

# A Delphi Investigation into the Future of Distance Education

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## Abstract

The purpose of this study is to investigate the views and opinions of distance education experts regarding the replacement of traditional education with distance education settings and the advantages that the application of social and mobile technologies can bring to distance education methods. The Delphi technique was chosen as a method of study. This technique is an efficient and effective group communication process designed to systematically elicit judgments from experts in their selected area of expertise. The 35 experts that participated in the study were asked to rate 16 statements according to what they think will probably happen (probability) and what they would like to see happen (desirability). Findings show that the majority of experts foresee that the use of new technologies will change current educational theories and methodologies, and will have impact on instructor's skills, efforts, feedback and interaction as well as on the process of learning assessment. However, concerning the future of distance learning, participants view a future tendency towards the provision of full online degrees, yet, they are skeptical; stating that distance education setting will not completely replace the traditional educational setting. In addition, findings reveal that experts view the role of social and mobile technologies as facilitators in sharing information in distance education settings, creating an atmosphere of cooperation and easy interaction among users. They assume that the assimilation of social and mobile technologies will influence distance education methods and pedagogies.

**Keywords:** Distance learning, collaborative learning, Delphi technique, social technologies, mobile technologies

## Introduction

The quick and massive development of technology in the last twenty years has caused many changes in the education field. Kim and Bonk (2006) assert that opinions are mixed about the benefits of online teaching and learning in higher education, suggesting that during the past decade there were mixed feelings about e-learning. The purpose of this study is to investigate the views and opinions of distance education experts regarding the following aspects: Will distance education methods replace traditional education? Is there a need to modify distance education methodologies to adapt them to new technological environments? What advantages will the application of Web 2.0 technologies bring to distance education methods? What role social networking sites play in transforming distance education methods? Will the use of mobile communications be effective in distance education methods?

## Literature Survey

The term "distance education," offers instructors and students a flexible learning environment in terms of location and time. The current study deals with two main themes. The first theme

investigated several general issues regarding distance education methods. The first issue is the instructor's role in distance education, the skills needed and the nature and frequency of their feedback to students. Sammons (2003) posits that teachers have a different role when they teach online courses that requires a different training and support. Other scholars suggest that online instructors should base their teaching on constructivist principles, emphasizing that the teaching materials should be relevant, interactive, and collaborative, and providing learners with some control over their learning (Partlow & Gibbs, 2003). Instructor's feedback has also been recognized as critical to the learning process in many studies (Moore, 2002; Russo & Campbell, 2004). Online instructors often grapple with the question of how much and in what way to intervene in student discussions in order to aid learning. The instructor's role can vary from being "the sage on stage" to the "guide on the side" or "the ghost in the wings" (Mazzolini & Maddison, 2003).

The second general issue examined in the study is the assessment in distance education. It is known that assessment is a critical aspect of the learning and teaching environment (Benson, 2003), and that effective assessment techniques can improve an instructor's understanding of students' needs (Beebe, Vonderwell & Boboc, 2010). The question which arises is whether we should implement the same assessment tools in traditional and in distance education settings (Benson, 2003) Beebe, Vonderwell and Boboc (2010) propose that the instructor's role in e-learning requires rethinking and reconstructing of assessment practices.

The last general issue is the future of distance education. A number of studies propose different future scenarios. Attwell (2007) claims that personal learning environment is the future of e-learning. Aranda (2007) asserts that there is a trend towards the development of a Virtual Learning Environment (VLE), a concept that relates to the implementation of various electronic enhancements into the classroom environment.

The second theme investigated in the study is the impact social and mobile technologies have on distance education methods. Social media tools may improve e-learning experience as they create an atmosphere of cooperation and easy interaction among users (Rodrigues, Sabino & Zhou, 2010). In addition, students no longer have the passive role in the process of learning as they may edit, posit new content and participate in discussions with other learners and teachers (Vassieleva, 2008). Regarding the use of mobile technologies in distance education or m-learning, one recurring theme in different works on m-learning, is that m-learning should not replace traditional learning, but should support both students and teachers by providing them services that facilitate learning, teaching and administration (Houser, Thornton, & Kluge, 2002; Shepherd, 2001).

## **Methodology**

The purpose of this study is to review experts' opinions and views on the several issues in distance education. The experts' were asked to rate 16 statements in a 1-5 likert scale according to two variables: (1) what they think will probably happen (probability); (2) what they would like to see happen (desirability). The Delphi technique was chosen as a method of study. This technique is an efficient and effective group communication process designed to systematically elicit judgments from experts in their selected area of expertise (Ono & Wedemeyer, 1994). The panel of experts in the current study included Israeli academic experts at all levels who are directly involved in the design and development of distance education technologies as well as university teachers that teach distance education courses on a regular basis. Of the seventy experts that were invited to participate, 35 experts responded to the first round of the survey

resulting in 50% response rate. An online survey was specifically design and built for the present study (<https://docs.google.com/spreadsheets/viewform?formkey=dFBOUIRjV2pzTFhqWjEwY2ZmQ1NGQ2c6MQ>).

A consensus amongst the experts was reached in the first round for most statements; however, twenty participants' answers fell out of the group consensus. The second round was limited to those twenty participants and they were asked (via e-mail) to explain their answers. Twelve participants responded to the e-mail and provided explanations to their answers.

## Results

Findings on the first theme present experts' views on general issues regarding distance education methods. When asked their opinion about whether they think the development and usage of distance education technologies will change the current educational theories and methodologies, the experts foresee this development as highly probable (91.4%,  $n=32$ ,  $M=4.3$ ) and highly desirable (71.4%,  $n=25$ ,  $M=3.8$ ). These views are shared by Sammons (2003) who alleged that instructors have a different role when they teach online, a role that requires a different training in order to shift from teaching in a face-to-face to an online setting. The role and skills of the instructors is the second general issue examined in the research. Concerning instructor's feedback, participants were asked whether they think that the lack of immediate feedback from the instructor is one of the major drawbacks of distance education; hence there is a need for solutions that will improve the interaction channels between instructor and learner. Findings show that a large percentage of participants view the opportunity of a new solution as mostly probable (71.4%,  $n=25$ ,  $M=3.9$ ) and mostly desirable (71.4%,  $n=25$ ,  $M=3.6$ ). However, several experts present a different view on the importance of the instructor's feedback. One of the experts proposes that other forms of feedback such as peer learning are valid and can replace the traditional instructor's feedback. This idea is also shared by Maor (2003) who concludes that since distance education is a student-centered setting the instructor should play the role of facilitator; thus the role of peer learning is enhanced.

The next general issue is the assessment process which takes place in distance education. Experts were asked whether they believe that the assessment process of a distant course should be different from a frontal course. Findings show that the majority of experts agree on the need to develop different assessment measures for a distance course: 88.5% ( $n=31$ ,  $M=4.2$ ) found this change highly probable and 68.5% ( $n=24$ ,  $M=3.7$ ) found it highly desirable. These findings are in accordance with Beebe, Vonderwell and Boboc's findings (2010), who state that the instructor's role in e-learning requires rethinking and reconstructing of assessment practices.

The last general issue focuses on the future of distance education. Experts were asked their opinion on the tendency towards the provision of full distance education degrees in the future. Findings show that almost half of the experts (48.5%,  $n=17$ ,  $M=3.5$ ) view the provision of full distance education degrees as highly probable and 71.4% ( $n=25$ ,  $M=4$ ) of experts see it as highly desirable. In another question that is associated with the future of distance education, experts were asked whether they believed that distance education methods would completely replace traditional education methods in the future. Findings show that 62.8% ( $n=22$ ,  $M=2.2$ ) of experts foresee that it is highly improbable that distance education methods will completely replace traditional education methods and 60% ( $n=21$ ,  $M=2.3$ ) believe this development will be highly undesirable. The analysis of the last two findings is intriguing, suggesting that on one hand experts assume that the tendency towards the provision of full online degrees will increase in the future, but on the other hand, they do not believe that distance education methods will

completely replace traditional education methods in the future, and furthermore, they think that this development is undesirable.

The second theme examined in the study is the impact that social and mobile technologies have on distance education methods. When asked whether social networks such as Facebook and Twitter will have a great impact on distance education, the majority of experts foresee as improbable (62.8%,  $n=22$ ,  $M=3.3$ ) that social networks will have a significant impact on distance education methods. Yet, about half of them (57.1%,  $n=20$ ,  $M=3.6$ ) saw this impact as desirable. A difference between the probability and the desirability of the issue is also revealed in the next statement which proposes that the use of social technologies in distance education should be based on new and different pedagogical theories. Findings show that although the majority of experts believe that the implementation of social technologies into distance education methods should be based on new pedagogical theories (80%,  $n=28$ ,  $M=4.2$ ), only half of the (51.4%,  $n=18$ ,  $M=3.4$ ) experts saw this theoretical change as desirable. Experts' answers to this statement are interesting and reflect an ambiguous attitude towards the development of new pedagogical theories. On one hand there is a general understanding (80%) that the use of social technologies in distance education should be based on new pedagogical theories, however, only half of the participants believe it is desirable, maybe understanding that it will be difficult to begin working and assimilating new pedagogical theories.

Experts were also asked about the possibility that social technologies may enhance deep independent learning. The majority of experts (77.1%,  $n=27$ ,  $M=4.1$ ) believe that this development is highly probable and only half of the experts believed it is desirable (54.2%,  $n=19$ ,  $M=3.4$ ). These findings echo Vassieleva' (2008) assumption that as using Web 2.0 tools in e-learning, students may be involved in a collaborative atmosphere which may enrich their learning process. However, it is quite strange that only about half of the experts view this possibility as desirable. Perhaps those experts understand that the new technological environment may develop a new process of learning, however, the findings present experts' lack of confidence that they would like to have more active, deep students in their classes.

The last issue examined on the second theme is the impact that mobile technologies might have on distance education methods. Results show that the majority of experts see as highly probable (80%,  $n=28$ ,  $M=4$ ) and highly desirable (71.4%,  $n=25$ ,  $M=4$ ) that mobile technologies will greatly impact distance education methods. These findings concur with studies that highlight the convenience and flexibility of distance learning offered by the "anytime, anywhere" concept (Matthews, 1999; Simonson, Smaldino, Albright, & Zvacek, 2000), which is particularly true in mobile technologies that allow learners to access the course content practically anywhere and at any time. In addition, these findings are in accordance with those of Houser, Thornton, and Kluge (2002) and Shepherd (2001), who suggested that m-learning shouldn't replace traditional learning, but rather facilitates learning, teaching and administration.

## **Conclusions**

The experts that participated in this study believe that the use of new technologies will change current educational theories and methodologies, and will have impact on instructor's skills, efforts, feedback and interaction as well as on the process of learning assessment. However, concerning the future of distance learning, participants view a future tendency towards the provision of full online degrees, yet, they are skeptical; stating that distance education setting will not completely replace the traditional educational setting. In addition, findings reveal that experts view the role of social and mobile technologies as facilitators in the transfer and sharing of information in distance education settings, creating an atmosphere of cooperation and easy

interaction among users. They assume that the assimilation of social and mobile technologies will influence distance education methods and pedagogies, yet, they do not think that this change is desirable. This finding can be associated with fact that experts did not like the notion that social technologies can enhance neither deep, independent learning, nor an independent, motivated learner. These surprising findings may reflect experts' attitude and understanding, that it will be difficult and complicated to begin working according to new theories and pedagogies.

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