

Training the e-learning Trainers: A Personalized Programme in Continuing Education

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Abstract

This session presents early results of the implementation of a continuing education programme for e-learning trainers and teachers. The programme takes into account the specific needs of the participants, offering flexible avenues to learning adapted to their needs, the characteristics of their working environments, and their acquired competencies (Aboth Learning Technologies and Elsevier Training, 2001). Questions addressed in the presentation will include: "What competencies must trainers in the e-learning environment (both synchronous and asynchronous) develop in order to adequately support the diverse learning needs of their clientèle?" "How should the continuing education learning environment be adapted to take into account both the acquired skills and the learning profiles of the trainers?" "How, specifically, can continuing education design facilitate a personalized programme development and a true adaptation to their needs?" Finally, "What are the obstacles one must keep in mind when implementing a programme in online learning?"

Key words: online instructor, e-trainer, competencies, information and communications technologies, personalization..

INTRODUCTION

The emergence of a knowledge-based economy leads to profound changes in our ways of educating the population. Communications and information technologies (CITs) have become the tool *par excellence* to improve learning flexibility and effectiveness. Certain characteristics and some outcomes of the use of the technologies may still be a matter for debate, but their overall capacity to improve the quality of learning is now a given when they are deployed with quality content and effective pedagogical methods. (Ring and Mathieux, 2002).

Adopting CITs cannot be successfully undertaken without organizational change. (Drucker, 1992). These changes impact the trainers, men and women with professional histories, points of view, and specific practices developed over years of experience in specific teaching and learning contexts. Technological change has the potential to challenge and upset the professional lives of trainers. (Vézina, 1999; Bourbonnais *et al.*, 1999). It is therefore important to manage this change, to the point that the success of the introduction of CITs in an educational setting is not so much a matter of technological capacity but rather the capacity of the trainers to exploit the potential of the technologies to enhance learning. When the technology is introduced without taking into account the organizational context or when it is underutilized by reluctant personnel, educational benefits decline or even disappear completely. This article dwells on the adoption and integration of technology by trainers¹ in a particular pedagogical framework².

This article first outlines the competencies trainers must develop to support students in the context of online learning, both synchronous and asynchronous. It then describes the underlying principles guiding the development of the personalized learning environment adapted to the needs of trainers, principles which take into account the trainer's prior learning and learning profile. Finally, the article addresses barriers to be overcome during the implementation of an online learning programme.

1. THE COMPETENCIES OF THE ON-LINE TRAINER (E-TRAINER)

According to Glikman (2002 : 219), the role of the trainer must change along with the new forms of training. The parameters of the occupational function change fundamentally and demand difficult adjustments in terms of professional identity. A literature review geared to draw out the basic competencies of the online educator reveals four main roles: instructor, facilitator, technical assistant and programme manager. (Hostein, 2002; Institute of IT Training's Standards, 2001a,b).

The competencies necessary to perform the roles of instructor, of facilitator, and of programme manager are similar to those needed for face-to-face education, but also require the new competencies arising from the use of the ITCs. The introduction of ITCs requires the adoption of a pedagogical model stressing openness³, learning autonomy and the development of competencies. This model allows the integration of theory and practice. Perrenoud (1999), stresses that trainers adopting this model must demonstrate traditional teacher competencies in terms of the ability to transmit knowledge as well as well as the new competencies rooted in active learning and contemporary research in education. With the introduction of the new technologies the role of technical assistant is added to the pedagogical portrait of the trainer. As early as 1990 Blandin (quoted by Glikman, 2002 : 219) describes the new competencies required by trainers introducing ITCs in their programmes. Our research updates trainer competencies to allow them to efficiently incorporate the use of platforms⁴ and interactive tools such as forum, chat, simulation, data banks, and evaluation and multimedia tools. Let us now examine the general competencies associated with the four roles of the online trainer.

1.1 Instructor competencies

As an instructor, the trainer must successfully communicate content (theoretical and practical knowledge) via diverse teaching strategies incorporating ITCs. His or her role also involves suggesting learning strategies appropriate to the learning styles of the learners and providing individual support for learning. The provision of adequate support for learning is a key to student success. On the one hand, research indicates that distance education learners succeed in cases of frequent contact with their tutors. (Glikman, 2002a, b; 2003). On the other hand, the students are themselves conscious of the differences brought on by the technological learning environment and they seek more advice from the instructor. A study conducted in October of 2001 by the *UK-based Campaign for Learning* showed that only 3% of the population wanted to undertake online learning without instructor support. (Shepherd, 2003).

In the year 2000 le *MASIE Center* reported that 88% of higher education learners wanted tutorial support equivalent to about two days of class. (Shepherd, 2003). Glikman (2002) claims that the lack of face-to-face contact in distance education courses increases the trainer's challenge to provide student support as well as the difficulty for the learner to formulate his or her needs.

In the role of instructor⁵ the online trainer must:

- provide online pedagogical support to the learners in a synchronous and an asynchronous environment;
- be a good communicator;
- demonstrate pedagogical competence;
- use the teaching potential of the electronic environment to achieve educational goals.

1.2 Facilitator competencies

In the role of facilitator, the trainer must prompt the learners to interact, to participate, and to collaborate through Web-based activity. « Underlying this type of learning is the belief that learners achieve best in social interactions based on consensus building and cooperation » (Hostein, 2002 : 2).

Assuming the role of the facilitator⁶ the trainer must therefore:

- facilitate learning activities and sessions in synchronous and in asynchronous modes;
- foster learner collaboration through such strategies as group projects, case studies, simulations, and role play;
- employ group facilitation techniques according to the state of relations among members of the group;
- stimulate participation among the learners.

1.3 Technical assistant competencies

The online trainer should attempt to use a number of different technologies in order to take into account the various learning styles of his or her group. The trainer must also ably guide the learners in the use of the various technologies.(Hostein, 2002). Several authors emphasize the importance of competencies tied to the understanding and use of the technologies in the teaching and learning context. (Larsen, 1991; CESAM, 2000; Marchand, 2002). The objective of the trainer in the role of technical assistant is to make the technology easy to understand and simple to use by the learner. « When this occurs, learners may concentrate on the academic task at hand. » (Hostein, 2002 : 3) Basic computing competencies as well as those linked to basic information management are considered prerequisites to all training in the use of ITCs Grillet (1999). In any educational function the prime criterion for success is the capacity to communicate effectively via the medium used. (Link-Pezet et Lacombe-Carraud, 1999).

In the role of technical assistant⁷ the online trainer must:

- consult the Internet in a systematic manner, using research engines and making sound logical, ethical, critical choices;
- To use document creating programs such as those commonly found in Office Automation software⁸;
- use basic Web page editing functions;
- use networks for distance communication⁹;
- master the functions of the electronic environment used for the programme offered;
- assist the learner in the use of the technologies.

1.4 Managerial competencies

In the role of course manager, the trainer organizes the educational programme and carries out various administrative tasks (Hostein, 2002).

The online trainer, in his or her role as course manager, must:

- manage the learning activities¹⁰;

- manage the documentary and Web-based resources accessed by the learners¹¹.

2. PRINCIPLES FOR PERSONNALIZING LEARNING

After reviewing the literature, Sauvé (2001, 2004) enumerated several learning principles favouring the personalization of a study programme:

- -take into consideration the personal experiences of the learner;
- -respect learning styles and foster the application of newly acquired concepts;
- -take into account the aptitudes, the attitudes, and the specific needs of the adult learner;
- -apply the learning and management strategies appropriate to the learning context;
- -provide the learner with the opportunity to engage with the content;
- -provide exercises, practice, examples and quality feedback to the learners;
- -foster continuous progress and follow-up to ascertain transfer: learning cannot be consolidated in one session;
- -offer different means to learn one concept or learning module;
- -offer constant support and frequent interaction with support mechanisms;
- -offer relevant information and up to date information applicable to the work or corresponding to the interests of the learner;
- -offer education easily accessible, convenient for the learner in time and space and in synchronous and asynchronous modes;
- -ensure that conditions allow for an enjoyable and effective learning experience.

How can electronic learning environments foster the personalization of learning? By using the potential of electronic tools to stimulate the development of learning content taking into account:

- -learning rythms (the moment, the pace, and the place most appropriate) adapted to the needs of the learner;
- the competencies of the learner (an individualized and made-to-measure learning experience)
- the learner's profile (personalized learning)
- ensuring the motivation of the learner in his or her capacity to learn.

As a means of validating these principles we developed an interface ([Personn@lisa](#)) which generates a pathway "PERSONNALisé de Son Apprentissage" (a PERSONALized pathway to his or her learning) using learning objects which can be shared and adapted to the learning needs of the trainers. This process helps the online trainers to acquire the competencies necessary to support learners in the context of online learning. The interface, the workings of which are illustrated in Figure 1, will be applied in the field in the fall of 2004.

(insert figure 1 here)

Thus the online trainer has the opportunity to analyze his or her needs, determining the competencies to be acquired as he or she develops a personal learning profile. This data activates the analytical "filters" of [Personn@lisa](#) and proposes a learning plan adapted to both his or her content needs and learning profile. The trainer may return, at any time, to the Web site to update his or her learning needs and pursue ongoing learning objectives.

3. BARRIERS TO CHANGE

When implementing information and communication technologies, one must take into account the barriers to change. Based on the classification of Poellhuber et Boulanger (2001) on the integration of ICT, we have retained four categories of obstacles summarized in Figure 1 and described in greater detail in the following paragraphs.

(insert figure 2 here)

3.1 Economics of teaching

Weighing the investment in time and effort by the trainer against the benefits derived personally, to his work organization, as well as to his students' learning, the economy of teaching with ICT has yet to be demonstrated to the satisfaction of trainers. The first barrier identified by the authors, regardless of the kind of change envisaged or the instructor's age, is the time required by the teacher for the preparation of new course components. In certain teaching domains, the use of ICT directly affects the course content, requires regular updates, and results in an increase of work for the trainer. This extra work is often recognized as a disincentive and is often identified as a negative consequence of ICT implementation. To these factors, we must add the lack of technical knowledge and of the time to acquire it (Conseil supérieur de l'éducation, 1997), as well as the anxiety and discouragement of beginners faced with computer-based tools (Belisle and Linard, 1996).

3.2 Barriers to transforming teaching style

The introduction of ICT in teaching alters the relationship to the student and work methods. Poellhuber and Boulanger (2001) define pedagogical style as the habitual manner of the instructor's being and acting during his pedagogical intervention in class. The introduction of multimedia into courses, or simply their restructuring through the integration of ICT, imposes changes in the usual way of doing things. Here again, the question of lack of time invariably returns. The changes to course preparations caused by the integration of ICT are demanding and cause an increase in the instructor's workload. The predominance of traditional classroom teaching, still perceived as the most effective pedagogical method, is also an obstacle to the transformation of the teaching style (Poellhuber and Boulanger, 2001; Bibeau, 1998).

The fear of failure is another element that plays a negative role as far as the adoption of ICT is concerned. Trying out methods which are different from those generally used and that have proven satisfactory, represents a certain risk for the trainer. One of these fears is to be confronted by difficulties because of deficient hardware or a lack of technical knowledge (Devauchelle, 2002; Racette *et al.*, 2002). Furthermore, doubts continue with respect to the usefulness or the efficiency of ICT compared to other better known, more proven, and more regularly used teaching tools. There is therefore a lack of motivation for the trainers (Bibeau, 1998). The ICT do not represent by any means a teaching requirement (Poellhuber, 1998), although they offer numerous user-friendly and powerful tools that facilitate teaching.

The reactions of students also have an impact in favouring or inhibiting the integration of ICT, because the learning activities depend on a pedagogical model that requires a great student involvement and a new way of learning (Huot, 2003; Dary and Mallet, 1998). But students are not always used to such a high level of involvement and lack the necessary degree of preparation. The results of a study by Peraya (2000) on distance learning conclude that the performance of students facing a system of ICT-based self-teaching is decreased. He attributes this effect to the training

mode that differs from the one imposed by the traditional schooling culture in which they have been taught and which destabilizes them as far as their expectations and their competence are concerned. Racette *et al.* (2002 : 44) mention the negative attitude of students who have participated in training by videoconference, which they qualify as resistance to change or lack of interest.

3.3 Barriers to the integration of ICT into the organization

The difficulties encountered in the integration of ICT to teaching relate mainly to organizational constraints. Bibeau (1998), Fournel (1999), Poellhuber and Boulanger (2001) state that the lack of support in a number of organizations is a major obstacle to the integration of ICT by the trainers. Poellhuber and Boulanger (2001) define support as the set of actions and interactions originating from the circle of trainers who aim to support or facilitate their steps with respect to the integration of ICT. Furthermore, Bibeau (1998), Grillet (1999) and Devauchelle (2002) emphasize that insufficient or obsolete hardware, the lack of means, and especially the absence of a technician able to perform the required hardware maintenance, are frequently mentioned as barriers to the use of ICT. Thus, the internal resistance in establishments that give little importance to ICT use in teaching and the lack of support given by pedagogical and technical services appear to be key obstacles.

Moreover, other institutional factors also hinder the integration of ICT in training because they exert pressure on the time available. Let us mention, for example, the establishment and evaluation of new programmes, task readjustment and sick leaves.

3.4 Barriers to integrating ICT into professional practice

In order to integrate ICT into professional practice, a trainer requires easy access to these technologies and sufficient mastery of computer-based tools (REFAD, 2002a, b; Poellhuber and Boulanger, 2001; Devauchelle, 2002). « The conditions of access include all measures that allow an easier and more frequent use of the technology (computer, software, platform, files), regardless of the time, from physical locations that are themselves easily accessible by the professor (his home, his office, work areas located near places where he meets his students or is available for consultation, etc.) (Translated from the original French) » (Poellhuber and Boulanger, 2001 : 61).

The regular use of ICT must be added to these conditions of access. These factors become crucial in the adoption of certain software products. For example, we email is easy to learn is only of benefit if the trainer uses it regularly to receive and send messages.

The knowledge of technology is indispensable to the use of ICT; however, the lack of training of teaching personnel in this domain is mentioned in numerous research articles (Huot, 2003; Association canadienne d'éducation, 2001; REFAD, 2002; Devauchelle, 2002; Racette *et al.*, 2002; O'Haire, 2003). The difficulties encountered by the trainers are real : lack of replacement during the training period, days taken from their free time without remuneration, etc. (Darry and Mallet, 1998).

Poellhuber and Boulanger (2001) also refer to a phenomenon of resistance to change among ICT users in a school environment. These users prefer the tools, the software and the computer with which they are already familiar. For example, an instructor used to Word Perfect 5.1 will at first show little inclination to change to Word 2002.

In summary, the practices of teaching and training, the pressure to satisfy the most urgent needs, the daily routine, the lack of teacher training in the use of technological tools, the rigidity of institutions regarding ICT incorporation and the lack of support offered by the pedagogical services, constitute the main barriers to the integration of ICT within the training environment.

Once the resistences have been identified, any designer who wishes to establish a programme to train the trainers, must rely on a proper programme development procedure. Since this programme is aimed at an adult clientele that is active in training, it is desirable that the content of their training not be divided by subjects, but by capabilities, hence the importance of establishing a competency reference level in on-line training.

CONCLUSION

On-line training has become an inevitable reality in the teaching environment. We must concede that trainers show resistance to this innovation of their practice. This resistance is often due to a lack of knowledge and practical application of implemented technologies and above all to the absence of training in the context of their teaching.

In order to address these training requirements, we have developed a competency reference level based on the four main roles that an on-line trainer must exercise : instructor, facilitator, technical assistant and programme manager. Once these competencies have been identified, all that remains is to develop and implement the train the trainers programme. In the course of its implementation, it will be necessary to take into account the barriers to change on three levels : the organization in which the training will be done, the trainers and the content of the training. Thus, in order to ensure a good ICT implementation in the training environment, those responsible must be :

Aware of the needs of the organization

- To interact with the organization so as to establish its orientations and its actual training requirements.
- To induce the cooperation of the organization from the start, from the initial stages of training development. For example, to validate the list of catalogued competencies and, if necessary, to add other competencies representative of their own reality.
- To ensure the support of the organization in order to facilitate the drafting of personnel to be involved in the training project : technical support; to free personnel to allow the time required for their training; availability of adequate computer hardware during training periods; etc.

Aware of the needs of the learners (the trainers)

- To take into account the work reality of the trainers when elaborating the training plan, in order to ensure a coherence between this plan and their needs.
- To verify the availability of trainers for the learning sequences.
- To ensure support during and after the training.
- To promote the integration of technological tools into the professional practice of trainers.

Retain focus on the person and not the technological tools used

- To use, as much as possible, course contents previously developed by trainers or the organization and to adapt them to the pedagogical strategies of on-line learning; to avoid wholesale content changes.

- To divide the course contents into small units of fifteen to thirty minutes, so that the trainer can easily adapt them to his schedule.

We believe that the approach outlined above should contribute to foster involvement of trainers who need to modify their methods in order to integrate on-line training tools for their trainees, thus adhering to the model adopted by their organization for the training of their clientele.

Endnotes

1. The term "trainers" in this paper encompasses the instructors and professors of the public education sector, the trainers in the private sector, as well as community development agents in a community environment.
2. This article is taken in part from Sauv , L., Wright, A. and St-Pierre, C. (2003). *Recension des  crits pour la validation d'un mod le mixte de formation en ligne*. Rapport de recherche "Validation d'un mod le mixte de formation utilisant les technologies d'apprentissage (synchrones et asynchrones) pour les formateurs en milieu communautaire ", SAVIE, Qu bec. Financed by the Bureau des technologies d'apprentissage (DRHC).
3. The notion of self-teaching is used here in the sense of self-directed learning. This notion corresponds to a training approach where the learner has the main control over the choice of objectives and the means of his learning (Carr , 1992 : 91).
4. KWI, Edu-Performance, E-Learning, Addeo, Macromedia eLearning, AdapWeb (OSLO), EXPLOR@, Perspective123.
5. Adapted from Despr s (2000), Glikman (2002a, b) and Chaachoua (2000).
6. Adapted from Dauphinais (1998), Lamy and Roberts (1998), and Hostein (2002).
7. Adapted from Despr s (2000) and Hostein (2002).
8. For example, PowerPoint, Word, Excel, etc.
9. For example, e-mail, newsgroup, Netmeeting, webcast, t l phonie num rique, etc.
10. For example, time management tools by students or users, document management tools they have access to, self-learning, etc.
11. For example, the utilization procedures of a forum.

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Biography (100 words) : Dr. Louise Sauvé is Professor of Educational Technology at Télé-université (Québec). She is Head of the Center of expertise and research for lifelong learning (SAVIE); her research focus is primarily on educational games and simulations, training needs, learner profiles, methodologies for interactive, online, multimedia design environments and distance education. Recipient of the Canadian Association for Distance Education Award (CADE, 2000) for her work on the Information Highway and the Philippe Marton Award (1997) for her contribution to field of educational technology, she has to her credit more than 120 scientific papers and workshops, 15 distance education courses, approximately sixty scientific articles, over a hundred reports translated into several languages, about twenty major research papers and contributions in a dozen edited books.

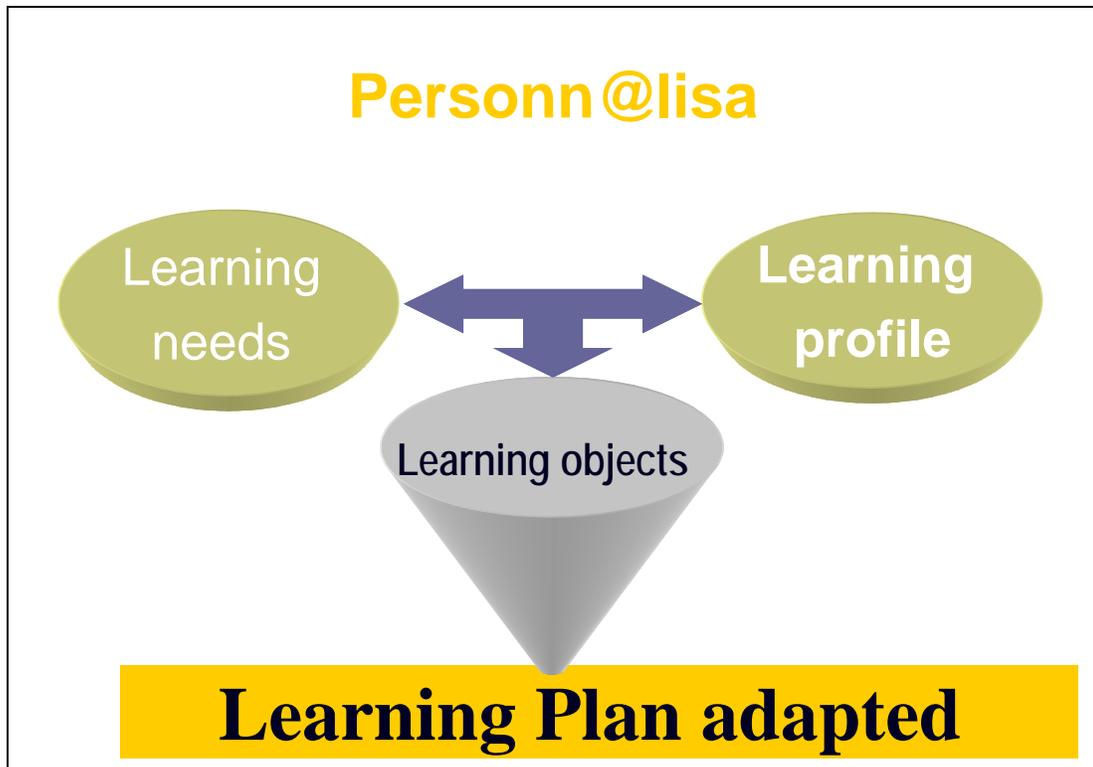


Figure 1. Person@lisa

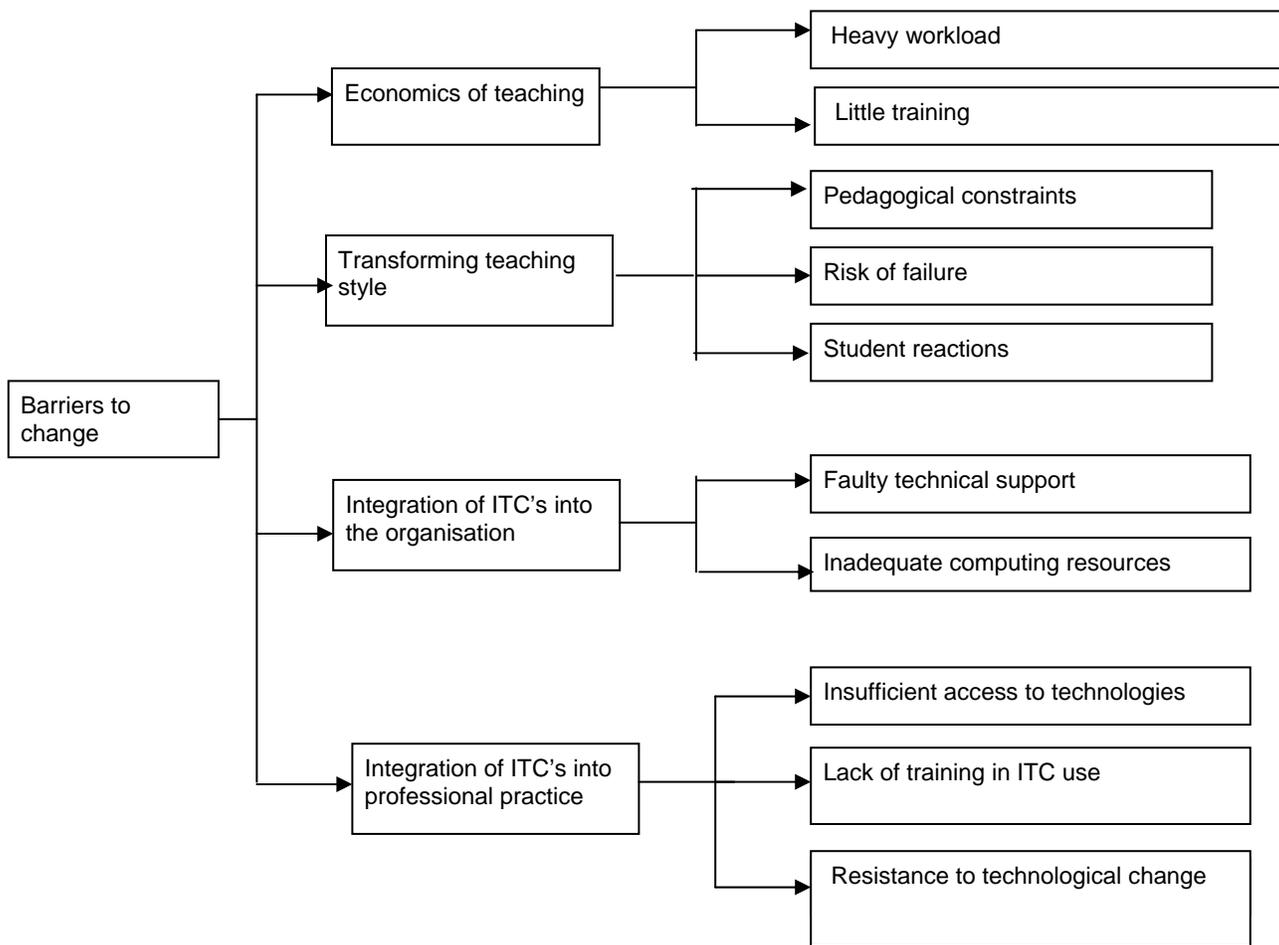


Figure 2. Barriers to change