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Evaluation of an Instructors' Training Programme from the Instructors' Point of View.

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Abstract: In the premises of the educational reform across Europe, many countries have funded teacher training programmes regarding the integration of the Information and Communication Technologies (ICTs) in all areas of the curriculum, in the primary and secondary education sector. Apart from the infrastructure required, it is essential to focus on the human resources of education and to train teachers in order for them to acquire the skills necessary to integrate ICT into their courses and help their students attain knowledge in a constructivist way. Greece is also fostering educational reform and is running a number of projects towards this direction. One of these projects, EPENDYSH (http://www.ithaca.uom.gr) aims – among other things – in the postgraduate training of 40 secondary education teachers of all disciplines, who will be distributed to schools in order to train their colleagues. They are being trained to use ICT in the teaching of their subjects. The paper firstly states the overall philosophy and main issues regarding teacher training on ICT. We support a constructivist approach to teacher training, focusing on the training of a sub-group of trainees, teachers of foreign languages. The aim of this paper is to present the attitudes of this sub-group, based on the results of a questionnaire handed to them after completing their training at the University of Macedonia (http://www.uom.gr). It is therefore desirable to investigate how successful the actual training was viewed by teachers of foreign languages, whose subject matter is not affiliated with computing and computer science. These results are subjected to further discussion for future improvements on teacher training.

INTRODUCTION

Information and Communication Technologies (ICTs) have become indispensable in all educational environments. Firstly, ICTs have changed the way people access and process information. Nowadays, information is not a static entity, given 'as such' to those interested, but it is dynamic, ever-changing, characterized by diversity and subjectivity. Knowledge is not built behavioristically, but it is a cognitive process built constructively that includes searching for information and evaluating it in order to solve problems. Students have access to an open bank of knowledge and information that needs critical thinking skills in order to be fully exploited. Secondly, ICTs have opened new communication channels, both synchronous and asynchronous, for students, teachers, administrators and parents, which are global, multicultural and multilingual in nature. To keep new generations up-to-date with these developments, major changes need to take place in public schools regarding the integration of ICTs in all curriculum subject-areas. Apart from the infrastructure required, it is essential to focus on the human resources of education and to train teachers in order for them to acquire the skills necessary to integrate ICTs into their courses and help their students attain knowledge in a constructivist way. It is therefore the aim of this study to investigate how successful current initiatives in teacher training are from the teachers' point of view and particularly from teachers of disciplines that, though not affiliated with computer science, are highly promoted and enhanced by ICTs, such as foreign languages.

TEACHER TRAINING

Apart from equipping schools with the appropriate infrastructure, it is mutually important to affiliate the staff with the suitability and usability of ICTs in education. Teachers need to believe in the supportive use of technology, in order to fully exploit the capabilities of ICTs and motivate their students to actively participate in the learning process. Similarly, teachers need to acquire the computer skills necessary in order to be able to operate ICTs. Finally, teachers need to develop an autonomous approach to life-long learning and construct their own understanding from the stimuli and experiences they gather from their immediate environment.

Current European initiatives [1,3,5,7] invest billions in teacher training (TT) and have common grounds and objectives. The organisation, the content, and the outcomes of a TT course are of major importance and different trends seem to exist. Especially in the field of course content, there is rivalry between those persisting in the instruction of educational packages and those following a more 'open' training strategy [4].

We assume that the teachers' objective should not be the mastering of one or more computer programs but the development of critical thinking skills and global perspectives on educational technology. The teacher should not be a passive recipient of new knowledge but he/she needs to be actively enrolled in the learning process. Therefore, as long as the training takes place, the trainee should assume the role of the learner in order to develop the thinking skills required to act in a constructivist way. A TT program as such should include courses from the disciplines of Education, Educational Psychology, Informatics, Learning Theories, Computer Networks and e-Learning, and should prompt the trainees to critically interrelate and construct the knowledge acquired by each discipline in conjunction with their prior experience and their students' needs. Thus, teachers will be able to consciously identify their target group's needs, in order to adapt new technologies to their schools/institutions. Similarly, the optimal assessment tool for teachers should be project-based in the form of authentic case studies or problem-solving activities that trainees need to explore, process and evaluate in order to propose possible solutions.

Specifically, regarding the training of foreign language (FL) teachers, we propose the following strategic points. The theoretical academic background of FL teachers necessitates initiatives that increase teacher motivation and teacher attitude, and promote technical expertise. It is generally accepted that the teacher's attitude is a central element and it is highly influenced by the lack of technical knowledge [6,14]. This fact is partly due to a certain degree of technophobia among those teachers who share a positive view towards new developments but lack the technical knowledge and infrastructure to practice computer skills. What is therefore highly suggested, is substantial, high-level TT as well as the providence of a PC to each trainee for home practice. TT programmes need to focus on both directions and promote teachers' attitude as well as ICTs actual use. However, TT in ICTs should always preserve its pedagogical orientation, as the ultimate goal is not to build computer experts but 'IT Pedagogy specialists' [8,13].

Finally, TT initiatives need to focus on their own target group needs, considering variables such as trainees' nationality, cultural background, age, computer literacy, and target areas of interest (higher, secondary, or primary education). Trainees' attitudes regarding the training program's success can be officially measured by means of interviews or questionnaires. Though numerous similar TT programs are currently running worldwide, the methodology used and the needs that ought to be covered are literally depending on the aforementioned variables and may be divergent.

To sum up, we propose that TT initiatives should focus on a specific target group, such as 'FL teachers from the Greek secondary education sector'. In this case, the structure of the program proceeds as follows. In the first phase, trainees focus on basic computer and Internet skills, while at the same time they rehearse some major educational subject areas (e.g. methodology, learning theories, curriculum design). In the second phase, they proceed with the e-learning philosophy and principles, focusing on Computer Assisted Language Learning (CALL). Parallel to this, they learn authoring skills, and the use of authoring tools. Finally, they should be given adequate time for practical training, in order to become dynamic participants instead of passive recipients. Overall, teachers need to develop a new philosophical perspective and a flexible pedagogical approach, rather than confine their training in the operation of ready-made packages.

THE PROJECT

Greece, together with the rest European countries, runs a number of educational projects focusing on three directions: construction of fully equipped computer labs in public schools, development of educational software and TT [10]. The project EP.E.N.D.Y.SH (Training of Trainers in the Modern Network and Information Systems) focuses on the third direction and provides one-year postgraduate training courses for in-service secondary education teachers, who are trained to provide in-school training for their colleagues. In 2000, the University of Macedonia undertook the postgraduate specialization of 40 teachers from the following disciplines: Computer science, mathematics, FL, and economics.

The training programme consisted of 'horizontal' tutorials to which trainees (Ts) of all disciplines were participating and 'vertical' training for trainees of each discipline separately. Specifically, the FL domain received 72 hours of vertical training that covered theoretical and practical tuition.

METHOD

The Trainees (Ts)

The Ts of this study were five FL teachers who were selected on the basis of their 'personal qualities [and] intellectual abilities' [9] regarding their background, teaching experience, postgraduate studies and involvement in pedagogical activities, that was viewed in their 'expression of interest' application form and during a personalized interview. Their age spanned between 30 and 50, while their affiliation with new technologies before the programme ranged between very good and average. Therefore, we assume that they were motivated to participate in this programme, due to the fact that they were responsible of expressing interest and they were computer literate, at least at an initial stage.

The Questionnaire (Q)

The Ts' training at the University of Macedonia officially ended with a graduation ceremony on 27 June 2001, the date when the questionnaire (Q) was handed in. The Q was structured on the basis of Q construction standards in the field of educational research [18]. It had four sections that were comprised of 31 closed-ended questions and one to three open-ended questions at the end of each section. The over-use of closed-ended questions was due to the fact that they produce more accurate and measurable results, and they do not require long time to be completed by the Ts avoiding the Ts' loss of patience or frustration and the resultant improvised completion of the Q. The questions were short, direct, carefully structured and focused on one topic, in order to avoid ambiguity and to ensure that Ts fully perceived the author's queries. The first three sections regarded the quality of the lectures during the 'vertical' training, the quality of the learning materials and the evaluation of the expertness gained by the Ts, and they had five scale point closed-ended questions. The last section dealt with the trainees' capability to instruct other teachers in ICTs and had three scale point closed-ended questions.

Results

The first section asked Ts to evaluate the knowledge they gained from the 'vertical' lectures regarding the pedagogical use of the ICTs in FL teaching. The overall impression was good. The Ts declared that they received good training in the subjects 'General Teaching Principles', 'FL Teaching Models' and 'Special Teaching Problems per Language' but they also stated an average to poor level of competence gained from the lectures on 'The Use of Multimedia in FL Teaching' and 'Teleteaching of FL', which are the subjects that directly apply to use of ICTs in language learning (LL). In the open-ended question that followed and regarded recommended changes, the Ts stressed the fact that they were not taught *Xenios*, an e-slate learning environment and authoring tool, developed by the Computer Technology Institute [2] in order to be taught to in-service FL teachers and to be distributed to all Greek secondary schools. In a privet talk with the Ts, we noted a feeling of insecurity regarding their competence in training other teachers on the specific piece of software without having initial training on it themselves. One trainee characterized as 'loss of time' the instruction of old authoring programs, such as *WIDA*, and suggested a more 'up-to-date' approach, while other Ts stressed the absence of model teaching scenarios that integrate ICTs. This attitude is indicative of the fact that the Ts showed an implicit indifference regarding the general pedagogical values of ICTs in education and the history of educational technology. Instead, they complained that they were not trained on a specific piece of software and they were not given ready-made teaching scenarios. We deduct that our Ts were not in a position – or did not want – to function autonomously and constructively.

The second section dealt with the quality and quantity of the learning materials presented and offered to the Ts. Three types of materials were presented and evaluated: printed materials, software and web-based software. Ts were trained in how to use, integrate and evaluate such learning materials. As regards the materials' quality, Ts' opinions were divergent. According to the them, the quality of printed materials ranged from very good to average and the quality of software from good to below average. The web-based software together with the overall estimation regarding materials' quality was evaluated as average.

Concerning the quantity of learning materials, the Ts agreed that they received a satisfying amount of printed materials, but their opinion on software and web-based software quantity ranged from good to below average. In the open-ended question, asking Ts to identify the best piece of software that would be serviceable in the Greek secondary education sector, they all named *English Discoveries* and *Xenios*. This unanimity in an open-ended question is indicative of the fact that either the Ts did not receive training on a large number of foreign language teaching packages or they only focused on the very limited number of the packages that were going to be distributed to public schools.

The third section of the Q measured the degree of attaining the objectives of the programme and specifically the skills acquired on the general use and integration of ICTs in a FL environment. The Ts considered as average the skills they acquired in multimedia applications, pedagogical applications of the ICTs and strategic pedagogical planning. In the open-ended question, they stressed the necessity for more hours of training in the above areas.

Regarding ICTs integration in the FL environment, the Ts had divergent opinions. Answers ranged from good to below average regarding the skills acquired in the production and development of ICTs-supported language activities, in the design and support of interactive LL activities and in the selection and evaluation of the appropriate CALL materials. However, the Ts considered that they received good theoretical tutoring and good to average 'hands-on' training. On the whole, we assume that the Ts admitted receiving good training, but they tended to be skeptical when it came to specific subject areas.

The last section of the Q dealt with the level of the Ts' ability to transmit the expertise they gained to their colleagues. This section had unanimity, and all Ts answered that had acquired the skills needed to inform, motivate and familiarize their colleagues in the use of ICTs in education, as well as to train their colleagues in ICTs integration and in the design of electronic or web-based learning materials. Thus, if we exclude some degree of dissatisfaction regarding certain areas of the training, we can assume that the TT project managed to develop competent teacher trainers, that are conscious of the knowledge they gained and feel competent to deliver it to their colleagues.

At the end, there were three open-ended questions in order to investigate the Ts' overall opinion on what went well, what went wrong, and what changes should be considered for the future. To sum up, Ts praised the computer lab, which was designed and equipped to fulfill the needs of the particular group, and stressed how facilitating the spirit of cooperation among them was. Discussion, questioning and ideas exchange between people of the same status can accelerate the process of turning the outside stimuli into acquired knowledge. To this end, some teamwork projects were extremely helpful.

The lack of homogeneity regarding the Ts' level of computer literacy frustrated all of them, as the less competent could not easily acquire what they were being taught, whereas the more competent felt hindered to proceed to more advanced activities. Apart from that, the Ts criticized the great emphasis given to informatics, which, as they claimed, impeded the saving of extra hours dedicated to subject-specific aspects.

FUTURE CONSIDERATIONS

Based on the aforementioned results, we can draw up some conclusions for future FL TT initiatives. The relatively high degree of divergence is mainly due to the fact that all Ts received the same training, regardless of their level of computer literacy at the beginning of the course. Therefore, the Ts perceived the training course differently, according to their prior experiences and computer competence. This problem has been also noted in other similar programmes [11]. One solution could be to split Ts in groups on the basis of their computer competence. Yet, the small number of Ts per subject matter prohibits such initiatives. For this reason, it is preferable to offer extra hours of optional training as well as to provide all trainees with personal computers for autonomous training. Finally, TT courses need to administer constructivist group-work projects that will give Ts the opportunity to exchange ideas and share their own understandings with their colleagues, in order to have gains from each other's knowledge.

Additionally, in order to avoid the Ts' frustration and insecurity, their training should include model teaching scenarios that integrate ICTs in the educational process. Ts will thus feel more competent to train their colleagues. On the other hand, Ts should also be exposed to numerous educational software packages in order to be able to think critically, make their own judgments and learn how to evaluate, compare and contrast existing and future electronic learning materials. To accomplish this, TT programmes should also invest on learning materials and equip TT labs with relevant resources. They also need to create a library sector with print learning materials, stand-alone software, networked software, journals, case studies, and worldwide research project deliverables, in order to keep the Ts and the staff up-to-dated with new developments.

Moreover, TT initiatives should dedicate equal number of training hours for both technological and pedagogical aspects. It is important for Ts to develop a deep understanding of the actual effects of ICTs in the learning process. In order to familiarize Ts with the use of ICTs in education, TT programmes could also integrate ICTs for course delivery. Telematics and computer-conferencing systems can help to this end, as they can guarantee synchronous and asynchronous learning as well as autonomous and group work. Ts will then be able to evaluate these systems from the learner perspective.

Finally, we believe that every new TT initiatives should be tailored to its target group's needs. Collecting and implementing ideas and findings from similar projects is also legitimate but it needs careful selection and monitoring, based on the current situation. Though TT courses have some parallel attributes, there are also culture-, country-, infrastructure-, subject-, and trainee- specific variables that explicitly affect and determine the outcomes of such initiatives. We strongly advocate trainee needs analysis and careful budget management.

CONCLUSION

The aim of this study was to investigate the degree of success of the one-year foreign language instructors' training programme on ICTs in education at the University of Macedonia, according to the trainees' point of view. The results were gathered by means of a questionnaire handed to them at the end of the course. We assumed the subjects' motivation from the fact that they expressed interest for participation in the programme. In total, the results showed that the course fulfilled its main objective, which was the successful training of in-service instructors from the secondary education sector in order to train their colleagues. The subjects declared that they felt competent to instruct other teachers on how to use and integrate ICTs in the classroom, and how to design and evaluate learning materials. However, they also criticized some aspects of the course and suggested future changes, which can be taken into consideration for the next group of trainees. Therefore, we aspire to optimize the instructors' training course not only by keeping up-to-date with current international initiatives and studies but also by actively focusing and adapting our programme on the specific needs of our target groups of trainees.

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