

THE DUAL FORM OF FURTHER EDUCATION OF EDUCATORS IN ICT: TECHNOLOGICAL AND PEDAGOGICAL TRAINING

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ABSTRACT

In this research the results from an exploratory study conducted in the Greek context for the programme “Further Education of Educators in the Use and Development of ICT (Information and Communication Technologies) in the educational process” are presented. Our study refers to the educators of the Primary and Secondary Education who attended the programme in the Prefecture of Heraclion in Greece. In our days, the educators’ role is essential since they are the ones who carry out the majority of educational innovations and their views influence greatly their planning of teaching as well as their educational choices and practice in class. The introduction of the ICT present new challenges for teachers and often meets with the educators’ belief that ICT, as well as other changes, present a factor which can cause several changes in school. Some recent researches show that the educators’ attitudes concerning the ICT are somewhat uncertain: albeit the recognition, in general terms, of ICT’s usefulness there are expectations of negative consequences from their use and sometimes intense feelings of caution and even awe. The creation of abilities and positive attitudes concerning the ICT in general for all the educators demands the existence of an appropriate environment for their development. Based on a specially constructed questionnaire intended for the educators who attended the programme of further education in ICT, this research elicits teachers’ attitudes towards this programme. Some of the main results of our research point out the preparedness of these educators to make use of ICT in the daily school practice. Furthermore, they expressed their wish for further education concerning the pedagogical development of ICT. Another result of our research was the high level of their self sufficiency in the programmes which were organized during this further education, constitute essential aspects of their views.

KEYWORDS

ICT, Educators, Further Education, Pedagogical development

INTRODUCTION

In today’s society individuals and organizations are confronted with an ever growing amount and diversity of information and content and with increasing demands for knowledge and skills. In the frame of the teachers’ constant retraining, the Greek Ministry of Education implemented the project “Teachers’ education as far as the use of the Information and Communication Technologies (ICT) is concerned in the sector of education” through the operational programme “Information Society”. For this programme, the Ministry of Education have conducted seminars in order for the teachers to be educated and familiarized with the ICT, which seminars 83315 teachers have attended during the years 2001-2006, while the beginning of the last educational projects is under programming for the ends of 2006 - beginning of 2007. The teachers’ widespread participation was achieved due to different motives such as the offer of the appropriate equipment of ICT, the certificate which offers extra points in case of evaluation but also the fact that they are ensured of the transparency and the validation as far as their distribution through an electronic drawing to the programmes is concerned.

The target of the Level A educational programme, also named programme of the P1 category, is the acquisition of basic knowledge and qualifications to the use of ICT as far as the education is concerned and it covers an introduction to the information elements and to the basic use of a PC (Personal Computer), the use of Word Processing (Ms-Word), Spreadsheets (Ms-Excel) and Presentations (Ms-PowerPoint) as well as the internet connection and communication. It also includes the acquisition of certain introductory knowledge to the further use of the ICT on the educational process through the use of educational software and the development of the following three elements: knowledge, qualifications and attitudes so that the trainees teachers can appreciate the possibilities that the ICT offer for the development of the educational process and their professional evolution.

Each programme shall cover a period of 8 weeks. The trainees can be absent only for the 10% of the instructional hours, that means that only 5 absences are allowed and that they are obliged to attend at least 43 complete instructional hours in groups of 10-15 members. Each lesson lasts 3 hours. All lessons have to take place after school hours so that the school's operation won't be inhibited. Only the permanent teachers of public schools of primary and secondary section and of all specialties had the right to participate in the above programme. During certain educational periods the deputy teachers and the teachers to private schools had also the right to participate.

Teachers need to change if they want to try out new methods and technologies for education. One of the main means of this change is ICT. The incorporation of the ICT to our daily educational practice is a particularly difficult process which demands time and constant effort in the centre of which we find the teacher himself (Baron & Bruillant, 2000; Kalogiannakis, 2004; Jimoyiannis & Komis, 2006). However, we should consider that a teacher shows a really positive attitude towards the ICT not only by the occasional use of technology with his students but also by the creative use of the ICT possibilities so that the educational environment in which he acts can be changed. For many years, it is known that the computer cannot in any circumstance replace the teacher, since in fact it is only the tool which he finds at his service for the benefit of his students (Antoniou-Kritikou, 1998). Nowadays, the question if the use of ICT should be incorporated to the primary and secondary educational system has been replaced by the question of what forms of technology should we use and how we can use them effectively (Stilianou & Meletiou-Maurotheri, 2003).

According to Pelgrum (2001), the most important factors that prevent teachers from using the ICT are:

- the insufficient number of computers,
- the lack of teachers' knowledge / qualifications and
- the difficulty of incorporation of the ICT to the educational process.

The constant teachers' retraining and encouragement consist one of the most basic conditions for the proper incorporation and use of the ICT to the educational process (Vosniadou & Kollias, 2001). The evaluation of such retraining is the basic research object and into this research we present the results of the evaluation of the programme "Teachers' education as far as the use of the ICT is concerned to the educational process" for the teachers of primary and secondary section who attended this programme in the Prefecture of Heraklion.

THEORETICAL FRAME

Our contemporary society demands the constant retraining of people, a fact which automatically converts our traditional education practice to a sole part of our educational system (Vasilakis & Kalogiannakis, 2006). Most research studies ascertain that the problems of educational systems are largely problems of the educators themselves, relevant to their vocational development, the level of their further training and postgraduate courses as well as the drawbacks of their basic training. At the same time, the establishment of the lifelong learning should be under consideration in relation with all the social powers to which it refers and should refer to all kinds of learning (typical, non typical, atypical), allowing the establishment of one constant group of educational activities (Vergidis, 2005).

The incorporation of ICT in the educational system should be considered as a means of an obligatory modernization of learning and teaching methods (Vosniadou & Kollias, 2001; Kalogiannakis, 2004) and nowadays, the retraining of all teachers is necessary, especially for the use and use of the ICT during the daily school practice. Generally, the use of the ICT is established (Solomonidou, 2000) to bring encouraging results in all levels for the students and their teachers, under the condition that the latter are positive to the ICT and follow effective and co-operational teaching models.

In our Greek educational reality, several researches (Panagiotakopoulos, 1998; Anastasiadis et.al., 2006; Jimoyiannis & Komis, 2006) show that the teachers' attitude is characterized often by ambivalence. The recognition of the ICT's benefits is accompanied by expectations for negative effects of their use but also by intense feelings of fear and admiration. A common component of all researches is the acceptance that the successful incorporation of the ICT to the educational practice demands the research and the remodulation of the teachers' general attitudes and practices in reference to the learning procedure and their role in it (Konidari, 2005).

The differentiations, which the use of ICT brings in the school class, create new demands for the teachers and the students. A change is necessary so that an innovative teaching method can be successful, a change not only as far as the materials are concerned, but also as far as the approaches and the beliefs. As a consequence, teachers should apply and believe this innovative practice so that it could be effective (Kalogiannakis, 2004). A recent research by Shapka & Ferrari (2003) showed that, while the differences between the sexes as far as the ICT are concerned, are limited, there are still important differences between the teachers' attitudes according to the educational level they teach.

Teachers seem to be concerned of the effectiveness of the ICT and they consider that there are important difficulties referring to the learning side of the use of ICT in their daily school practice (Anastasiadis et al., 2006; Jimoyiannis & Komis, 2006). Generally, as it is established by other researches (Christodoulou et al., 2005) although teachers (especially those of the primary sector) already have the appropriate equipment and the know-how to use the ICT, do not do it daily while they also seem not to be ready to accept some kind of retraining by distance.

Teachers of primary education show more fear towards the use of computers and often they avoid their use. On the other hand, professors of secondary education use more the computers in their classes, while they seem to be more educated and more confident as far as the ICT are concerned than teachers of primary education (Whitley, 1997). Teachers of secondary sector need to be persuaded that the use of ICT ameliorates teaching and learning before they attach any other teaching method and often they have the tendency to apply the new tools to the traditional "teacher-central" model (Demetriadis et al., 2003). According to a Baron & Bruillard research (2000), the older French teachers have more positive views than the younger ones for the changes that the ICT can bring to the educational system. Similar observations are made by other researches, noting specially that the study of the teachers' attitudes and beliefs remains still an open research field (Kalogiannakis, 2004; Sugar et al., 2004).

In many cases, the teachers' attitudes and qualifications, as far as the use of ICT is concerned, remain still an obstacle to its acceptance and incorporation to the daily educational practice (Pelgrum, 2001). The knowledge around the teachers' attitudes and perceptions referring to the role of ICT in the educational system and their impact to the teaching approaches is very important, because: a) teachers are in the centre of all efforts to educational changes and b) teachers can affect generally perceptions, priorities and evaluations of students and as a consequence they can affect in a determinate way their students' attitudes as far as the use of such tools in teaching and learning method is concerned (Jimoyiannis & Komis, 2006).

METHODOLOGICAL APPROACH

The research tool is a properly structured questionnaire which includes questions according to the Likert five-level scale. The questionnaire was distributed through the Retraining Committee of the

Prefecture of Heraklion, to the 27 private and public Centers of Retraining, which were in charge of conducting the teachers' retraining programme, during the last days of the retraining meetings, so that the teachers trainees have a complete view of the programme but also so that we can ensure the largest participation.

THE STRUCTURE OF THE RESEARCH QUESTIONNAIRE

The research questionnaire was established according to 2 subject axes. The first referred to the research of teachers' demography and other personal elements and included 11 questions mostly "closed ended" concerning the gender, the age, the specialty, the educational level and the existence of ICT structure (see appendix.). Especially, it referred to the existence and the frequency of the computer and internet use.

The second axis studied the teachers' attitudes towards the ICT, their role in education and their educational valorization. This axis included 7 closed-ended questions which referred to the teachers' preparedness and the intension for future incorporation of the ICT to the educational procedure, as well as to their attitude towards the possibility that students know more than them as far as the use of the ICT is concerned after the end of the retraining programme (see appendix)

THE RESEARCH SAMPLE

In order for the research to be completed, 338 questionnaires were given, which corresponded to the 100% of the sample participating in the frames of the programme "Teachers" education as far as the use of the ICT is concerned in the sector of education". The sample included permanent teachers, who during the school year 2005-2006 taught to Nurseries, Primary, Secondary, High-Schools and Technical Schools of the Prefecture of Heraklion. At the end there were 310 questionnaires from 85 men and 225 women, who corresponded to the 91.71% under retraining teachers of the Prefecture of Heraklion.

The ages of all participants were from 23 to 60 years old (mean = 40.63 years, (Standard Deviation) SD = 8.33 years). The sample was broken to three levels of ages: teachers of 23-35 years old consisted the 26.1%, teachers of 36-45 years old consisted the 44.5% and the teachers of above 46 years old consisted the 29.4% of the total sample, as the following classificatory array shows.

Table 1. Sample frequencies of gender and age group

Gender	Frequency	Percent (%)	Age group	Frequency	Percent (%)
Male	85	27.4	23-35	81	26.1
Female	225	72.6	36-45	138	44.5
			46 above	91	29.4
Total	310	100.0	Total	310	100.0

As far as the educational level where they teach, teachers were sampled cause 49.4% taught in the primary sector while the 50.6% in the secondary sector. The elements from the questionnaires were analyzed by the help of the statistics package SPSS 13.0 and the results are presented to the following part of the article.

RESULTS

ICT have been seen as a vehicle for teachers to carry out major changes in how they teach students. But it may also be that the ICT enables teachers to follow a whole new approach to teaching based on a different theory of how students attain understanding or new perspectives on what it is important for students to know (Kalogiannakis, 2004).

Starting with the presentation of the research results according to the statistic elaboration of the sample referring to the first axis with all the teachers' personal data, the different specialties were grouped in 6 basic categories (the first two included teachers of primary sector, meaning teachers of nurseries and primaries, and the other two all the teachers of secondary sector, classified according to their educational subject). Two different categories included teachers of foreign languages and gymnastics independently, the level where they taught (primary or secondary sector), as we can see from the data of table 2, which includes also data for the sample's educational level and experience.

Table 2. Sample frequencies according to specialty, level of education and teaching experience

Specialty	Percent (%)	Level of education	Percent (%)	Teaching experience	Percent (%)
Kindergarten	11.0	Higher Technical Education	4.8	0 - 5 years	31.9
Primary school teachers	32.6	University Degree	84.2	6- 10 years	16.5
Secondary school teachers (Humanities)	26.8	Master Degree	7.7	11 > years	51.6
Secondary school teachers (Natural Sciences)	14.5	Doctorate Degree	1.6		
Foreign languages	7.7				
Physical education & sports science	7.4				

Referring to the sample's years of service, the smallest was one year, the largest was 34 years and the mean was 12 years with a SD of 9.09 years. As far as the place of service is concerned, more than half (58.6%) work in schools of Heraklion while 68% declared that they have a computer at home. Teachers who have a computer at home (N=208) declared that they had the computer during a period of time between a month and 20 years. (mean = 4.68 years, SD = 3.67 years).

Referring to the frequency of the computer use, most (40.6%) declared that they never use a computer, while 10.3% uses the computer rarely (period of time more than a month), the 6.8% once a month, the 24.5% once a week, while 17.7% of the sample answered that they use the computer daily. Also, the 47.4% of the teachers sample has an internet connection (N = 147) whose period of time was from 1 month till 13 years (mean = 3.21 years, SD = 2.50 years). Most of the teachers (72.9%) had not attended any other retraining programme as far as the ICT are concerned while the 27.1% (N = 84) had attended programmes by private organizations to the 'Work Evaluation Centers' (KEK) (34.52%, N = 29) and by private administrations but also by public institutions in Universities or Technical Institutions during their studies (20.24%, N = 17).

We have classified the objects to which the teachers were trained to 4 basic categories:

- programming of a PC (Basic, Pascal, Assembly, Dbase, Logo),
- office automation (Microsoft Office: Word, Excel, Access, PowerPoint, Internet & e-mail),
- operating systems (Microsoft Windows, Microsoft DOS),
- other software (WordStar, Lotus, Microsoft FrontPage, Eurofasma).

Table 3 shows in detail all the results of the above classification.

Table 3. Sample frequencies of the cognitive subjects they have been educated

Cognitive subjects	Percent (%)
PC programming	3.11
Office automation	74.75
Operating Systems	20.11
Other	2.07

Referring to the results of the second axis, we searched initially the teachers' attitudes towards the contribution of all the software that they learned. That means the software of general use (Microsoft Office, Word, Excel, and PowerPoint), internet (Internet Explorer) but also the educational software which corresponded to their specialty and the amelioration of the learning procedure. The data of the table 4 present the teachers' perceptions for the contribution of software to their personal amelioration, which are mostly positive.

Table 4. Teachers' attitudes of the contribution of educational software for the improvement of teaching procedure and their personal development

Training process improvement	Percent (%)	Personal improvement & development	Percent (%)
Very positive	46.8	Very positive	42.6
Positive	52.3	Positive	55.5
Incurious	1.0	Incurious	1.6
Negative	0.0	Negative	0.3
Very negative	0.0	Very negative	0.0

To the question if they are going to use in the next school year one of the software packages to which they were trained, 51.90% of the sample answered "relatively often" and the 36.29% "often", an element that shows the positive affect of the programme. Those who answered positively to the above question were kindly requested to specify in detail which of the title or titles of software are going to use again. The following Table 5 shows their answers in detail, among which Ms-Word is the most usual answer.

Table 5. Software packages that will be used during the next school year

Educational software	Percent (%)
Internet	18.20
Word Processing (Ms-Word)	39.34
Spreadsheets (Ms-Excel)	20.22
Presentations (Ms-PowerPoint)	21.69
E-mail	0.37
Other	0.18

It is also examined whether the opinion that some students may know more than teachers by the end of the training as far as the use of some software is concerned, and how this fact could be an inhibitory factor of incorporation of the ICT to their teaching practice. Most of the sample (87.7%) claims that the above factor does not act inhibitory. The above results are related to the high percentages of self-

efficiency (mean = 86.14) that appeared in the scale of self-efficiency, which was given to them in order to complete it at the same time with the research questionnaire. In order to measure the self-efficiency we used the Greek Self-efficiency Computer Scale, which can be completed in ten minutes and it consists of 29 sentences (Kasotaki & Roussos, 2006). The total grade comes with the number correspondence to each answer, using the four-level Likert scale, summing up the numbers and it ranges from 29 to 116. The following Table 6 shows in detail the results that come up by the completion of the questionnaire by the participating teachers.

Table 6. Descriptive Statistics for the Greek self-efficiency scale

Statistic	Greek self-efficiency computer scale
N	310
Mean	86.14
SD	14.31
Minimum	29
Maximum	116

Judging by the mean of the sample (86.14), we can ascertain that the teachers have developed a high indicator of self-efficiency to the use of a computer and we can assume that the programme which they attended was a basic factor for its enforcement. At this point, we have to notice that during 2007, the Ministry of Education and the Pedagogical Institute have programmed the beginning of the second phase of the teachers of all levels training under the name of P2.

In the end, teachers were asked how prepared they think that they are in order to use the ICT to their teaching methods and if they were given the possibility to attend another programme like this, in which sector they would like to give emphasis to. Table 7 shows their answers, from which we can assume an important tendency to future training as far as the pedagogical evaluation of the ICT is concerned (75.2%), as well as their preparedness for the use of the ICT (67.4%), which is an encouraging element for the future.

Table 7. Teacher’s preferences of the type of future seminars they would like to attend

Teacher’s preferences of the type of future seminars	Percent (%)	Instructive use of ICT	Percent (%)
ICT and pedagogical use	75.2	Readiness of teaching instructive of ICT	67.4
Exact same course as those in which they were educated	15.2	Lack of readiness of teaching instructive of ICT	32.6
In the acquisition of specific dexterities in ICT	8.7		
Lack of interest for further education	1.0		

ADDITIONAL STATISTICAL ANALYSIS – IMPLICATIONS

The knowledge, experiences and images that teachers have concerning ICT are important, as the successful implementation of their innovative utilization in the classroom depends significantly on them. The implementation of an innovation often requires giving up all the established practices and methods (Baron & Bruillard, 2000). Therefore, the results of the additional analysis that was made to check the influence of other demographical variables on the intention of using ICT in teaching practice are of great interest.

In the additional statistical analysis of our research we demonstrate the connection between the basic questions of our questionnaire and the following independent variables, which characterized the teachers of our sample: (1) gender, (2) teaching level, (3) specialty, (4) age, (5) education level, (6) teaching experience, (7) location of duty, (8) school type, (9) owner of a personal computer, (10) connection to the internet and (11) attendance in the past of another seminar about ICT.

As it resulted from the additional statistical analysis of our research, the attendance of another training seminar in ICT (technocratic kind) and the teachers' attitudes seem not to be statistically influenced by the most basic independent variables that we examined. Their attitudes concerning the contribution of software in the improvement of the learning process vary only in relation to the gender ($X^2(2)=13.67$ $p=.001$) where the male teachers have a more positive attitude towards the above mentioned contribution than their female colleagues. Furthermore, the intention to use software packages during the following school year is influenced only by the location of service ($X^2(3)=15.33$, $p=.001$). Teachers working in small towns (3000-10000 inhabitants) are more likely to use during the following school year some of the software packages that they were taught, than teachers working in schools in big urban areas (Heraklion). This conclusion could be explained based on the fact that in rural areas almost only the younger -regarding their age and teaching experience- teachers work due to their placement by the administration. Those teachers have usually better basic knowledge of the ICT, gained from the departments they graduated, are more eager to experiment and have more free time. Also, they usually work under more favorable working conditions than their colleagues in schools in big urban areas (e.g. smaller number of students in a classroom, easier access to technological means, teachers' association more attracted to innovating actions etc.).

The readiness of use of the ICT in the teaching process by the teachers of the sample varies only in relation to the age group ($X^2(2)=11.09$, $p=.001$), as we found out that the teachers of the age group between 23-35 years old are more likely to use ICT in the teaching process during the following school year. In contrary, the age group of 45 years old and over is less likely to utilize the ICT. This could be explained, as we have mentioned above, by the fact that in rural areas work due to their placement by the administration, almost only the younger teachers, regarding both their age and their teaching experience, having as a result being better trained by the university departments and technological institutions they have relatively recently graduated. Moreover, the readiness of use of the ICT in the teaching process is influenced by the location of service ($X^2(3)=14.64$, $p=.001$), as we found out that the teachers who work in schools in small towns (3000-10000) inhabitants are more likely to utilize the ICT in the teaching process during the following school year, whereas it is less likely that teachers in schools in big urban areas will use them (Heraklion). The readiness of use of ICT in the teaching process is also statistically influenced by the years of work experience and the younger teachers, regarding the years of work experience (0-5 years), are more likely to use ICT in the teaching process during the following school year ($X^2(2)=8.77$, $p=0.01$).

CONCLUSIONS - PERSPECTIVES

Indisputably, the demands of the modern society after the development and utilization of the ICT in many sectors of everyday life have created new needs in education. As they are convinced of their significant contribution, most of the teachers search for ways to adapt to the new circumstances, however, their effort is hindered by many factors, mainly by the lack of technological and pedagogical training. The ICT change fundamentally the teacher's role which goes beyond the traditional way of working as he becomes intermediate supporter in a facilitating direction of the student towards gaining knowledge (Kalogiannakis, 2004). Nevertheless, it is important to understand that what makes the ICT valuable is the pedagogical utilization of their facilities and not their technological aspect (Raptis & Rapti, 2003), so in this sector training the teachers is regarded to be necessary. The ICT's utilization combined with the properly planned teaching process may contribute to the creation of favorable learning conditions and function as a basic encouraging mean that could change the interaction relationships in the classroom.

The geographical restriction is a very important restriction, which must be underlined in our research and was imposed for pure practical reasons. Specifically, the research sample consisted of teachers that were trained in the Heraklion Prefecture. An element that could be the subject of a future research is the perspective of the expansion of this training programme evaluation in other areas in Greece in an attempt to find some local factors - characteristics that may affect its function. Moreover, it would be very interesting, if future researches focused on the training needs that will occur for the teachers that have already been trained in the pedagogical utilization of the ICT in the everyday practice in the classroom, after the use and exploitation of what they were taught.

One of the basic conclusions of the research, in consistence with other studies (Demetriadis et al., 2003; Jimoyiannis & Komis, 2006), is the importance of the pedagogical framework of the ICT's enrollment in education. A technological type of teacher's training, regardless of the advantages in which undoubtedly it results, is not alone an efficient and necessary condition for the ICT's launch and pedagogical use in the classroom. Consequently, we could claim that the teacher's technological literacy is not enough, but, in contrary, special emphasis should at last be given on the ICT's pedagogical utilization, which is expected to happen with the start of the training seminars type P2 (second level training) from the Pedagogical Institute and the Greek Ministry of Education for 15000 teachers.

Nowadays, the restructure of the teaching process with the help of the ICT is found exceptionally important by teachers, using traditional and new teaching and learning strategies, having as basic aim the students' active participation. Studies, such as the one presented here about the attitudes of the Greek teachers, outline how much ready they are to involve in a process of learning, updating and implementation of ICT in the teaching process through a two-kind training of technological and pedagogical character.

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APPENDIX - Research Questionnaire

1st AXIS

1. Sex: male female

2. Age:(years)

3. Education level of work: Primary Secondary

4. Speciality (wherever there is):

5. Educative level:

- Secondary
- Higher Technical Education
- University Degree
- Master Degree
- Doctorate Degree

6. Years of teaching experience:(years)

7. Where is the school in which your work is located?

- village (up to 3,000 residents) town (3000 -10000 residents)
- Heraklion city (10000 residents and more)

8. You work in:

- Kindergarten
- Primary school
- High school
- Lyceum
- Technical School
- Other

9. Do you own a computer?

- Yes If yes, for how many years:
- No

Also, how frequently do you use it: Daily Weekly Monthly Seldom Never

10. Do you have internet connection?

- Yes If yes, how many years:
- No

Also, how frequently do you use it: Daily Weekly Monthly Seldom Never

11. Have you attended computer courses in the past? Yes No

If yes, which institution supervised these courses
and which units included your training courses:

2ⁿ d A X I S

1. How would you evaluate the contribution of educational software which you were taught, for the improvement of training process?

- Very positive
- Positive
- Incurious
- Negative
- Very negative

2. How would you evaluate the contribution of educational software which you were taught, for your own personal improvement and your development as a teacher?

- Very positive
- Positive
- Incurious
- Negative
- Very negative

3. Do you believe that you will use any educational software during the next school year?

- Yes
- No

If yes, can you name which software you will be using?

1 2 3

4. In addition, please indicate the frequency of use:

- Never
- Very seldom
- Seldom
- Relatively Often
- Often

5. Will the fact that after the end of your training your students may know more things than you do in the field of using ICT prevent you from using ICT in the classroom?

- Yes
- No

6. Do you feel ready to incorporate the use of ICT in the classroom?

- Yes
- No

7. If you were given the opportunity to attend a similar training course in the future, in which specific sector would you prefer more emphasis to be given?

- The pedagogic use of ICT
- The same courses you were trained at
- The acquisition of specialised dexterities in the ICT (e.g web site development)
- Other, please specify
- I'm generally not interested