

## Developing an intensive course for e-learning practitioners in Estonia: design priorities, delivery strategies and evaluation

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The paper explores mainly pedagogical issues arising from the launch of a Summer School in Educational Technology, which was held in the University of Tartu, in Estonia. The wider context is examined with focus on Information and Communication Technology infrastructure, general attitudes towards technology, and national policies in education and e-learning. The results from the training needs analysis are presented as well as the delivery strategy for the group of participating e-learning practitioners. The evaluation of the course provides an insight into the effectiveness of the strategies employed for collaborative learning and assesses the cultural appropriateness of the curriculum.

**Keywords:** training of e-learning professionals; cross-cultural online learning; online collaborative learning; learning technologies in higher education; training for societies in transition.

### 1. Introduction

In the early 1990s Estonia underwent large scale changes during which the country, after the disintegration of the Soviet Union, moved from command economy and centralised state structures to a free market economy. In the process of transition the demand for people to learn new skills emerged as a key factor in economical sustainability [1] and placed a growing pressure on the community of trainers and educationalists to meet the demand [2]. It was asserted however that the restructuring of the education and training system encountered difficulties [1, 2]. Within this context, it was also observed that Information and Communications Technology (ICT) had only a small share of study opportunities for adult education, despite signs of rapid development in this area [3]. The pace of this development could be attributed, amongst other factors, to the widespread positive attitudes towards the use of ICT [4]. This is amply demonstrated by the fact that although technological infrastructure is not yet comparable with some of the most technologically advanced nations, familiarity with new technologies and predisposition to use them, both appear to be at very high levels [4]. Recent initiatives, such the project to promote a paper-free governance [5] are yet to be assessed regarding their impact on the improvement of ICT infrastructure and the promotion of a knowledge-based society. Most notably, the foundation of the Estonian e-university aspired to form a consortium responsible for higher penetration of online courses, provision of training for teachers and standardisation of national online services [6]. In the Higher Education (HE) sector, tendencies of widening participation are also observed in Estonia. In 2005 there were more than 60,000 students at HE level and 30,000 to 40,000 students were estimated to attend continuing education courses provided by the universities [7]. At a local level, the organisation of the Summer School coincided with efforts of internationalisation of the programmes offered by the University of Tartu [8]. These efforts are broadly seen as a response to the project of European integration as well as to global trends which transform the HE sector.

### 2. Identifying training needs of the Summer School participants

The Summer School formed an extension of a recently developed postgraduate programme in educational technology in the University of Tartu [7]. The design of the school aimed to provide a

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'flexible and customisable curriculum' which corresponded to the needs of the social, economic and educational environment [7]. It was also important to gather relevant information from the participants so that the course was tailored according to their skills, experiences and expectations. The course organisers invited the participants to complete a questionnaire which comprised of 10 items, 8 of quantitative nature and two open-ended questions, the main findings of which are presented below.

### 2.1 Academic background and perceptions of IT competency

With regards to the participants' level of education, 12 were holders of one or more MA/MSc degrees, of which 3 have proceeded to complete a Ph.D. The remaining 6 held a graduate diploma. Fields of acquired education included mainly Education and Computing Science. Table 1 also demonstrates perceptions of fairly strong IT competency.

**Table 1:** Perceptions of IT competency (ratings on likert scale)

	Excellent	Very well	Fairly well	Not so well	No knowledge of
Word	5	10	4	-	-
Excel	4	7	4	4	-
Powerpoint	5	6	6	2	-
HTML or other web editors	3	5	2	3	6
Graphics programmes	1	4	4	6	4

(N=19)

Many respondents mentioned experience of software programmes for statistical analysis and web authoring tools. They were also asked about their familiarity with WebCT or other Virtual Learning Environments (VLEs). Three had experience from 1-3 years but 3 participants replied that they had had experience of more than 3 years. On the contrary, 5 reported experience of less than a year and 5 did not have any experience.

### 2.2 Work experience in educational technology

The responses of this section varied significantly. Four participants explicitly described themselves as 'educational technologists' whilst 2 respondents reportedly had no experience. The remaining responses varied from a lecturer who reported that he had only been using Powerpoint, to others who had considerable knowledge of authoring and course management.

### 2.3 Motivation for attending the School

Attending the School was obligatory for some of the students in order to earn credits towards postgraduate qualifications. There was an equal interest in new practical skills as well as theoretical knowledge. The following areas of interest were also reported: methods of educational research, better understanding of VLEs, language skills (English) and help in designing for e-learning.

Overall, the group presented a rather homogeneous audience. Nevertheless, there was some variation in their perceived needs for training. Participants appeared to have common characteristics with regard to familiarity with computers and shared similar academic backgrounds and level of education. On the other hand, the responses to the items relating to work experience and motivation indicated differences

(e.g. experience with VLEs.), most of which were addressed at the stage of designing and delivering the programme as it is further explained in the next section.

### 3. Design and Delivery of the Summer School

The School aimed to explore the areas of recent technological advancement and to examine the applicability of technological innovation in a variety of educational and training environments. More specifically, the School strived to:

- discuss a variety of issues related to e-learning and distributed learning environments with a focus on cross-cultural contexts
- address issues of quality in educational technology
- enhance research skills and raise awareness of methodological issues in the research of educational technology
- provide guidance on how to integrate technology into traditional settings, through the presentation of exemplary case studies
- train participants in innovative technological tools with hands-on experience sessions delivered by (Estonian) training specialists

The duration of the School was five days with the first three allocated to teaching sessions and the remaining two focusing on hands-on sessions and group work. Amongst others, titles of the teaching sessions included:

- Onsite or online? Introduction to the field of educational technology. Which are the different types of learning and what are their characteristics? Distinction between traditional face to face, distance, flexible and e-learning.
- Formal and informal learning online
- Applying theory into practice: From learning theory to instructional theory
- Supporting 'deep' learning: current trends in technology
- Design of the learning environment, delivery and assessment
- Research on the Internet (methodology and ethical issues).

The importance of collaborative learning for achieving desirable learning outcomes was highlighted throughout the course. Participants were asked to work in pairs for their assignments. For those participants with weaker IT skills, it was preferred to pair with a colleague with a stronger IT background as a means of support. The participants were also instructed to form pairs in the online environment and present their ideas and experiences as working partners. In that respect, all relevant functions of the online learning environment (WebCT) were exploited. A component of the mini-integrated e-portfolio [9] was also required to be completed by collaboration on a task that was relevant to participants' learning and professional needs.

As explained, the School aimed to demonstrate the use of technological tools in practice and for this purpose some of the sessions were conducted via web conferencing (using 'Horizon Wimba') and video conferencing. This provided an excellent opportunity for participants to familiarise themselves with software for distance education and to reflect on whether these might be beneficial for their own teaching and learning. The assessment criteria were explained to the participants at the beginning of the course. The major task was the creation of an instructional design product, ideally as closely related to their professional needs as possible. The other assessment criteria were: a self-evaluation of the process of learning, organisation of the portfolio, evidence of high-order thinking, critical self-reflection, innovative

thinking, collaboration and cooperativeness, the quality of the collaborative conceptual map and finally, evidence of involvement in the online activities.

#### 4. Evaluation and discussion

The last day of the Summer School the participants were invited to complete an online questionnaire available on WebCT. The online evaluation form included 20 items, aiming to rate the quality of the teaching sessions with some open-ended questions available for additional comments. Nineteen participants out of twenty six responded to the questionnaire. There was a positive perception of the usefulness of the course with many of the participants responding that new skills and knowledge, such as familiarisation with new e-learning platforms, software for doing research on the internet etc, were of high relevance to their professional development needs. A pattern was also detected in the rating of the teaching sessions; the more technology-oriented sessions received higher rates compared to less technology-oriented (or 'softer') sessions. It could thus be argued that there was some evidence of resistance to engagement to the 'soft' concepts presented during the lectures. Topics such as the role of learning theories, the design of online collaborative activities and ethics of internet-based research attracted less attention, and participants were engaged less enthusiastically. Factors such as the level of IT skills, general attitudes towards technology and the perception of how contrasting paradigms of teaching and learning function, may be some of the reasons that explain differing attitudes.

For the purpose of course evaluation, the School organisers also examined the submitted eportfolios, where there was a reflective component. It was recognised that the content was very open and covering many areas; on one hand, the participants did have the flexibility to understand or use the new knowledge but on the other hand, they felt to some extent, lost and confused with too many options and varieties. The concept maps below are characteristic of how they reflected on the learning experience, particularly with regard to how they dealt with the variety of choices offered.

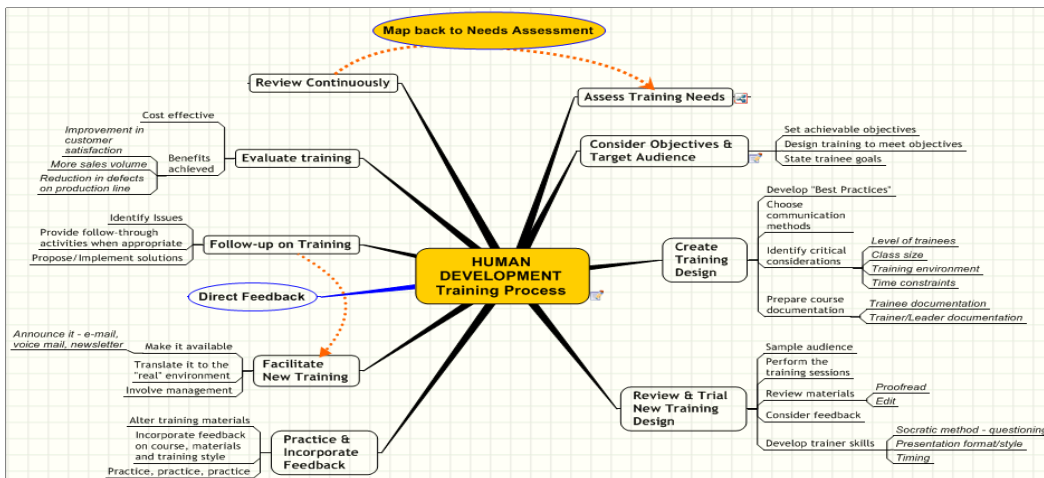


Fig. 1 Concept Map 1.In [9], p.10.

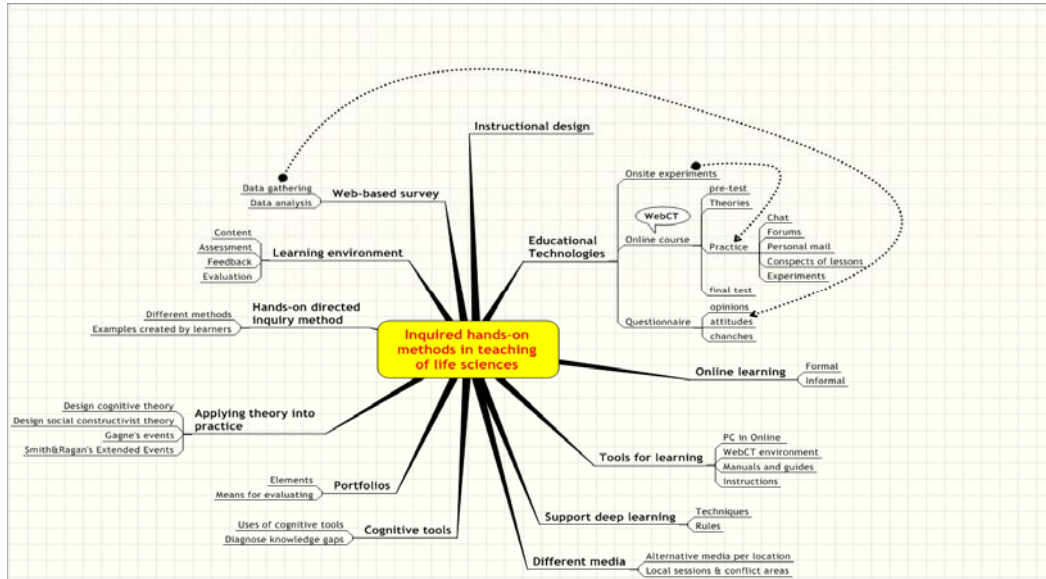


Fig. 2 Concept Map 2. In [9], p.10.

Finally, with regard to the training sessions at a cross-cultural level (via webconferencing and videoconferencing with universities in the US and Africa), the course organisers anticipated feedback on how these sessions were received. However, there were not any clear conclusions to be drawn from the responses. Instructors noted that there was a certain degree of difficulty to fully participate in the collaborative activities, with solitary work preferred on certain occasions. Research literature on cultural differences within organisations, described Estonians as having a strong individualistic approach when they perform tasks [10]. It remains to be examined in more detail or with a larger reference group whether this could be a barrier in implementing collaborative learning either in a traditional setting or an online environment.

## 6. Conclusions

Conclusively, the organisers of the Summer School attempted to highlight the importance of key skills for the development of e-learning practice in Estonia. It was widely acknowledged by the organisers as well as some of the participants that 'resistance to change' could appear on various levels of educational institutions. It often appears that the biggest difficulty was to 'unlearn' previous ways of functioning. Also, it was evident that the majority of the participants with technical expertise were less willing to learn about the pedagogical underpinnings of application of different electronic tools and systems. On the contrary, they were more fascinated by the technologies. Their approaches to learning were 'how' rather than 'why' applications, teaching models etc. worked. Therefore, for such a course (face-to-face or online) where the teaching team and the participants do not know each other well or not at all, the objective of each session should be set aside clearly and there should be natural and visible flow from one session to the other. It is advised that by following this path the overall objectives of the course are more likely to be met.

Finally, a variety of surveys in adult education indicate that education is relatively slow to adjust to the changing economic environment and this could result in shortcomings in the flexibility and mobility of the individuals and their ability to re-qualify and make changes in their education and work career. It is also acknowledged that a shift from prescribed managerial structures and cultures to more responsible autonomy and control is an area that could be targeted as the next step of improvement in the skills and practices of the e-learning professionals involved in this case study with possible applicability in other similar educational or organisational contexts in Estonia.

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