

How to teach statistics to a life-long learning group of school teachers

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1. Introduction

Teacher's training is associated with the quality of education. Nowadays the challenges to the new pedagogical and technological developments are posing the need of re-training and life-long learning. So, most European countries have developed such policies for teachers. Moreover, the technological advancement of the institutions gives them the opportunity to provide integrated educational services for life-long learning. The new training models are mainly based on distance education. According to Jenkins (1996) distance education can deliver more learning for less resources and its cost-effectiveness is a major asset. Under this method of teaching, learners can actively engage themselves in the learning process. Its also worth mentioning here, that as teacher's education becomes de-institutionalised (Leach, 1996), courses encouraging life-long learning become more and more popular.

2. The method

Teachers attending this program live mainly in the north-west part of Greece. All teachers are working in public schools and they entered this re-training program in the University of Ioannina, one year ago. They had completed a course in computers during the first year of the course and they all had an e-mail address. All teachers had an Internet access either from their home or from the University.

The course/program employs a wide range of methods such as face-to-face tutorials, video cassettes, multimedia programs, fax, www.

The organisation of this course was based on a well structured content in 'statistics in social sciences' combining firstly face-to-face sessions and individual study. There was also an off-line contact with the lecturer. Teachers used e-mail to ask questions related to a special statistical topic and then the lecturer was clarifying them according to their difficulty and send back the answers to all teachers. All teachers who attended lectures in statistics were free to choose to work separately or in a group on a special topic in statistics as homework. This way, they had to choose between a self-supported learning and collaborative learning depending on their character. They used books in statistics written in Greek or in English or the www to solve statistical problems and exercises.

During the second part of the course, teachers encouraged to learn how to use technology and specially the www for life-long learning. They had also established a dynamic communication between the lecturer and other teachers in the course. Moreover, teachers had a horizontal communication in between them (one-to-one, one-to-many) sharing information and experiences through applications in statistics.

At the end of this course all these teachers were able to get information from www about 'statistics in social sciences' any time they wanted. We also created a link in between them and our Department in order to get more information about future seminars and courses.

2. Results

All teachers in this course were women aged between 35 and 45 years. They found the whole program very interesting. It gave them the opportunity to learn new subjects and to establish communication between them and the University. They were able to exchange ideas, information, plans and techniques concerning statistical teaching and learning. They were also able to use all information in www concerning statistical topics written in English or in Greek.

A major problem we were facing during this program was the linguistic one. Most information in Internet was written in other languages than Greek. So, studying statistics using books or www in a foreign language is very difficult for beginners. In order to overcome this problem we wrote in a www site all the statistical notes in Greek. Doing so, all teachers know how to find this site and get any time they want the information they need. They can also ask questions and leave any questions or messages they have concerning a statistical topic.

We expect that in the near future the development of transformation of the education of teachers has to consider seriously the dimension of the life-long learning as a mature way of learning. The architecture of the new systems for electronic information need to have more flexible forms and structures that avoid institutional barriers where the international co-operation and the sharing of experience will be a crucial element in this process (Moon, 1996).

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RESUME

Les temps changent et cette etude present une 'life-long learning' modele pour enseigner la statistique a la Universite.