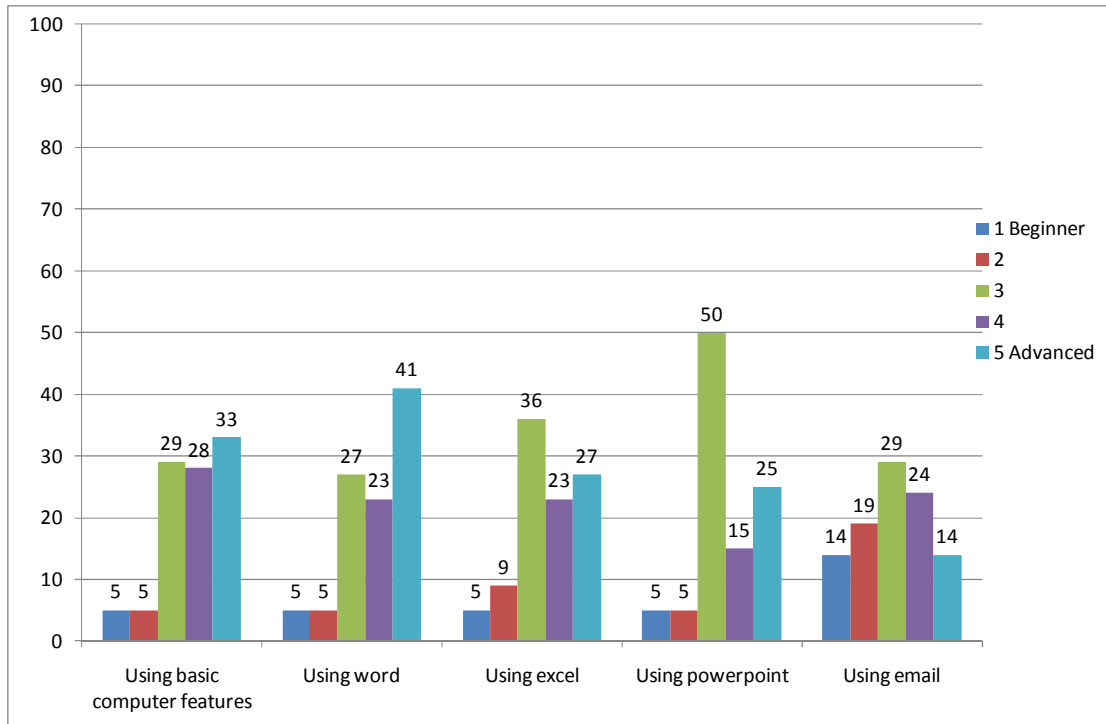
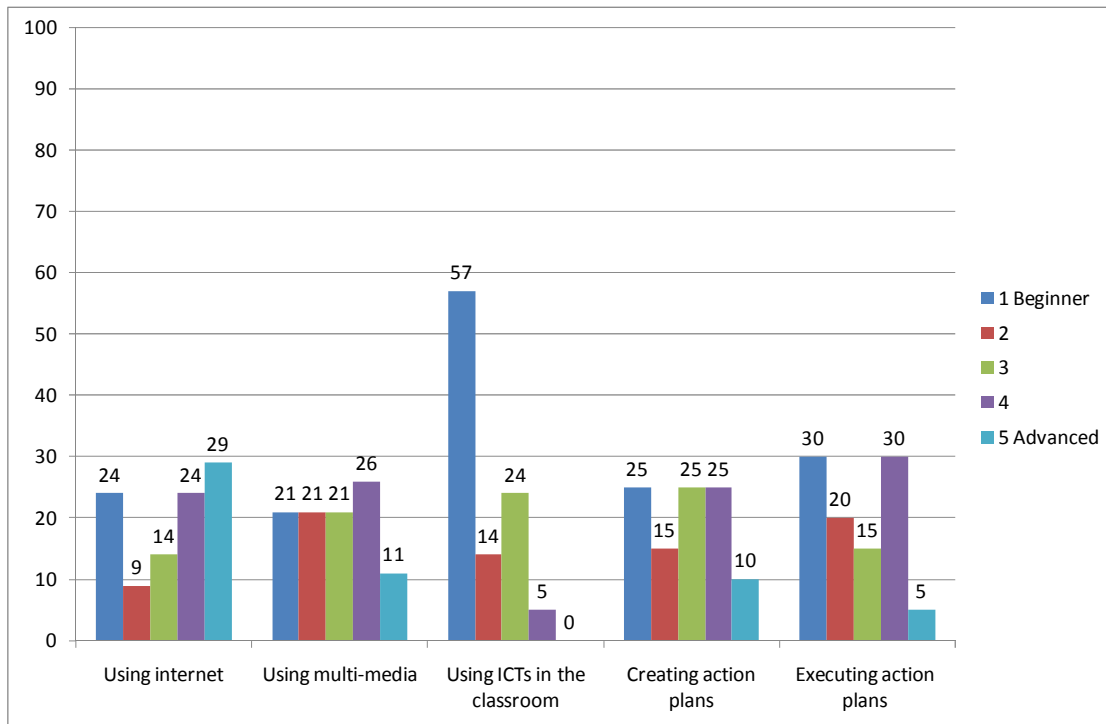


Figure 14: Confidence levels in percentages graph 2 (Site visit data)



Results show that:

The relatively high levels of confidence for using basic computer features and using Word as measured at the end of training remained constant when measured during the site visit, which was three months after training.

For Excel, the moderate levels of confidence as measured at the end of training increased slightly when measured during the site visit, which was three months after training.

Using email and internet: Confidence levels for using email and internet were evenly spread as measured at the end of training and these results are similar to those obtained at the end of training.

For using multimedia, the evenly spread levels of confidence as measured at the end of training decreased slightly when measured during the site visit, which was three months after training.

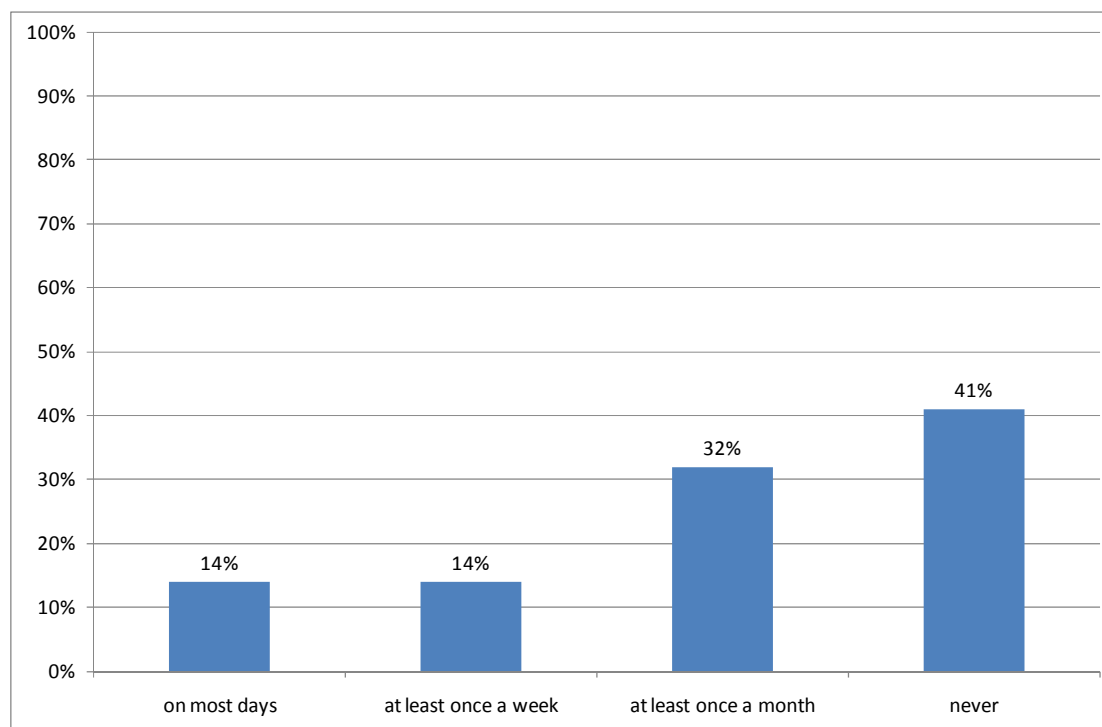
For using ICTs in the classroom, the low levels of confidence as measured at the end of training decreased even further when measured during the site visit, which was three months after training.

These results show that whilst confidence levels in using basic computer features, Word, Excel, email and internet were the same or slightly higher than confidence levels as measured in the post-training questionnaire, there were some areas where confidence levels had dropped. Confidence levels were lower for using multimedia, using ICTs in the classroom and creating and executing action plans. Some of the reasons for this were the challenges facing teachers, such as insufficient infrastructure and resources, in their ability to practice these skills. This will be discussed in more detail in the sections on the individual school results.

Use of computers at school and home and use of email

Use of computers at school: Under half of the teachers (41%) indicated that they never used a computer at school, with 32% using a computer once a month, 14% using a computer once a week and 14% using a computer on most days. These results show an increase in the use of computers by teachers, as compared to prior to attending the Getting Started training course where 59% never used a computer at school.

Figure 15: Use of computers at school (Site visit data)



Access to a computer at home: Over two thirds (73%) of the teachers indicated that they had computers at home, an increase from the results in the pre-training questionnaire where 59% indicated that they had computers at home.

Use of email: A large proportion of teachers (76%) indicated that they had email addresses, and this is also a slight increase from the results in the pre-training questionnaire.

Use of ICTs

Teacher use of ICTs and use of ICTs in teaching and learning is presented in the figures below. Use in all areas increased after the teachers attended the training.

Use of ICTs is still most common for typing exam papers (50%) and finding information on the internet (64%). Use of the internet is significantly higher than use of the internet prior to attending training.

Recording marks using a spreadsheet and developing teaching resources has also increased somewhat following the training.

Teacher use of computer applications from teaching and learning increased after they attended the Getting Started training increased in all areas, particularly Word, Excel and PowerPoint.

Figure 16: Use of ICTs (Site visit data)

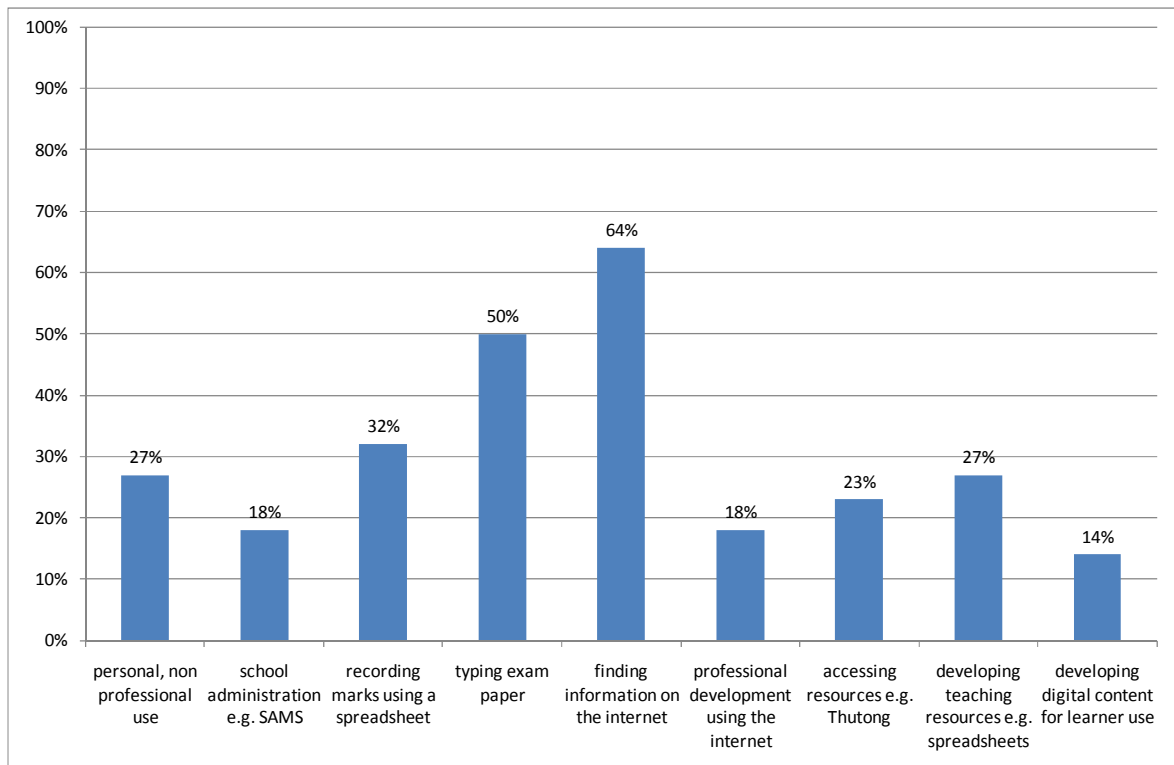
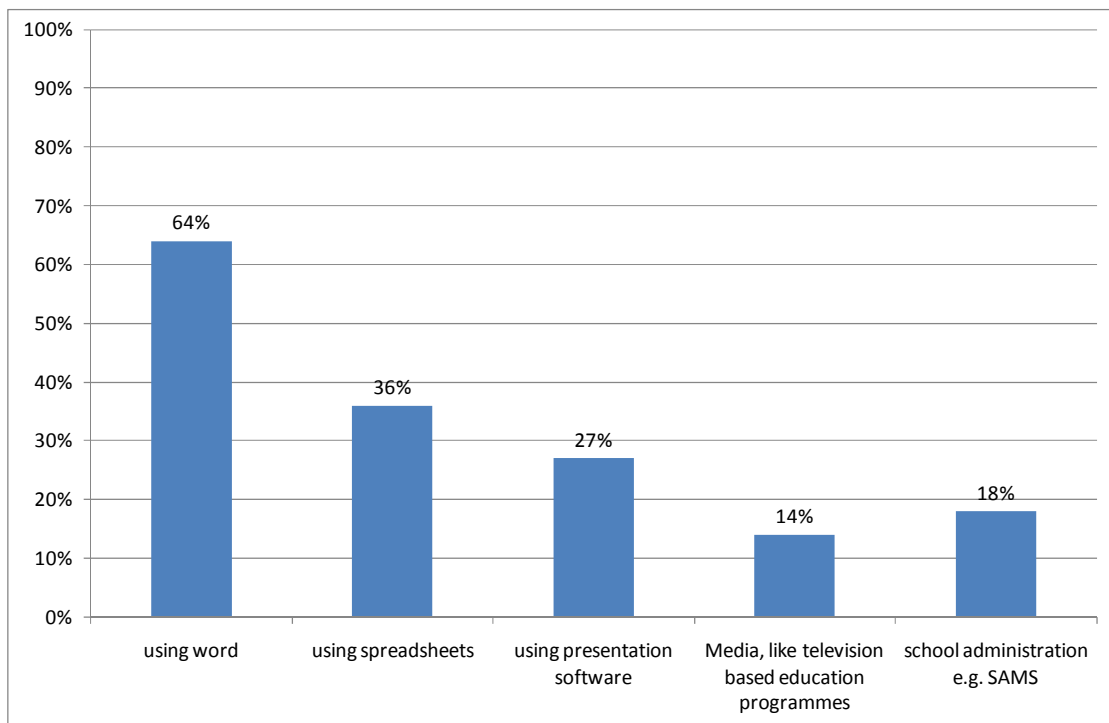


Figure 17: Use of ICTs for teaching and learning (Site visit data)



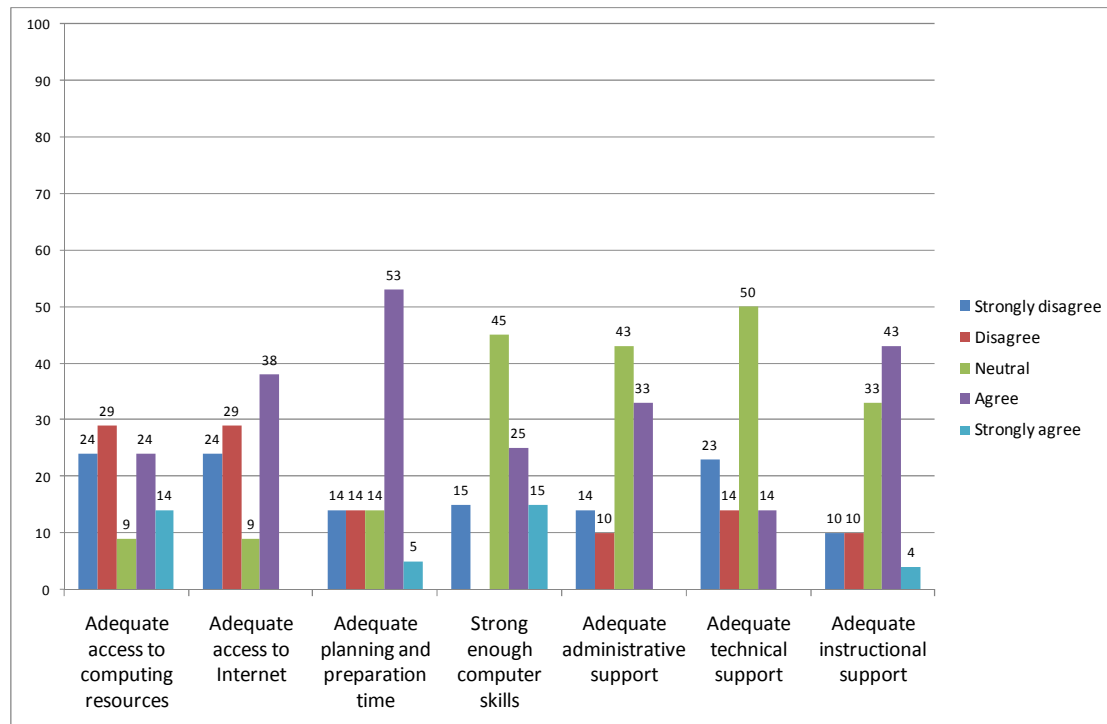
Learner use of ICTs: Some teachers indicated that they requested learners to use ICTs for various purposes. These purposes included using the internet to research

information (41%), working on projects (55%) and solving problems, making decisions or forming opinions (36%). These results are slightly higher than those obtained from the teachers prior to the Getting Started training course.

Challenges

Teachers were requested to indicate the challenges they faced in integrating technology into their teaching practices.

Figure 18: Challenges (Site visit data)



Teachers do not feel they have adequate access to computer resources and the internet. Teachers indicated that they had adequate planning and preparation time, but statements made during the focus groups seem to indicate they felt limited in terms of time to actually practice their skills on the computer. Teachers were more neutral on the adequacy of administrative, technical and instructional support.

Summary

The general results from all three schools show that confidence levels for using basic computer features and using Word were high, and that teachers were able to integrate this into teaching and learning three months after attending the training.

Despite the fact that one of the schools does not have computers for teachers to use, confidence levels were similar across the three schools. Confidence levels were lower for Excel, and these were slightly lower than those indicated directly after training, and this seems to have been because teachers were practicing these skills less, and though all teachers felt that the ability to produce marks schedules on the computer would be useful they did not feel sufficiently confident to practice these skills.

Confidence in internet use and email was still evenly spread. It may reasonably be assumed that this stems from the lack of internet connectivity during the training and at the schools in general. This resulted in the teacher's limited ability to practice these skills. However, despite these challenges, there were some marked increases in the reported use of the internet following training, thus indicating that some of the teachers had learnt these skills and gained in confidence.

Overall, however, there appears to be great variability in the teachers' skill and implementation levels.

Confidence levels for the actual integration of skills in the classroom were lower, with some teachers expressing a need for follow up support from trainers and even requesting the trainers to do demonstration lessons.

Whilst reported use of computers at school did increase following the training, it seems that contextual factors also limited the extent to which teachers were able to apply and practice their skills. This includes the insufficiency of reliable functional computers at the school, the insufficiency of reliable internet connectivity, and the perceived lack of time teachers expressed they had to actually practice their skills and use the computers.

These themes are discussed in more detail in the case studies of the three schools, each which represents a slightly different contextual situation.

Motsweding Primary School

Introduction

Motsweding is a primary school in Tshwane South of moderate size with 768 learners and 22 teachers. The school only has two computers for administrative use, and no GOL or independent lab.

We had a computer centre but there was a robbery in February. Every time there are new computers installed, then...even in the office, because we are now left with two and they are being used by the clerks....so as teachers we have to go to the internet cafe or some other means.

The Getting Started training took place at a nearby school.

According to SchoolNet records, 15 teachers participated in the training, and 9 teachers were present for the focus group discussion.

Table 14: Summary data Motsweding Primary School

Number of teachers in school:	22
Number of teachers that filled in the questionnaire and participated in the focus group	9
Number of administrative staff:	7
Number of learners:	768
Number of computers:	2 admin computers
GOL	None
Internet	Admin computers do not have access to internet
Other ICTs	No SAMS computer 2 televisions
Use of computers at school	8 of the 9 teachers never used a computer at school
Access to a computer at home	6 of 9 teachers had access to computers at home
Email addresses	8 of the 9 teachers had email addresses

Use of ICTs: Information relating to use of ICTs in teaching and learning provided by the nine teachers who completed the questionnaire:

- 4 teachers reported using Word;
- 3 teachers reported using Excel;
- 3 teachers reported using PowerPoint; and
- 1 teacher reported using media, like television based educational programmes.

Overall, a number of teachers in this group reported using Word plus one other application.

As there were no computers available for teacher use at the school, it is not surprising that the use of computers is low (the results suggest that these teachers are using their own computers at home).

Teachers

The same nine teachers participated in the focus group.

Training and computer use before course

Most (8) of the teachers had used a computer prior to the training, with one person indicating that he had not used a computer before. The teachers who used the computer indicated that this was mostly for personal use, as well as the typing of exam papers. One person mentioned that she had been Excel for the purposes of a marks schedule.

For three of teachers this was the first course they had attended. The other teachers had some exposure to training, some in an ad hoc manner, and the other teachers had spent afternoons at a nearby school for a period of time. They had been exposed to general computer use and the use of Word.

Experiences of the course

The training was conducted at a nearby school as there are no computers at the school.

The teachers expected that the course would assist them in being able to more effectively work with computers, and to work with applications in creating documents, preparing presentations and compiling marks schedules. They did not mention specific classroom applications but focused more on general use and knowledge of the various applications

In terms of the timing of the course, there was a mixed response as to whether weekends were suitable for training. Most felt that afternoon sessions would be better but one teacher remarked that other teachers would prefer a weekend. It is clear that the timing of the training should be negotiated with the teachers to facilitate the greatest level of participation.

The teachers indicated that it had been an enjoyable and interactive session, and there were numerous new things they learnt that were beneficial and interesting. Examples provided included working with animation, the use of PowerPoint, using the internet to search for information and email, the ability to copy and paste from the internet, the ability to insert diagrams into document instead of drawing them by hand etc.

The teachers felt that the time allocated to the training was insufficient and that they did not have the opportunity to practice their skills in all areas, particularly in applications such as Excel.

Logistics of the training

There were sufficient computers for all the teachers at the training venue, and they were able to use the internet and set up email during the training.

However, the processing speed of the computers was slow, and the computers sometimes froze. This meant that the trainer was unable to load the CD onto the computers, and so the teachers had little exposure to the course materials. The training appears to have been mostly directed by the facilitator.

Additionally, as the teachers were not using the CD, they did not have any exposure to the help guide feature. This was one of the limitations to the training, as the help guide provides step by step instructions that are most useful to teachers, especially after training when they are using the computer and the facilitator is not available to assist them.

Challenges

The biggest challenge for the teachers is that there are no computers at school, Although most teachers had computers at home, the teachers indicated that they did not practiced their skills much, and indicated that time and work pressures meant they had little opportunity to do so.

Some teachers use the computers for personal use, and use of email.

Most teachers do not use computers for classroom work. Only one teacher provided an example of computer use for teaching and learning, where she had compiled information from the internet on June 16 (Youth Day), and was intending to distribute this to the learners.

The teachers expressed frustration that they were not able to practice the skills they learnt. They indicated that the course had given them good ideas for how things could be done in the classroom, and were keen to implement them. But the lack of computers at school, and the lack of time to use computers at home, meant that they were not able to do so. Also, one teacher asked if she would be able to open the CD if she had a computer, illustrating that the teachers had not used the CD. When explained to them, they were excited about the using some of the ideas from the CD in their classroom practice.

Action plans

Whilst the teachers indicated that they had drafted action plans, they could not provide detail on what was included.

A few teachers indicated that they had tried to implement the action plans, but most had not.

No, the challenges are we don't have access to computers at school, our computer lab is not functioning

No because our school is near informal settlement, so our learners don't have the access. Even our school is not developed with media centre and GOL

General

The teachers were positive about their experiences in the training, and one commented:

It sharpens with the mind, your mind is active, you become creative about what to do in the classroom

Another teacher remarked that stress levels were down, as information was now more readily available through the internet.

However, the lack of computers at school and the lack of use of computers at home meant that few of the teachers were actually practicing the skills they had learnt in the classroom. Of those teachers who were practicing their skills, most were using computers for personal use, and the teachers couldn't provide examples of use of computers for teaching and learning.

ICT coordinator

Role

The teacher interviewed as the ICT coordinator is responsible for Grades: 4, 6 and 7, English and Social Science. She has only been the ICT coordinator since 2010, when she volunteered to attend the Getting Started training that SchoolNet offered to the ICT coordinator. She volunteered because the training was conducted during the school holidays and it suited her to attend the training at that time.

Additionally, the ICT coordinator does not perform any technical or support tasks as there are no computers at the school for teachers, and no GOL lab.

Teacher access to computers

The teachers are not able to use computers at school and need to go to an internet cafe if they do not have access at home.

Musa [district official] once told us he tried to organise a bus with computers but we are still waiting because I think it is a long process to get that

It you want to use one in the admin block you have to come after school and they need to lock up the office

Not all teachers have access to computers at home.

Not all because the last time we went for training we were able to get emails for the first time and thereafter when I tried to contact them almost all of them its not working. So I said to them we will try to go back again and get their emails fixed. At least once a week she tries to communicate through emails, but most don't reply.

As a result, the teachers have not been able to practice and implement the skills learnt in training, except those that have computers at home (and have the time to use the computers).

At least it not so bad because at least we have something, because even at home we are challenged by kids ... then we are busy ... and you can't do it and it's a bit embarrassing

Perceptions of the teacher skills and training prior to course

Some of the teachers had been exposed to computer training before the course, where 2 to 3 years ago the GDE organised training, and most teachers in the school attended.

The ICT coordinator indicated that she believed most teachers had used computers before the Getting Started course, stating that:

They did have that because of the ATMs, and banks they had to know how to operate them...there were not much that were using Word or Excel.

This shows they may have had some exposure to computers, but some were still at the below basic level.

Selection of teachers for training

An open invitation was sent to all teachers, and nine volunteered to attend the training. Some teachers were attending other courses on Saturdays and so couldn't attend and the School Management Team (SMT) were unable to attend as they were involved in training organised by Mathew Goniwe School of Governance and Leadership.

The ICT Coordinators' experience and perceptions of the course

She enjoyed the training and felt that it sharpened her skills. She also participated in the training which the other teachers attended (in addition to the one she had attended with the other ICT coordinators), and felt that the second time she attended the training helped to develop and sharpen her skills further, and increase her confidence, particularly in applications such as PowerPoint which she had been exposed to for the first time during the Getting Started course.

The ICT coordinator indicated that there were sufficient computers for the training.

She also indicated that the training was participatory in nature and there was peer support:

Each and every one had access to his or her own computer .. and then the pace ... maybe because others who were there for the first time or maybe who don't [use computers] most of the time they were slow but we were able to help ... if I get through something I was able to help others so we are helping each other so at the end of the day the work is done

Each teacher worked on the activity according to what would applicable for his/her own grade, so it directly related to what would be applied in class.

The trainer did not make much use of the CD, and the ICT coordinator had not used the help feature.

The ICT coordinator felt that more time was needed for the course:

The lady [trainer] tried to cover a lot of things but the time was insufficient. If there could have been more time spent on some of the components, nothing was missing just needed more time and detail.

The ICT Coordinators' application of skills

She found the Getting Started training beneficial and has been able to use the skills for her own personal use, as well as limited applications in teaching as she has a computer at home.

- The ICT coordinator is registered for a course with Unisa, and has been able to submit assignments online following the Getting Started training sessions.
- For the typing of exam papers.
- For compiling marks schedules;
- For learners, she showed them how to use their cell phones, how to send and receive SMSs and how to access the internet and use Google.
- Certificates could be made in Word.

She showed us how to make cards and certificates, we used to go and pay a lot of money but through this course we saw we could do it on the computer and save a lot of money e.g. merit certificates.

For projects, she refers learners to the internet (those who have access at home).

Sometimes we give them projects to research about a specific topic and then what I do is refer them to the library or some have access to computers at home and then I do my part at home and then we can compare

She also found that the some learners were helpful:

The learners sometimes teach you things e.g. ma'am this is how you do this or this is how you access that etc.

Assistance to other teachers

She has been able to help other teachers

They know if they get stuck or they need something they just need to come to me and we can explore together

Challenges

The main challenge is the lack of computers at school.

My wish is that each and every educator should be well skilled to use this because it helps a lot and it saves time and it would also make us to do more because we do want to work... but because of some socioeconomic factors our hands are tied...cause imagine if I have to go each and every time to an internet cafe popping out my own money it would cost a lot.

I believe if we had that [computers] we wouldn't go home we would even work extra time.

Even if computers are installed at the school, the ICT coordinator felt that a lab assistant would be needed:

Need to have a school-based facilitator that can help us most of the time...if I have to take the learners to a computer for an hour for research they may not finish in time but if there is someone who is there full time, it would be better

Additionally, the ICT coordinator felt that the large learner numbers would prove challenging.

Summary

Teachers at this school were positive about the training and felt that they had gained in skills and confidence to use computers. However, the lack of computers at the school has severely limited the extent to which the teachers have been able to practice their skills, integrate into teaching and learning and execute their action plans.

One of the teachers has been trained to be the ICT coordinator for the school. While she can offer some support to the teachers, there are no formal ICT tasks for her to do as there are no computers at the school. She however has her own laptop and it is evident from discussions with her that she has been empowered by the Getting Started training to use her laptop for school work and for her own personal studies.

Flavius Mareka Secondary School

Introduction

This is a secondary school in Tshwane South of large size with 1087 learners and 38 teachers. The school has two labs, only one which is working. The school does not offer CAT to Grade 10-12 learners.

According to SchoolNet records 15 teachers initially indicated interest with the training, but 5 teachers from this school participated in the training and there were two teachers from a nearby school. Five teachers participated in the focus group discussion.

Table 15: Summary data Flavius Mareka Secondary School

Number of teachers in school:	38
Number of teachers in focus group	5
Number of teachers submitting questionnaires	4
Number of administrative staff:	3
Number of learners:	1087
Number of computers:	3 admin computers (1 for SAMS) 23 computers independent lab (sponsored by Multichoice) currently not working. 24 computers GOL lab
GOL	Working, functional computers
Internet	GOL has internet, DSL line, always available since new software installed
Other ICTs	Multichoice Lab: Not functional for a year. 3 televisions 5 printers, 4 working, 2 not in use Scanner in admin office No pastel CAT not offered as a subject at the school
Use of computers at school	At least once a week (2 teachers) At least once a month (2 teachers)
Access to a computer at home	4 teachers
Email addresses	4 teachers

Use of ICTs: Teacher use of ICTs in teaching and learning as per the teacher questionnaire is presented below.

- 4 teachers reported using Word;
- 1 teacher reported using Excel;
- 2 teachers reported using media, like television based educational programmes; and
- 3 teachers reported using school administration software like SA SAMS.

Teachers in this school at least have access to one functioning computer lab.

Teachers

Five teachers participated in the focus group discussion.

Background before starting training, experience and previous training

The teachers indicated that they had some experience with computers in that they knew the basics, but were not that familiar with them and did not use computers every day. The teachers mainly used computers for typing question papers and compiling marks sheets. Sometimes Excel was used for marks lists, but the teachers indicated they had mostly used Word to develop marks schedules, and performed the calculations by hand.

The teachers had attended 5 days of training with Multichoice in 2009 in basic computer skills and one person had done a course on Microsoft applications.

Training course selection

A circular was issued to teachers and those who were interested could volunteer to participate in the training.

Most teachers wanted to attend the training but couldn't because of other commitments over the weekend. Sometimes the training took place on the Sunday as some of the teachers had commitments on the Saturday.

Trainer

The teachers indicated that they were satisfied with the trainer, who presented and facilitated well and showed patience.

Others were very much harsh if you don't understand they will say ... make a lot of noise but she takes you step by step she was very nice and she was willing to help the teachers and give them individual attention.

Experience of the training

The training took place in February 2010 over four consecutive weekends.

There were seven teachers in the training in total, two from another school

It was quite an eye opener, like some of us had a little bit knowledge of Word but now we have in depth knowledge, creating certificates, lesson plans, and spreadsheet and presentations and internet.

The course was good but I still feel it was too short things like if you have to take me to the class and present. Oh I'm going to vanish.

The teachers indicated that the course materials were user friendly and relevant, but that more time needed to be allocated to the training:

One has to do more through this course. ... if you do it in a short period ... when you go out you're not confident. I like it when I come out of a course confident.

Like PowerPoint it was the first time we had such a training and it was very much interesting.

I think we should have more days for training sessions and follow up should be done immediately.

Particular aspects of the training that were most interesting included:

- Learning to prepare an agenda in PowerPoint using slides for presenting to parents; and
- Taking pictures from the internet and cut/copy and paste into Word documents.

Excel

The teachers indicated that learning Excel was beneficial, but only one teacher seemed confident to use it for developing marks schedules, the remainder of the teachers indicated that they were still using Word, as they felt they had not received sufficient training in Excel during the course and had not have sufficient time to practice since.

The commerce people are the ones who are supposed to use Excel, we are using Word because we are language teachers ... with our marks there is the administrator we submit to her ... we are using SAMS She's the one who works with it..They are using SAMS not doing it on their own.

Teachers did comment, however that Excel would be a useful tool:

It would be wonderful to have one's own records... because now we use sheets and a calculator.

Internet

There was internet connectivity during the training, and they did practice using the internet and email. They did work with email but some of the email addresses were rejected, and this created problems.

As there is no connectivity at school some teachers were unable to practice their skills, and only those teachers with internet at home were able to do so.

Actual content of training

The teachers indicated that they felt the training was relevant to use during school, and that the language was easy to understand:

Handbook whereby we were completing some of the questions that we asking, differentiating the old school of thought and this curriculum to say what is the differences that are there what are the similarities what needs to be improved for the new curriculum.

This shows that the teachers benefitted from the section in the training that focused on 21st century learning approaches.

Help feature: The teachers seemed unfamiliar with the help guide, and this did not appear to have been used in training, but some reported using it at home.

Maybe if you got stuck somewhere and then you put in the CD so you check where to go.

Don't use it during the training, but then sometimes use it at home, check what it is I didn't understand during the lesson.

Action plans: the teachers were unfamiliar with the concept of an action plan and this does not seem to have been covered during the training

No, as I'm not using/practicing computer every day forget some of the things we have learnt from the past few months.

Accessibility to computers most of the time they are unavailable. Power failure.

Applying skills

Teachers indicated that follow up visits from the trainer would assist them in their task of integrating ICTs in teaching and learning. One teacher suggested that they wanted the trainer to observe them in the classroom and then provide feedback:

If they have to train us, we need to be taken to the class to practice on, you have to be guided and one has to observe when we are on the right track and it would be good to take it forward.

I would appreciate doing it practically in the class and being monitored. When teaching to learners in class, maybe twice. It has to be done practically out of the lab to the class.

Teachers have applied their skills in using Word, where they type exam papers, minutes of meetings, agendas for meeting, file dividers, indices and the creation of certificates. However, there is still quite a lot of paperwork that is done at the school, where templates are used, such as templates for lesson planning.

Some teachers encourage their learners to use the internet, though not all:

I say to the learners [when doing a project] If you want good marks you will have to go to the internet and Google. The learners [who also take Science] do well, they are using the internet and obtaining information but it's not every learner.

The teachers did not use PowerPoint to present lessons to learners.. for the teachers it is still mainly chalkboard work and/or handouts to the class.

Teaching literacy to learners

The school does have timetable where they take learners to the computer lab to teach them literacy but this is not a formal system. There is a person in the computer lab who can assist the learners.

Access, resources and challenges

During training the computers were in working order except on one of the days:

There was a day where we had problems with computers, they were freezing... Fortunately we had two laptops we could work from.

According to the teachers access to computers at school is very limited as they have very little time to use the computer during the school day and is locked after 3pm. Their only option is between 2pm and 3pm in the afternoon.

Sometimes if you're free during school time you find that they are busy there.

The lab is sometimes locked, the person in charge sometimes knocks off at 3pm and you don't have access after 3pm. Need a person permanently working in the lab and the knock off time should be 5pm.

Educators not given enough access to the computers ... either they are locked or offline. When in use only a limited time is available.

The teachers also reported challenges with:

- Power failure;
- Internet is in most cases offline;
- Large classes, where sometimes a class can be 60 learners and then the number of computers in the lab is insufficient; and
- Competing demands from other teachers:

The ICT coordinators don't provide sufficient support...you find that those people in the Science department it sounds like computer lab is for Science department only they are the ones time and again they would take the children to the lab and do various things but we in the languages don't get a chance to do these things in the lab. They don't get a chance to teach in the lab because the Science department is using the lab ... the Science department is possessive like they own it. They are the ones doing the research.

To my knowledge their learners are the one who will be Excelling and if they have access to the internet it would be very good.

Looking forward: Need for ongoing support

The teachers indicated that if they were properly supported they would be able to implement what they learnt, including support from the ICT coordinator, follow up after training, increased access to computers and the internet and reduction of power failures.

If we had resources. We never had problems with resources. We would practice and become advanced even the learners. They would go to the computer lab to search the internet for portfolio work or projects, writing assignments.

The teachers indicated that the course would be beneficial to other teachers, but that the training needed to be scheduled when most teachers were available such as school holidays, and other commitments that teachers had needed to be managed, as teachers needed sufficient time to practice the skills they learnt in the training.

Other comments

Teachers cautioned that many were unfamiliar with computers and that these were new areas to them and this needed to be taken into account during the training:

Most teachers are not technowise ... when we were trained technology was never involved.

The teachers also requested the follow up training course, and that the training courses be accredited:

We want training on the second level, please bring same trainer not anybody else, but we need it over more time.

The teachers also felt that the department should push that CAT is compulsory subject in all schools as this would mean that more knowledgeable and skilled teachers would be at the schools to assist the teachers and learners.

Have a person permanently employed to teach computers. Learners and teachers can benefit. They must not be wasted in the districts. Come to the schools and help us.

ICT coordinator

Her role and experience

There are two ICT coordinators at the Flavius Mareka Secondary School. The ICT coordinator interviewed is responsible for Grades 8, 11 and 12 Technology, Natural Science, Physical Science.

She has been the ICT coordinator since 2007. Her tasks include:

- Training learners;
- Making sure educators are trained;
- Maintenance of computers if they are not working they e.g. communicate with GOL. She is more responsible for the Multichoice lab. This lab was set up by Multichoice but it now independent of it and she communicates with the principal and the district official and reports any damages or things that are not working.

Teaching learners

There are no formal computer literacy classes but learners are taught the basics such as how to use a mouse, how to register pin names and email addresses.

There is a lady who is doing internship on GOL. There were four last year ... and then we bring learners in just to teach them how to open a computer, how to type, use internet, identify Word, just the basics ... this is for the learners.

Computer classes not scheduled, but last year classes were taken grade by grade in the afternoons, this year they have someone who is interning for GOL at the school and she has been registering the learners with GOL so the learners have access to email, internet and facebook.

Arrangements need to be made when teachers want to take learners to the lab.

Teachers' previous training experience

The teachers also went to training from One Note via Multichoice where they were taught Microsoft Office as well as using computers in teaching and learning.

Getting Started course

The ICT coordinator sent out a letter to all staff and teachers could indicate if they were interested in attending the course. Reasons why teachers did not volunteer included:

- Half the teachers were required to attend another programme at the same time;
- Some teachers do home during the school holidays; and
- Some teachers felt that they were computer literate.

In her observations of the training, she perceived that the training sessions were well organised and practical and the small groups meant that the trainer was able to meet all participants' needs.

The training was well I think maybe another advantage was that the group was small so the facilitator was able to meet all their needs.

The ICT coordinator thought the trainer was good and that there was a lot of interaction and a participatory style.

Her one caution was that whilst teachers were given work to take home and do on their own she questioned whether teachers had been able to do this given insufficient access to computers at school and home.

She found the materials user friendly and easy to use.

The ICT coordinator indicated that she felt the Getting Started course was a good course to be offering teachers as a first course but that additional time and training needed to be spent on some of the more basic computer skills:

The problem is the timing, because some people have not even typed at all.. So you had to take them from the basic such as how to use the mouse.

One or two lessons for those who have never touched a computer at all.

She remembers one person dropped out (when she was part of the ICT training group in 2010) because he felt the training was at too high a level

This training provided additional information to what she had previously learnt, such as how to do a class setup, sending letters to parents and compiling certificates.

The ICT coordinator felt that the time spent on training on Excel should be extended.

Because it is very complicated for people who are using it for the first time.

Teacher use of computers

The ICT coordinator indicated that teachers used computers for:

- Admin;
- Typing of exam papers,

- Recording of marks (Some use Excel for marks and some just use Word and a calculator),
- Researching the internet and sending emails

The ICT coordinator's use of computers in class

She has divided learners into groups for the different planets and they had to research information on the internet and make a poster from the information they found.

She obtained some Natural Science related software which could only be loaded onto the Multichoice lab:

The problem with GOL is you can't put on your own software, they don't have some of the applications like Incarta, you can't install a CD or DVD.

For Science I have some programmes to teach practical [this is software the teacher obtained when purchasing textbooks from Maskew Miller, supplementary start schools also sent a CD with a textbook].

With internet they can learn but it takes time and with the software you can channel the learners.

Challenges

The ICT coordinator indicated that there were teachers that were practicing their skills, particularly in Word and Internet, but some were not.

With load of work they don't have time to go to the computer lab they think they should have done something else like marking etc.

Some of this was due to the lack of resources and time available, but she also found it challenging to encourage the teachers to practice and implement their skills.

After training they don't use them..only a third will come back and continue to type and open internet and so on. It's only a few ... there's one I'm teaching Natural Science with..I love computers. There are some things in Natural Science you can't do in the laboratory ... and I always tell her I saw this on the computer come let me show you and because we are in the same department we share. Now those that are teaching other subjects I don't have time to take them ... sometimes when I'm busy working and I see something like in economics I tell the [relevant] teacher ... but if she doesn't go and look there's nothing I can do ... I don't know what is the problem ... learning things when you are an adult is a little bit of a problem. They are used to the chalk and training them from the chalk to the computer is not easy, learners are more advanced than the teachers and they challenge the teachers but you should find a way of stating 'oh thank you for teaching me this one'.

Another challenge cited was that some teachers don't have access to personal computers at home so they can't practice at home after the training.

Other challenges that were cited include:

- Printers were not working and so teachers couldn't type their exam papers;
- Overcrowding of learners...24 computers for 48 learners

- Power problems

One of the problems is that the school doesn't offer CAT as a subject so there are no technical expertise at the school.

Don't want to train someone to do technician job because principal is worried the person will be trained and then use this to get a job somewhere else.

Principal support

The principal did provide some support in terms of encouraging teacher participation in training.

For the Multichoice training, some teachers didn't attend training or didn't attend all the days and the principal requested each teacher to individually explain to him the reasons for this.

However, obtaining assistance from the principal to repair the computers in the Multichoice lab had been challenging:

Financially it's still a problem ... like Multichoice isn't working we need a technician. So the principal says I will get somebody to do this work then there's nobody coming. They will say it's too much to pay the technician's and all that.

This was sometimes frustrating for her:

Sometimes you lose interest in taking care of the laboratories because they are so slow ... you start ... but you've got your own work..I'm here to teach not monitor the computer labs.

GOL support

GOL do come to fix computers but there are offers delays. The ICT coordinator also expressed frustration that GOL continued to change things and install different programmes on the computer. She stated that Ubuntu had been loaded on the computers and though the connectivity was now more reliable, she was unable with some of the applications and felt that in some ways it was a step backward.

General comments

The ICT coordinator felt that the district needed to provide more assistance fixing and technical maintenance.

She felt that it would be beneficial if the teachers were grouped according to skill level before attending the training:

The first thing is maybe to identify different groups and levels ... how many still need the basic ..how many in the second level, how many in the third so we can maybe group them ... others are more advanced but they still need to learn how to use it in terms of teaching learners how to use computers.

The teachers from two or three schools could be trained together, and then grouped according to skill level.

Summary

The teachers at this school started with some basic knowledge about computers, and were positive about the training and felt they had gained in skills and knowledge, though they felt the timing was insufficient particularly for applications like Excel. Their use of computers increased after the training, particularly in applications such as Word.

There were some limitations to the extent to which teachers were able to practice and integrate their skills into teaching and learning. Teachers indicated that the number of computers was insufficient and that they did not have sufficient time during the day to practice their skills and had other commitments at home which limited computer use. This is perhaps due to the fact that use of computers is seen as an additional task, and something that will be time consuming, rather than something that is imply part of their preparation for lessons, and so teachers revert to their usual preparation methods, and feel that any use of computers is an additional task.

Another limitation at the school appears to be the lack of technical expertise. Some of the teachers attributed this to the fact that the school does not offer CAT as a subject, and so there are no teachers at the school with that level of computer knowledge.

So whilst this school does at least have computers, the extent of application is still limited and this is attributed to the insufficiency of the length of the workshop to cover all content, the lack of support at the school and the lack of infrastructure and support at the school.

Himalaya Secondary School

Introduction

Himalaya is a Secondary school in Tshwane South of large size with 1008 learners and 42 teachers. The school has two labs, only one which is working. The school offers CAT to Grade 10-12 learners.

According to SchoolNet records, 19 teachers participated in the training, and 9 teachers were present for the focus group discussion. The school indicated that whilst 19 teachers did participate in the first day of training, problems with the GOL lab meant that the number of teachers dropped in subsequent weeks, and only nine teachers continued with the training.

Table 16: Summary data Himalaya Secondary School:

Number of teachers in school:	42
Number of teachers that filled in questionnaires and participated in the in focus group	9
Number of administrative staff:	3
Number of learners:	1008
Number of computers:	6 teacher computers, 4 admin computers, 1 principal computer, 36 computers in the CAT lab (working), 35 in GOL (but none working)
GOL	Microsoft, not working
Internet	Internet connectivity is only in the staffroom, and functions for between 50 and 75% of the time
Other ICTs	There is a server in labs, UPS, scanning facility, digital camera, two printers and two interactive whiteboards. The school does not have SAMS or pastel. CAT offered to Grade10-12
Computer use	7 had used computers before for internet and typing exam papers
Training	2 had attended training on windows and 2 had done computer literacy as part of their degree
Use of computers at school	On most days (3 teachers) At least once a month (5 teachers) Never (1 teacher)
Access to a computer at home	6 teachers had access to a computer at home
Email addresses	5 teachers had email addresses

Use of ICTs: Teacher use of ICTs in teaching and learning as per the teacher questionnaire is presented below. Of 9 teachers:

- 6 teachers reported using Word;
- 4 teacher reported using Excel;
- 3 teachers reported using PowerPoint; and
- 1 teacher reported using school administration software like SA SAMS.

This school has 6 computers for teachers to use as well as two labs although one is not in working order.

Teachers

The nine teachers that completed the training course all participated in the focus group discussion. They reported that 25 teachers had attended the first Getting Started training session, but that there had been severe problems with the computers in the GOL lab. As a result, many teachers were unsure whether they would get access to the independent lab in the subsequent weeks and dropped out of the training.

Before attending the training, experiences with technology:

One person had been exposed to computers from high schools, and was reasonably familiar with computers using internet, type question papers, memos, activities for learners

One person never had any experience except for using a cellular telephone.

Another person quite advanced, he did computer at university as a subject he also teachers computers to Grade 10. Getting Started was a refresher course to him.

Another woman also had relatively average skills in computers.

Some of the teachers had attended previous training in Mamelodi, focusing on basic computer skills and use of Word and Excel.

Experience of training

The people found the course beneficial. Pleasant and patient trainer.

As a beginner I gained a lot I can now type a question paper and so on.

Some of the teachers felt that the training content on 21st century teaching methods was not useful and they were wanted it to be more focused on the actual work on the computers.

They did not have access to the internet during the training. It was covered theoretically not practically.

One teacher commented:

We need extra lessons on computer course as we don't start with the beginner course.

Relevance of training

The teachers found that the training was relevant.

It was relevant especially to me in my job as a computer teachers It has lessened my job. In the past it used to be typing for most everyone the work and every morning everyone was chasing me up and down, but now they only come when they face problems, such as how to insert this diagram or can you edit this. So for me it was really relevant and important. It helped me so much.

Some felt that the course did not take South African realities into account. One teacher commented that the situation was different in some of the other countries, where learners had their own laptops in class, whereas many learners in South Africa and even teachers do not have access to computers.

Access to computers and resources

Some teachers (seven) do have access to computers at home. Some teachers bought computers after the training so they could practice the skills.

There is a television in the library and in the Science labs, with a video recorder.

The school has two labs, GOL and CAT, and some computers are also available in the staff room (6). The school only has one projector. So teachers do have access at school, but the pressure of work means they don't have sufficient time to use computers. For instance, they may only have 20 minutes free between classes and they claim that this is not sufficient. So it is done on an as needed basis, when there is a real necessity.

Practising skills and implementation

Some of the teachers reported that they have practiced the skills learnt in the training but not all. Responses included:

I have typed my CV, question paper and some of my accounts and all those important personal documents.

My question paper and my memorandum.

I do the accounts so my Excel has improved a lot.

I benefitted more about the use of the internet, and then I bought a blackberry, and started using it, and I also learnt how to connect my blackberry to my computer.

You can open many windows at a time, and then minimise them, so internet research is easier.

Comments on particularly useful skills learnt included:

- The teacher who takes Grade 10 computer classes commented that the help guide was useful, and that it provided additional information and tips and he was using it in his classes. Those learners more familiar with computers were finding the help guide useful.
- Teachers commented that learning to insert pictures and compile tables was useful to them for designing learner worksheets and exam papers.

- The approach in the course materials “Plan, do, share, review” was beneficial, and the teachers had adopted this approach in their practicing of their skills.
- Learning more about Excel.
- Use of PowerPoint, such as making presentations to parents. Associating sounds and music to the presentation.
- Relevant sites related to education were highlighted by the trainer.

Action plans

Though the teachers reported that they had compiled action plans during the training, little time seems to have been spent on this during the training and so the teachers did not appear to have used these plans.

Anyone now can plan his or her own work.

We might not have written it down on paper but we are putting it in practice.

Only three teachers indicated that they had implemented their action plans. Challenges listed included no internet access and insufficient resources (i.e. computers) for teachers and learners

Taking my learners on board as most of them do not have resources available at their disposal

Yes but we don't have access to computers, no time to practice what we learned

Application of skills

Some of the activities the teachers now do include:

- Typing of tests and memorandum
- Inserting diagrams, tables, pie charts, headers in Word document, use of borders
- For learner research work, the teachers can recommend some websites the learners can refer to for particular projects or assignments etc.

Challenges

The problems with the GOL lab mean that it is difficult for teachers to have classes with the learners in the lab, and so it is only the CAT lab that is mainly used.

The teachers indicated that they had insufficient time to work with computers, as time was used for teaching, supervising classes when teachers are absent, own preparation and assessment, and family and other commitment outside of working hours.

Some people do not have access to internet at home, and as it was not practiced in the training, the teachers did not feel enough to get excited about it and/or too much cost.

HODs have first preference for the computers in the staff room.

General comments

- Learning of new skills is important as the learners are more advanced in terms of computer knowledge than the teachers and the teachers need to catch up. Additionally, some learners are well versed in internet but in different ways e.g. social networking and the teachers can direct them in other ways such as searching and researching information.
- Some learners did CAT in primary schools, then don't do it in Grade 8 and 9, but it should be compulsory otherwise the learners often forget some of the skills learnt.
- The internet is useful as information is new and updated every day, and it is important if they are using older textbooks e.g. Natural Science.
- We don't have to rely on old information that may not be relevant anymore.
- Other teachers are already interested in doing the course as they see the teachers who went on the course and that they are doing things on their own such as typing exam papers.
- The teachers who went on the course want to do the next level of course.
- The teachers are using the CDs.

ICT coordinator

Role

Her teaching area is Economic and Management Science and Business Studies, Grades 9 and 10.

The teacher interviewed volunteered to attend the Intel Getting Started training for ICT coordinators but had not been involved in ICT coordination at the school prior to attending the training. She took responsibility for coordinating and organising the Getting Started course at the school, and liaising with SchoolNet. She is not the official ICT coordinator for the school and does not teach computers classes or fix computers etc. Some of the tasks usually carried out by an ICT coordinator appear to be done by the two CAT teachers.

She will continue to coordinate training should there be other courses, and would be prepared to facilitate courses should this be needed.

The ICT coordinator's experience of the course

This teacher found the course very informative and gained in knowledge and skills of some of the applications, particularly in PowerPoint.

She related that the DoE ICT official who was coordinating and liaising with SchoolNet on the training was very helpful, and that he had visited the school.

There were challenges in setting up the training as the GOL lab was offline, and access to the CAT lab needed to be organised with the CAT teachers, she was unfamiliar with the lab and the setup and even with this, there was no internet access. So the number of teachers attending the course dropped from 21(in the first session) to 11. Teachers were asked if they were interested and volunteered, there was no formal selection process.

Some of the teachers were at a below basic level, and these teachers struggled with the training. The four days of training was insufficient for these teachers in particular.

They are still down there [very basic]. They needed somebody to show them basics how to use the mouse, how to click, what is home, what icons are etc... The Getting Started is not as simple as a beginners' course...They find it difficult if you move very fast...the course is long, the four days doesn't cover it.

The facilitator changed three times during the course of the four days of training, due to scheduling conflicts.

As there was no internet connectivity, the teachers did not get to experience and practice the internet and as such many teachers were still hesitant to use the internet and email.

Some of the other teachers have proceeded to further training in computers (5 teachers).

Perception of application of skills

Some of the application of skills that she has observed includes typing own tests, compiling CVs, mark sheets, some have used the internet.

The ICT coordinator's skills

This teachers does her own personal and professional development (she is doing a masters (MCom) through Unisa), including research and has her own laptop and blackberry phone. She works with Word, Excel and PowerPoint and connects her blackberry to her computer. She continues to improve her skills and commented that she is learning every day.

She has attended previous training, computer practice at N4 and N5 level, computer literacy classes in her first degree and touch typing.

Long term strategy

She was unaware of any long term strategies for the integration of ICT.

Other comments

Facilitators should also have resources, such as their own laptop and their own internet access, so if there is no internet access at the school then the facilitator can still show the teachers the practical skills and learning can continue.

Summary

The teachers at this school showed the most evidence of use of computer skills learnt in training out of the three schools visited, but this was still limited. This makes sense given that, out of the three schools visited, this school had the most access to computers.

However, as with the second school visited, only one of the schools' two labs was working. One lab was often in use by the CAT teachers but there were some computers dedicated for use by teacher only. Because CAT is offered to learners,

there is some technical expertise at the school and some attention to the upkeep and maintenance of the computers is provided.

The teachers at this school also indicated that they had limited time to practice the skills they learnt, and this may be for similar reasons as those discussed for the previous school. So it seems even with the presence of computers, and the presence of technical support, the practical application of skills is present but limited. Perhaps this points to the insufficient duration of the workshop. The low skill levels of the teachers prior to training may also have resulted in a limited ability to integrate computer skills learnt in the training into classroom practices.

Summary findings, conclusions and recommendations

Introduction

In this section the findings from the different components of the evaluation are discussed and synthesised and some recommendations for future training are included.

The Intel Teach *Getting Started*, is an introductory capacity building course for teachers. It is comprised of fourteen modules. This course was piloted in Gauteng province, Tshwane South, District 4, between October 2010 and March 2011 by SchoolNet SA.

The evaluation, conducted by Saide comprised of three main processes.

1. A profile questionnaire and pre-training assessment task was administered prior to the training;
2. Post-training questionnaires and post-training assessment tasks were administered after training; and
3. Site visits were conducted at three selected schools three months after training.

Perceptions of trainers and SchoolNet SA staff were also obtained through questionnaires and a focus group discussion with trainers.

The objectives of the evaluation included:

- Providing an assessment of the suitability/appropriateness of the Getting Started programme to the South African context
- Assessing how teachers experienced the Getting Started course
- Evaluating whether, after attending training, the teachers have been able to transfer some of the skills learnt to the classroom.

A total of 18 schools out of the initial 33 selected schools were trained.

The training was four days in length, held on four consecutive Saturdays.

Context

There are numerous contextual factors that need to be taken into account in interpreting the findings. These also inform the recommendations. The contextual factors are listed below and include:

Teacher experience with technology

Overall there was limited teacher use of computers at school (59% of teachers had never used a computer at school) prior to attending training. Of those few (15%) who did use computers at school regularly, the most common uses were typing exam papers, using the internet and personal, non professional use.

Just over half of the sample (55%) did not have some previous computer literacy training.

Teacher qualifications and years of teaching experience

About half the teachers in the sample were under qualified (they did not have the minimum degree qualification which is currently required for entry into the teaching profession). This suggests that they qualified many years ago. This is congruent with the fact that a large proportion of teachers (60%) had upward of 11 years of teaching experience, indicating the high proportion of mature age teachers in the sample. It is likely that these teachers may have had no, or very limited, exposure to computers in their initial teacher training. This would help to explain, at least partially, the very low levels of ICT skill in this group.

School infrastructure

The schools in the pilot had limited resources, with some schools not having any computer labs and other schools have limited facilities.

Functionality of computers

Some of the computers were not in working order, or the processing speed was low. Whilst a predominant number of schools have Gauteng Online Labs there were many technical challenges as in some instances the lab was not fully functional.

Internet connectivity

In many venues there was no connectivity or the connectivity was unreliable and so trainers could only present the sections on email and internet in a theoretical manner, although some trainers were able to at least present the section on their own laptops with their own data bundles. Given the large potential of the internet to provide information for teachers to use in the integration of computers in teaching and learning, this is a severe limitation of the training. Many teachers felt dissatisfied, as this is one of the interest areas for teachers and an area which encourages motivation and enthusiasm

Ubuntu operating system in GOL labs

The migration from Microsoft to Ubuntu operating systems in the Gauteng on Line (GOL) labs, resulted in significant challenges to using the Intel Getting Started course ware which is not compatible with the Ubuntu system.

ICT coordinators

Some schools also did not have sufficient technical expertise, in that the ICT coordinator was a teacher who volunteered to perform the duties, and not necessarily a teacher with adequate computer skills and knowledge.

Teacher workload and computer lab time

Teachers' commented during the site visits that time pressures and workload meant that they did not have sufficient time to practice their computer skills. They were further challenged by the fact that there were times when the computer lab was unavailable, or where the computer lab was locked after hours.

Recommendations pertaining to range of contextual issues

- *Schools, ICT coordinators, SMTs and district officials need to work together to address issues of poor resources and infrastructure at schools. These need to be taken into account and addressed prior or during computer training course, with follow up support afterwards.*
- *It is essential that computers are in working order, there are sufficient computers for all teachers during training and there is internet connectivity during training. The project may need to be integrated with an initiative to increase resources and support at the school in order to ensure that the training can take place appropriately, that there is sufficient reliable connectivity and that all modules can be covered.*
- *Compatibility of operating systems used in school computer labs needs to be addressed before commencement of training.*
- *Teachers access to computers for practicing and implementing course learnings needs to be ensured otherwise new skills cannot be reinforced in practice.*
- *Capacity of school ICT coordinators should be evaluated and where necessary, appropriate strategies put in place for the Getting Practical trainers to provide support to teachers for a specified amount of time after the course has been completed.*

Teachers and trainers experience of the Getting Started course

Setting up the training

The training was organised by the district office and Intel who were responsible for selecting the schools to participate in the training. Teachers were then given the option of whether they wanted to attend or not. This meant firstly that not all schools elected to participate in the training but also that the skill levels of the teachers who participated in the training varied greatly.

It appears that teachers were also not consulted on what would be the most suitable times for training to be undertaken, thus adversely affecting participation rates.

Recommendation

- *Advocacy and buy-in are important in order to ensure school participation in projects and initiatives. Schools need to be included in the conceptualisation and planning of the initiative. Ideally, participation in such interventions needs to stem from the school's desire for training and improvement of skills.*

Initial experience levels of teachers and sufficiency of training time

The trainers indicated that many teachers were below basic level, and so more time and support needed to be provided to the teachers. This meant that a large amount of content needed to be covered during the training as it needed to incorporate very basic computer skills, and so there was insufficient time to cover all the content to a degree that was sufficient for teachers.

Additionally, certain factors such as years of experience (a measure of age) mediated the results, where teachers with more experience seemed to be less confident than younger teachers. This is supported by the fact that most teachers reported that the training was too short, and the time was insufficient to cover all content. This is as many teachers started the training at a below basic to basic level.

Recommendations

- *Guidance needs to be given to schools on the selection of teachers for training. This should be a collaborative process involving the school district office, SMT and the ICT coordinators and course trainers/or course representatives. The course is set at a particular level, and assumes some level of computer knowledge of basics. Whilst trainers can to some extent offer individual support, this can be limited and it is likely that teachers will be less confident than those more experienced teachers. So guidelines on the appropriate skill levels of teachers would be helpful.*
- *Alternatively, schools can be clustered together and teachers can be grouped according to skill level so that training can be pitched at the correct level and an adequate number of days can be allocated for the training.*
- *Consideration also needs to be given to the notion of a foundational course required for entry level teachers to get them up to speed to participate in the Getting practical course.*

Teachers' experience of the training:

The results of the assessment task, though a limited sample, showed that teachers' skills increased, particularly for Word and Excel, and that they were able to complete simple tasks in Word and Excel following the training.

Skills levels increased as a result of attending, particularly in Word, and teachers were able to at least complete simple tasks using Word, Excel and PowerPoint.

The teachers were positive about the training, felt that the trainers were knowledgeable and qualified, found the approach to be practical and hands on and liked the course materials. Teachers were able to recognize the potential of using computers. They were able to name a multitude of potential ways in which computers could be used for administration and lesson preparation, and some ways in which it could be integrated into teaching and learning.

Although trainers do seem to have covered **action plans** during the training, the pressure of time during training meant that insufficient time was allocated to this task. This meant that teachers were largely unfamiliar with action plans when asked about them in the site visits, and none of the teachers at the three schools indicated that they had been able to execute their action plans.

Some trainers felt that the teachers struggled to open the **help guide** and navigate between different windows and did not use it much in training. This meant that the trainers provided the assistance themselves, but it also meant that teachers were unfamiliar with the help guide when they returned home to practice their skills, and so did were not able to utilise this feature at home.

Recommendations

- *More time needs to be provided in training for action plans and there should be some follow up activities required after training to ensure that teachers are implementing their action plans.*
- *The Action Plan activity could be adapted to allow teachers to create a lesson plan, so they can make direct use of the tool. It is important to note that if teachers are hoping to use technology with their students, it is important that they are supported in their schools in areas such as availability of technology resources, technical and pedagogical support, and time for planning for technology use.*
- *Even if teachers struggle with the help guide this should still be covered during training and the trainer should ensure that teachers are able to use it as this is a good resource for teachers when they are practicing the skills on their own following the training.*
- *Sufficient time needs to be allocated for training to cover basic skills levels of teachers, and allow for elements such as action plans and the help guide to be adequately addressed during the training.*

Confidence levels

Whilst confidence in use of applications, especially basic computer skills and Word, increased from prior to training, to at the end of the training, to three months after the training. However, confidence in the actual integration of ICTs in teaching and learning was lower as measured during the site visits.

Recommendation

- *This course should not be a once-off (isolated professional development opportunity) but should rather be seen as the first part of the teachers' professional development and follow up courses should be scheduled.*
- *The teachers are mainly at level of own use rather than eager to begin using computers with their students.*
- *The findings indicate that Getting Started can be most effectively implemented within the context of broader technology-supporting reform.*

Suitability/appropriateness of the Getting Started programme to the South African context

In general the materials focus on ways in which computer applications can be used in teaching and learning, and are seen as relevant to the South African curriculum. However, particular attention does need to be paid to the many contextual factors already highlighted previously, such as: a lack of resources and sufficient computers, lack of internet connectivity, lack of adequate support and large learner numbers that impact on the extent to which the training can be effective.

Recommendation

- *The course materials need to be more tailored to the South African situation. The materials need to factor in the scarcity of resources and suggest ways in which teachers can work together and collaborate and still use computers in teaching and learning where they are able to do so.*

The training focused on the integration of ICT into teaching and learning, and also included modules on 21st Century skills. Whilst most trainers felt that these were relevant, some trainers felt that this was not appropriate for the course which should focus on basic computer skills and less on teaching pedagogy. The teachers' responses in the site visits were mixed, where some teachers appreciated the discussions on 21st Century approaches, but others felt that it was not directly relevant to the course.

Recommendation

- *Training courses need to first properly establish ICT skills - then 21st Century skills integration using learner-centred pedagogy.*

Transfer of the skills learnt to the classroom and implementation of action plans

Three months after training some teachers had been able to practice their skills and transfer to the classroom, particularly in the typing of exams and the use of the internet. However, not all teachers were able to practice and implement the skills learnt in the classroom:

- Lack of resources and ICT infrastructure at the school meant that some teachers did not have access to computers, or only had access to computers at limited times. Though some had computers at home, other commitments and other family members limited use of computers at home.
- Some teachers indicated that they did not have time to work on the computers at school as they were busy with preparation, teaching and assessment.
- Some schools in the sample had more than one computer lab, but on going technical problems meant that the computers could not be used.
- Lack of reliable access to internet connectivity is another stumbling block for teachers.
- In general, the teachers in this study all indicated they did not have time to work on computers.

Recommendations

- *Factors impacting on transfer of skills to the classroom need to be investigated, and district officials need to follow up with schools during and after training and find ways in which to address shortages of resources and infrastructure.*
- *Additionally, there needs to be adequate technical support at the school so those teachers who are practicing their skills have someone who can assist with queries as they arise.*
- *The use of computers as an integral part of the teaching and learning process is still a mindset that teachers need to develop. This process of change needs to be facilitated and supported.*

Appendices

Appendix A: Pre and Post training questionnaires

Getting Started Teacher Profile Questionnaire

The purpose of the questionnaire is to obtain information on the way in which you currently use ICTs, and the way in which you use ICTs in the classroom. Please answer as honestly as possible. All information will be kept confidential and your names will not appear in the report.

Name (only initials plus year of birth): _____

School: _____

Subjects/Learning Areas: _____

Grades: _____

Years of Teaching Experience: _____

Highest qualification: _____

Are you the school ICT coordinator? _____

Please answer the following questions related to your use of ICTs and in the classroom. Read the questions and mark the correct options with an X

	Question	Options	Select (X)
1	How often do you use computers at school	on most days	
		at least once a week	
		at least once a month	
		never	
2	Do you have access to a computer at home?	yes	
		no	
3	Do you have an email address	yes	
		no	
4	How often do you use email?	on most days	
		at least once a week	
		at least once every two weeks	
		at least once a month	
		never	
5	For which of the following purposes do you use ICT?	personal, non professional use	
		school administration eg SAMS	
		recording marks using a spreadsheet	
		typing exam paper	
		finding information on the internet	
		professional development using	

	Question	Options	Select (X)
		the internet	
		accessing resources e.g. Thutong	
		developing teaching resources e.g. spreadsheets	
		developing digital content for learner use	
6	In which of the following ways do you use ICTs in teaching and learning	using Word	
		using spreadsheets	
		using presentation software	
		Media, like television based education programmes	
		school administration e.g. SAMS	
7	Do you require your learners to use ICTs in any of the following ways?	using the Internet to research information	
		working on projects	
		solving problems, making decisions or forming opinions	
8	Have you received ICT-related training covering the following topics?	schools administration e.g. SAMS	
		computer literacy	
		use of television resources (or video/DVD)	
		finding and evaluating information from the Internet	
		using resources to support teaching	
		planning lessons or projects that integrate ICT	
		providing technical support in the school	
9	How many hours of ICT related training have you received in the last 12 months?	0 - 4 hours	
		5 - 15 hours	
		16 - 40 hours	
		more than 40 hours	

Getting Started Teacher Post Training Questionnaire

The purpose of the questionnaire is to obtain your feedback on the training sessions you have attended. Please answer as honestly as possible. All information will be kept confidential and your names will not appear in the report.

1. Name (only initials plus year of birth): _____
2. School: _____
3. Subjects/Learning Areas: _____
4. Grades: _____
5. Trainer: _____
6. Date of Training Sessions: _____
7. Are you the school ICT coordinator? _____

Section A: Expectations

8. To what extent were your expectations of the training course met? Please rate on a scale from 1 to 5.

Statement	1 (Not met at all)	2	3 Partially Met	4	5 Fully met
a. Understanding the basics of using computers					
b. Using Word features					
c. Understanding how to use Word documents in teaching and learning					
d. Using spreadsheet features					
e. Understanding how to use spreadsheets to assist in teaching and learning					
f. Using multi-media					
g. Understanding how to use multi-media to assist in teaching and learning					
h. Using the internet					
i. Understanding the ways in which use of the internet can enhance teaching and learning					
j. Developing action plans for ICT use in the classroom					
k. Other expectation, please specify: _____					
l. Other expectation, please specify: _____					
m. Other expectation, please specify: _____					

Statement	1 (Not met at all)	2	3 Partially Met	4	5 Fully met

9. If any expectations were **not met**, please provide comments:

Section B: Satisfaction with Training

10. Please indicate whether you agree or disagree with the following statements

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
a. The training was well organised					
b. The venue was adequate, with sufficient spacing					
c. There was sufficient equipment and computers for the training.					
d. The computers used for the training were functional and working.					
e. There was reliable and sufficient internet connectivity during the training					
f. The workshop objectives were clearly stated					
g. The trainer was knowledgeable and qualified to facilitate the training sessions					
h. The sessions were sufficiently practical and hands-on					
i. The training methodologies were conducive to learning					
j. The course materials were user-friendly					
k. The workshop time was sufficient to cover the content					
l. The workshop met its stated objectives					

11. If you indicated that the workshop time was **insufficient** to cover the content, then provide details of the elements that were not sufficiently covered?

12. If you indicated that the workshop **did not meet** all its stated objectives, which objectives did it not meet?

13. If you were **not satisfied** with any other aspect of the training, please provide details

Section C: Confidence Levels

14. Rate your confidence levels after taking part in the training sessions. Provide a rating from 1 (beginner) to 5 (advanced)

	1 Beginner	2	3	4	5 Advanced
i. Using basic computer features					
j. Using Word					
k. Using Excel					
l. Using PowerPoint/presentation software					
m. Using email					
n. Using internet					
o. Using multi-media					
p. Using ICTs in the classroom					
q. Creating action plans					
r. Executing action plans					

Section D: Relevance to Teaching

15. Rate the extent to which you felt the training was relevant to your teaching and helpful in assisting you in using ICTs for teaching and learning. Rate from 1 (not relevant) to 5 (very relevant)

	1 Not relevant	2	3	4	5 Very relevant
a. Using basic computer features					
b. Using Word					
c. Using Excel					
d. Using PowerPoint					
e. Using email					
f. Using internet					
g. Using multi-media					
h. Using ICTs in the classroom					
i. Creating action plans					
j. Executing action plans					

16. If any components were **not relevant**, please explain

Section E: Action Plans and Support

17. Were you able to start developing your action plan? _____

18. Did you manage to complete your action plan? _____

19. If not, what elements still need to be completed?

20. What are the main focus areas of your action plan?

21. Can you provide examples of the following:

a. Using Word in teaching and learning

b. Using Excel in teaching and learning

c. Using PowerPoint presentations in teaching and learning

d. Using the internet to enhance teaching and learning

22. What support do you think you will need to execute your action plans?

a. From the principal

b. From the ICT coordinator

c. From the school (e.g. resources)

d. Additional training requirements

e. Other

23. What are the main challenges you face in using ICTs in the classroom, and executing your action plans?

a. How do you propose to overcome these challenges?

24. What other comments do you have related to your training experience?

Appendix B: Assessment Tasks

Introduction

Dear Participant,

We would like to thank you in advance for participating in this training workshop which aims to improve teaching and learning in the classroom environment. We realise that it takes a great deal of dedication to be an effective educator in this day and age. We take our hats off to you for taking this first step in ICT professional development. We trust that this course will instil a growing sense of confidence in your ability to use technology effectively in conducting yourself as an educator of the 21st century.

The tasks that we would like you to complete *before* we start the training is not an assessment of you. Rather, they are intended to help us understand “where everyone is at” so that we know how best to pitch the training.

Guidelines for completing the tasks

You will notice that each task has been allocated a time frame for completion. The trainer will keep track of the time allocations and indicate when the time is up for each task. It does not matter if you cannot complete the task in the allocated time, just do as much as you can in the time that you have available.

In order to maintain anonymity, please open a new folder and rename it with your initials and the year that you were born (e.g. djj1983). Be sure to save each of your documents using the same name.

If you are not sure about a task, you may ask the trainer to clarify the question/s. The trainer will however not assist you in completing any of the tasks. Please ensure that you complete each task, on your own, to the best of your ability.

Thank you once again for participating in this training and helping to improve teaching and learning in our schools.

The SchoolNet South Africa Team

Instructions

- Please be sure to complete one task at a time in the allocated time frame.
- Please complete each task on your own
- Complete as much of the task as you can.
- Don't forget to save each of your tasks using your initials and the year that you were born.

Task 1

5 Minutes

Open a new Word Document.

Text font must be Comic Sans 14 and blue colour.

Write a short description of yourself (school, grades you teach, learning area) and your expectations of this course. Do not include your name.

Save this document using your initials and the year that you were born as the file name.

Task 2

8 Minutes

Open a new Excel Spreadsheet.

Make a budget using the following information:

Ms Khumalo's Personal Expenses Budget December 2010

Food	R 1 500.00
Electricity	R 1 200.00
Water	R 670.00
Telephone	R 230.00
Rates	R 505.70
Petrol	R 800.00
Medical Aid	R 1 297.00
Total	

Add the total expenditure / expenses using a formula and change the final amount to bold type/text.

Save the document using your initials and the year that you were born as the file name.

Start PowerPoint.

Make a 3 slide presentation using the following specifications.

Slide 1

- Insert your name and the name of your school
- Insert a picture.

Slide 2:

- Using the Internet browser (Internet Explorer), go to the following website www.SchoolNet.org.za
- Copy the title of the first story and insert it in the heading space of slide 2 in the presentation
- Copy the picture that accompanies the SchoolNet website lead story and insert it in slide 2 of the presentation.
- If you do not have internet connectivity, insert the following Words into the slide : “NO INTERNET”

Slide 3:

- Insert the following table with the following specifications
 - Insert a table with 3 rows and 2 columns
 - In the first column of the first row type Day 1.
 - In the first column of the second row type Day 2,
 - In the first column of the third row type Day 3.

Save the document using your initials and the year that you were born as the file name.

Send an email to dezlin@SchoolNet.org.za and attach the above 3 documents.

The subject of the email is “Getting Started Pre-Test”

In the body of the email explain why you are attending the course. Mention who your trainer is and where you are being trained (venue).

If you do not have internet access, the trainer will copy the folder onto a flash disk and forward the folder to the above email address.

Dear Participant,

Thank you for participating in this training workshop. We really hope you have found it worthwhile from an ICT skills perspective as well as an enjoyable experience.

The post training tasks that we would like everyone to complete are intended to give us an idea of the strengths and weaknesses of this training course and therefore thank you for being prepared to assist us in this way.

Guidelines for completing the tasks

As in the pre training tasks which we asked you to complete, you will notice that each task has been allocated a time frame for completion. The trainer will keep track of the time allocations and indicate when the time is up for each task. It does not matter if you cannot complete the task in the allocated time, just do as much as you can in the time that you have available.

In order to maintain anonymity, please open a new folder and rename it with your initials and the year that you were born (e.g. djj1983). Be sure to save each of your tasks.

If you are not sure about a task, you may ask the trainer to clarify the question/s. The trainer will however not assist you in completing any of the tasks. Please ensure that you complete each task, on your own, to the best of your ability.

Once again, thank you for participating in this professional development course, we trust that you will be confident to implement what you have learnt in your classroom!

The SchoolNet South Africa Team

Instructions

- Please be sure to complete one task at a time in the allocated time frame.
- Please complete each task on your own and as far as you can.
- Don't forget to save each of your tasks using your initials and the year that you were born.

Task 1

5 Minutes

Open a new Word Document.

Text font must be Informal Roman 14 and green colour.

Write a short description (1 -3 sentences) of your experience of the Intel® Teach Getting Started Course as was experienced on Day 1, Day 2 and Day 3.

Save this document using your initials and the year that you were born as the file name.

Task 2

8 Minutes

Open a new Excel Spreadsheet.

Enter the following data for Mr Hadebe's Grade 9 History Marks for 2010 as shown below:

Mr Hadebe's Grade 9 History Marks 2010

Names	Term 1	Term 2	Term 3	Term 4
Susan Malumba	54	49	60	58
Johannes Poggenpoel	65	55	60	70

Add up the total marks for each learner for the year using a formula and change the total to bold type/text.

Save the document using your initials and the year that you were born as the file name.

Start PowerPoint.

Make a 3 slide presentation using the following specifications.

Slide 1

- Insert your name and the name of your school.
- Insert a picture.

Slide 2:

- Using the Internet browser (Internet Explorer), go to the following website www.intel.com/education.
- Copy the Intel logo and insert it in the heading space of slide 2 in the presentation
- Copy any picture that can be found on the Intel website and insert it in slide 2 of the presentation.
- If you do not have internet connectivity, insert the following Words into the slide : “NO INTERNET”

Slide 3:

- Insert the following table with the following specifications
 - Insert a table with 3 rows and 2 columns
 - In the first column of the first row type Day 1.
 - In the first column of the second row type Day 2
 - In the first column of the third row type Day 3.

Save the document using your initials and the year that you were born as the file name.

Send an email to dezlin@SchoolNet.org.za and attach the above 3 documents.

The subject of the email is “Getting Started Post-Test”

In the body of the email explain which aspect of the course you enjoyed the most as well as the most challenging part you experienced. Mention who your trainer is and where you are being trained (venue).

If you do not have internet connectivity, the trainer will copy the folder which has your 3 documents and send it to the above email address.

Appendix C: Trainer focus groups questions and questionnaire

Trainer Focus Group Questions

1. What is the teachers' level of familiarity/competency with ICTs?
 - a. Talk about levels of e-maturity (entry, adoption, adaptation, appropriation, innovation)
 - b. In which areas did teachers gain the most skills and confidence as a result of attending the training?
2. What is your opinion of the content of the training?
 - a. Suitability for the South African school context?
 - b. Suitability for facilitating integration in teaching and learning?
 - c. Which modules are covered best?
 - d. Which modules are not as well covered?
 - e. Is there any key content that you feel is missing, if yes, what?
 - f. Is there any content that you feel should be left out of this course, if yes, what and why?
 - g. In your view, is the a dual focus of ICT skills and 21st century skills, a good idea or not? Explain
 - h. *Were there optional sections*
3. What is the general approach or method to the training?
 - a. Describe
 - b. What are the strengths to the approach
 - c. In your view is the course pitched a the correct level for the South African context? Explain.
 - d. Is there flexibility in the approach – e.g. to different skill levels of teachers or different learning styles
 - e. Should there be any adaptations to the training approach? Specify
 - f. Is there any aspect of the course delivery that you feel should be done differently, if yes, explain.
4. Is the time allocated to the training sufficient to adequately cover all the course content?
 - a. If not, which aspects need more time?
 - b. What should be done differently
5. How did you feel the training went? Can you say what has gone well? What hasn't gone well?
 - a. What were some of the challenges in the facilitation of the course?
 - i. Suitability of venue
 - ii. Level of attendance
 - iii. Level of active participation by teachers during the training
 - iv. Internet connectivity
 - v. Overall relevance of course?
6. What is/could be the impact of the training for teachers?
 - a. Will teachers be able to apply what they have learnt? Why/why not?
 - b. Do you think teachers will actually implement their action plans to facilitate changed practices?
 - c. Have you made any changes in your OWN classrooms?
7. What is the extent to which the course is relevant to the teachers' work?
 - a. Using ICTs in planning and preparation?

- b. Using ICTs for personal use?
 - c. Integrating ICTs into teaching and learning?
 - d. Other?
8. What types of support did you receive as a trainer, describe and comment on whether it was sufficient?
- a. From SchoolNet
 - b. From the PED
9. Any other comments?

SchoolNet Intel Getting Started Training Trainer Questionnaire

Full name: _____

1. What is your highest qualification _____
2. Are you a teacher? _____
 - a. If yes, please specify
 - i. Grades and subjects? _____
 - ii. Number of years of teaching experience _____
 - b. If no, what is your occupation? _____

3. What previous computer training course have you attended that provided you with technical skills in working with computers?

4. What previous train-the-trainer courses have you attended that provided you with skills to teach other people to use computers?

5. Rate your confidence levels: in the following areas. Provide a rating from 1 (beginner) to 5 (advanced)

	1 Beginner	2	3	4	5 Advanced
s. Using basic computer features					
t. Using Word					
u. Using Excel					
v. Using PowerPoint/presentation software					
w. Using email					
x. Using internet					
y. Using multi-media					
z. Using ICTs in the classroom					

6. Do you have any previous experience in conducting training? _____
 Please specify the type of training, and the number of years you have been a
 trainer

7. Please list the names of each school you trained in the Intel Getting Started
 Course, when the training took place and the general skill levels of the teachers at
 each site:

Name of school	Approx number of teachers	Dates of the training (just specify then month in which training took place)	Teacher performance on pre- workshop technical task 1 – Poor 2 – Average 3 - Good	Teacher performance on post- workshop technical task 1 – Poor 2 – Average 3 - Good

8. Please describe the IT infrastructure of these schools:

Name of school	Are there sufficient working computers for teaching and learning 1 – few computers 2 – some computers, but insufficient number 3 – reasonably sufficient number of computers	Is the Gauteng online lab set up and are the computers working?	Do teachers have access to the computers for planning and preparation?	Do learners have access to the computers in classes?	Is there internet connectivity and if yes, how reliable is the connectivity?	If the school has a lab, is the lab Ubuntu or Microsoft

9. What was the computer skill level of the teachers on average before the training?

Below basic	
Basic	
Intermediate	
other	

10. Were teachers able to use the help guide effectively? Please explain

11. How practical and hand-on were the modules?

	Mostly theoretical	Mixed theory and practice	Very practical
Module 1: 21 st century skills			
Module 2: Computer basics			
Module 3: Collaboration			
Module 4: Discover Word processing			
Module 5: Apply Word processing			
Module 6: Discover internet:			
Module 7: Explore internet			
Module 8: discover multi-media			
Module 9: Apply multi-media			
Module 10: Discover spreadsheet			
Module 11: Apply spreadsheet			
Module 12: 21 st century approaches			
Module 13: Discover action plan			
Module 14: Sharing your action plan			

12. Do you feel that the course material is relevant to the South African context?

Please explain your answer,

13. Comment on some of the logistics of the training

a. Were the venues suitable? Please explain

b. Were there sufficient working computers to conduct the training? If not, what did you do to overcome this challenge?

c. Was there reliable internet connectivity and if not, what did you do to overcome this challenge?

14. Was the training time sufficient to cover all the modules? If not, which modules were not adequately covered?

15. If this training is extended to other schools, what should be done differently either in the administration of the training or adaptation of the course materials?

16. Any other comments

Appendix D: Site visit focus group questions and questionnaires

Getting Started Post Training Questionnaire 2

The purpose of the questionnaire is to obtain information on the way in which you currently use ICTs after having attended the Intel Getting Started Training course, and the way in which you use ICTs in the classroom. Please answer as honestly as possible. All information will be kept confidential and your names will not appear in the report.

1. Name (only initials plus year of birth): _____
2. School: _____
3. Subjects/Learning Areas: _____
4. Grades: _____
5. Years of Teaching Experience: _____
6. Highest qualification: _____
7. Are you the school ICT coordinator? _____
8. Did you attend the training the Intel Getting Started Course?

Most of the training days	
All of the training days	

Before you attended the Intel Getting Started Course

9. Before you attended the Intel Getting Started Course, had you used a computer before?

- a. What types of activities did you do on the computer?

10. Did you attend any computer courses/training previous to the Intel Getting Stated Course? If yes, please name them

After you attended the Intel Getting Started Course

11. Rate your current confidence levels: Provide a rating from 1 (beginner) to 5 (advanced)

	1 Beginner	2	3	4	5 Advanced
--	---------------	---	---	---	---------------

	1 Beginner	2	3	4	5 Advanced
aa. Using basic computer features					
bb. Using Word					
cc. Using Excel					
dd. Using PowerPoint/presentation software					
ee. Using email					
ff. Using internet					
gg. Using multi-media					
hh. Using ICTs in the classroom					
ii. Creating action plans					
jj. Executing action plans					

12. Please answer the following questions related to your use of ICTs and in the classroom since attend the Intel Getting Started course. Read the questions and mark the correct options with an X

	Question	Options	Select (X)
A	How often do you use computers at school	on most days	
		at least once a week	
		at least once a month	
		never	
B	Do you have access to a computer at home?	yes	
		no	
C	Do you have an email address	yes	
		no	
D	How often do you use email?	on most days	
		at least once a week	
		at least once every two weeks	
		at least once a month	
		never	
E	For which of the following purposes do you use ICT?	personal, non professional use	
		school administration eg SAMS	
		recording marks using a spreadsheet	
		typing exam paper	
		finding information on the internet	
		professional development using the internet	
		accessing resources e.g. Thutong	
		developing teaching resources e.g. spreadsheets	
developing digital content for learner use			

	Question	Options	Select (X)
F	In which of the following ways do you use ICTs in teaching and learning	using Word	
		using spreadsheets	
		using presentation software	
		Media, like television based education programmes	
		school administration	
G	Do you require your learners to use ICTs in any of the following ways?	using the Internet to research information	
		working on projects	
		solving problems, making decisions or forming opinions	

13. Have you been able to implement your action plan? What have been the challenges?

14. The following statements are about supports and challenges you may have when trying to integrate technology into your teaching.

To help me integrate technology into my teaching,	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A. I have adequate access to computing resources					
B. I have adequate access to the Internet					
C. I have adequate planning and preparation time					
D. I have strong enough computer skills					
E. I have adequate administrative support					
F. I have adequate technical support					
G. I have adequate instructional support					

15. Any other comments

Getting Started Teacher Focus Group

The purpose of this interview is for us to learn more about how the Intel Getting Started Course has affected your teaching practice. Your answers to these questions will be used in a as part of an evaluation of the pilot of the Getting Started program to identify areas for improving the programme. This interview is not used to judge you or your teaching.

We will be asking you some questions about your background, your experience with the Getting Started Course and its value to you in your teaching.

Questions

1. What kinds of experiences had you had with technology before you took the Getting Started Course? (Had you taken computer classes? Used computers? How much? For what purposes?) GET NUMBERS
2. When did you take the Getting Started Course? Please describe a little about your experience in the course. (Was the course what you expected?)
 - a. Probe: Relevance to teaching/south African context
Does it support the delivery of our curriculum/the way we do things, relates to facilities and infrastructure the school has
3. What did you feel was most interesting or valuable to you in the course? (What aspects of the course did you like the best? What aspects weren't as useful?)
 - a. Probe: Help feature
 - b. Teaching and learning
 - c. Action plans
 - d. Probe: computer processing speed/sufficiency of number/internet connectivity/other logistics/venue
4. Name some interesting things you learnt to do with Word, Excel, PowerPoint, multimedia, internet, email
5. Looking at the course
 - a. Are there elements you would leave out
 - b. Are there elements you would add
6. Have you attended any other computer training course? Please specify.
7. Have you been able to apply what you have learned in the course? (What have you applied or used? Where and when? Have you been able to create anything using technology in your school? Have you been taking your students to the lab?)

Have you made any additions or changes to your teaching practices as a result of your learning on the course?

- a. Planning and preparation
 - b. Classroom practice/technology use in teaching?
 - c. Elements of 21st c. learning (teacher facilitation, collaboration, cycles of production, and representing ideas or information using alternative means)? How are you making your lessons more interactive
 - d. Action planning? Did you use your action plan after the course?
8. What are some challenges you may face when trying to implement in your classroom what you learnt in the Getting Started Course? (Note: Ask specifically

about technology e.g. are there enough computers and instructional challenges.
E.g. not having sufficient time to access the labs/students level of ability)

- a. Probe: what resources and support are there in the school
9. Looking ahead, do you think the skills, approaches, or ideas Getting Started Course can, over time, have more of an impact on your teaching?
10. Based on your experiences, do you think other teachers that you know would be interested in taking the Getting Started Course? Why or why not? (sense of satisfaction with the course)
11. Is there anything else about the Getting Started Course and your experiences since taking the course that you would like to comment on?

Getting Started Teacher ICT Coordinator Questionnaire

25. Name : _____
26. School: _____
27. Number of teachers in the school: _____
28. Number of admin staff: _____
29. Number of learners: _____

Section A: Profile

30. Subjects/Learning Areas: _____
31. Grades: _____
32. Are you the school ICT coordinator? _____
- a. How many years have you been the ICT coordinator at the school?
- _____
33. What are your primary areas of responsibility (get specifics of what is done) ?
34. What challenges do you face in performing your role as an ICT coordinator?
35. What support do you get
- a. From the principal
- b. From the staff
- c. From the GDE
- d. Other
36. What is your level of familiarity of computers? What types of applications do you use and how do you use them?
- a. Name some 'advanced' things you can do with Word, Excel, PowerPoint etc.

Section B: School Infrastructure and Resources

37. Please answer the following questions about the number of computers in the school;

A. In total, how many computers does the school own (including laptops and those used for administration purposes)?

Total number of computers	
Total number of computers currently being used	
Total number of computers not being used	
Not working / broken	
Computers never set up/installed	
No training	
Computers have a virus/es	

B. If computers are not being used, please indicate why:

C. How many working computers (including laptops) are located in each of the following venues:

Computers are out of date	
Computer labs/rooms	
Classrooms (other than laboratories)	
Resource centre/library	
Staff room or staff computer room	
Administration office	
Principal's office	

38. Does the school have a Gauteng online lab?

- a. Microsoft or ubuntu?
- b. Is it kept locked/access

39. Does the school have any other labs?

40. How many computer laboratories are networked using the Peer to Peer system (i.e. each workstation boots with its own operating system and hard drive)

41. How many computer laboratories are networked using the Thin Client system (i.e. each workstation boots from server and all files housed on server)

42. Indicate how many of each of the following types of equipment the school has that are in working order and that are being used:

Equipment	Number in working order:	Number in use:
Server		
Uninterrupted Power Supply (UPS)		
Printer		
Scanning facilities		
Digital camera		
Television set/Plasma/LCD monitor		
Video camera		
Data projector		
Interactive whiteboard		

43. Which of the following software and application-based programmes does the school have:

Microsoft Office or similar	
School administration package e.g. SAMS, Edupac	
Software for financial management e.g. Pastel, Quickbooks	
Interactive multimedia content e.g. Mindset	
Other, specify: _____	

44. Is there internet connectivity at the school?

How many computers are connected to the internet in the following venues?	1.Computer room/s	
	2.Classrooms (other than laboratories)	
	3.Resource centre/library	
	4.Staff room or staff computer room	
	5.Administration office	
	6.Principal's office	
	7. Other	
D. What type of internet connectivity do you have? (indicate all that apply with an X)	1. None	
	2. 52K Dial-up	
	3. Leased line	
	4. DSL/ADSL	
	5. 3G	
	6. Satellite	
	7. Wireless	
	8. Other _____ _____	
E. How frequently is the connectivity functioning in a period of month? (please indicate with a X)	1. None of the time	
	2. Less than 25% of time	
	3. Between 26% and 50% of the time	
	4. Between 51% and 75% of the time	
	5. Between 76% and 100% of the time	

45. What, if any, infrastructural challenges (computers, internet access) have teachers faced during the Getting Started Course?

46. What kinds of technology infrastructure challenges do you face in your school in general?

Section C: Teachers

47. How many teachers in your school participated in the Getting Started course?

- a. How were teachers selected for the training?
- b. Any other plans to send them on other training?

48. What is your experience with the Intel Getting Started Course?
 - a. Did you attend a training course?
 - b. Did you have an opportunity to observe the teachers' training course?
 - i. If YES, what were your impressions?
 - ii. If NO, what, if anything, have you heard from participating teachers?
49. What is your general impression of the suitability of the course?
50. Have you seen an impact on teachers' work with students/other admin or prep areas as a result of their participation in the Getting Started Course? If yes, please describe.

Section D: Access

51. Which of the following subjects are taught at the school (this question should only be completed by secondary schools)
 - a. Computer Applications Technology (CAT)
 - b. Information Technology (IT) – as an FET subject
52. Do you have a time table for the use of the computer lab(s) for teaching and learning?
53. Computer Literacy classes are offered to learners in: (indicate the applicable response with an X)
54. Do learners have access to computers? When?
55. Do teachers have access to computers? When? When do teachers mostly use computers?
56. How many computers are dedicated for teachers use only?

Section E: Other

57. Does your school have any strategies for using technology to support teaching and learning?
58. Is your school principal actively supporting the integration of ICTs into the curriculum
59. Is there anything else about the Getting Started Course and the experiences of Participant Teachers that you would like to comment on?