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Changes in professional development needs of faculty members according to stages of technology use and field differences

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Abstract

In this study, faculty members' professional development needs were observed by the faculty members and PhD students of Computer Education And Instructional Technology Department within the scope of "Technology Mentoring Program" during the Spring Semester of 2011 - 2012 Academic Year. The professional development needs of Faculty Members who joined "Technology Mentoring Program" were discussed with reference to field differences. The fields of faculty members who joined the program were Foreign Language Education, Special Education, Primary Education and Fine Arts Education. Technology Mentoring Program progressed for an hour a week throughout eleven weeks applying one to one mentoring model. The aim of this study is to describe the changes in professional development needs of faculty members according to the stages of technology use and their own professional fields.

At the beginning of Technology Mentoring Program, some faculty members' professional development needs changed because of their different professional fields. As their stages of technology use processed in a different way, the faculty members had different experiences, which resulted in changes in the needs of faculty members. When some of them were at mastery stage, some others moved from mastery stage to impact stage. In this study, there exist some suggestions for the future technology mentoring programs about how the process could be affected by different fields of faculty members.

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Keywords: technology mentoring, professional development needs, stage of technology use, faculty member;

1. Introduction

With the rapid development of technology, learners started to use it in every minute of their lives. Technology tends to penetrate into each minute of our lives by means of mobile phones, smart phones, ipads, netbooks and tablets. Prensky calls this generation who lives in close relationship with technology as "digital natives". On the other hand, Prensky calls the ones as "digital immigrants" who were not born in the era that is called as "information era" or who have experienced this period shortly and would like to integrate technology to

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their lives by being impressed by it. While the learners have been changing that much, it is impossible for our education system not to get affected from it (Prensky, 2001).

Smart boards and tablet computers started to take place in classrooms. While students (digital natives) are using smart phones to take notes, there are still some teachers as digital immigrants who go on teaching in classical methods or who try to integrate technology into lessons but have some problems with it. These two different generations take place in the same system.

Teachers need to improve and update their skills, knowledge and abilities to accommodate themselves to this new generation. According to the stages of technology use, this fact forms the basics of professional developments needs. Teachers need to get help to fulfill these needs following the stages of technology use.

There are four stages of technology use. These are survival stage, mastery stage, impact stage and innovation stage (Mandinach & Cline, 1992). Teachers need to show interest about using technology to build a good connection with this new generation who are called as "digital natives". Teachers as digital immigrants who would like to use technology may face some problems. If they cannot solve these problems about using technology, they may adopt negative attitudes. These negative attitudes or problems with adjustment to the new technology occur in survival stage (Mandinach & Cline, 1992). This stage is very important for teachers in order to begin to develop positive attitudes about using technology (Odabaşı, 2008). By resolving these problems, teachers show less reluctance to use technology (Mandinach & Cline, 1992). They show tolerance to these problems and begin to create new strategies for solution (Odabaşı, 2008). Positive attitudes arise in mastery stage. At the impact stage, teachers who have positive attitudes integrate their experiences to learning environments (Mandinach & Cline, 1992). They start to solve most of the problems with their own strategies and they encourage their colleagues to use technology by sharing their technological experiences (Odabaşı, 2008). At the innovation stage, teachers integrate technology to the learning environment (Mandinach & Cline, 1992). At this stage, teachers create new activities and become experts about using technology in courses (Odabaşı, 2008). These stages should be regarded as the building stones while helping teachers about technology use. Teachers' needs would be different because they may all be in different stages. To detect these needs well, these stages of technology use are needed to be analyzed well (Odabaşı, 2008).

In this study, it was observed how fields of faculty members who take part in technology mentoring program had effected professional development needs and how faculty members' needs had shown difference according to the different stages of technology use.

2. Effect of field differences and stages of technology use on proffessional development needs

In this study, the technology mentoring program and eight faculty members of five different departments as mentees were investigated. These departments are; Foreign Language Education, Special Education, Primary Education, Fine Arts Education and Education Sciences.

Table1. Mentees' professional development needs according to their departments and stages of technology use

Mentees	Department	Professional Development Needs	Stage of Technology Use
M1	Foreign Language Education	PowerPoint, IPhone, Twitter, Prezi and outlook use, Edublogs	Innovation Stage
M2	Foreign Language Education	Arranging pdf files, PowerPoint, scanner And internet banking use	Mastery Stage
M3	Foreign Language Education	PowerPoint use, Animations	Beginning Of Impact Stage
M4	Education Sciences	PowerPoint and Photoshop use	Beginning Of Innovation Stage
M5	Fine Arts Education	Building a web site with Wordpress	Innovation Stage
M6	Special Education	Learning Management System, Blackboard	Mastery Stage
M7	Primary Education	Blackboard, Facebook safety use, EndNote, PowerPoint use	Innovation Stage
M8	Primary Education	Facebook, Building a web site with Wordpress	Beginning Of Impact Stage

One of the most willing mentee to use technology is M1. M1 showed her willingness to use technology in the interview at the end of program by saying "Classical ways do not work anymore, I know that". With this willingness M1 passed all stages of technology use and finished the program successfully. Mentee's needs generally focus on the presentation program, PowerPoint. However, during the technology mentoring program, M1 experienced some applications of iPhone, tweeted her first tweet, learned how to use Prezi by herself, began to use Outlook and searched about Edublogs. She and her mentor had a successful process. She finished the technology mentoring program at innovation stage.

The mentor of M2 mentioned a bad experience of the mentee in his dairy and stated that he was in survival stage from the stages of technology use with some negative attitudes resulted from that bad experience. The mentor focused on personal needs in order to make the mentee pass the survival stage. First, they practiced on Internet banking use. Then, M2 learned how to arrange pdf files, how to use scanner and some properties of PowerPoint. M2 was at survival stage at the beginning because of his bad experience. At the end of program, he adopted positive attitude for technology use. Thus, he finished the program at mastery stage.

M3 had some prejudices about technology use at the beginning of technology mentoring program. At the end of the process in evaluation meetings, mentee showed her prejudice by saying that technology use was a waste of time and she was afraid of struggling with it. The mentee, who was aware of the fact that this thought was wrong, stated that she would like to join technology mentoring program to overcome these thoughts. Therefore, they started to practice PowerPoint. M3 experienced some functions of PowerPoint and began to add some animations on it. Thus, she began to overcome her prejudices and passed to mastery stage. She finished the program at the beginning of impact stage by sharing her presentation with students.

M4 prefered learning to use PowerPoint to prepare course materials. Thus, they began to practice on PowerPoint. When it was time to use some images, M4 wanted to use his own images. Images' size were quiet big to put in presentations. Thus, they decided to practice on Photoshop. The studies of the mentee in his field prompted him to use his own products. This encouraged mentee to find out new themes, activites. Thus, mentee showed that he was about to move to the innovation stage.

In technology mentoring program while addressing their professional development needs, the most effective department was department of Fine Arts Education. As the mentee declared in evaluation meetings, the Department of Fine Arts Education were curious to show what they had produced. According to the mentee's wishes, it was decided to create a new web site in order to present mentee's works. Although there existed some

problems during building the website, M5 and his mentor worked well together and finished the web site. The mentee shared the site on social networks after he had finished it. He got positive feedbacks both from his students and colleagues. In addition, he updated it every day and he could manage it very well. Thus, he finished technology mentoring program at innovation stage.

At the beginning of the process, during the dialogues between the M6 and the mentor, they decided to work on the learning management system of the university: "blackboard". The mentee said that he had been giving distance lectures at graduate degree and would like to employ the same system for undergraduate students, as well. He stated that he would like to use "blackboard platform" more effectively and carry the assignments and discussions to the forum. When the attitude of the M5 was evaluated from the perspective of technology, it seemed that he had passed to the mastery stage. As well as being aware of the positive sides of technology, he showed enthusiasm for technology use; yet the process cannot be regarded as effective enough because of often existing delays.

The M7 joining the program from department of primary education and challenging the mentor most finished the technology mentoring program successfully. As the mentor mentioned in his diary, mentee who had a comprehensive knowledge about technology was at impact stage. The M7 having a high comprehension had a chance to experience different technologies during the process. At the end of the process, M7 was at the innovation stage.

The M8 attending from Primary Education stated in the evaluation meeting at the end of the process that technology had been improving so fast and he thought that taking part in the project would provide him staying updated. As he attended the program with that vision, he had never developed any negative attitude for technology use. When the technology use is evaluated in terms of the stages, the mentee can be regarded as passing from survival stage to mastery stage. After they had practiced on Facebook groups, the mentee conveyed his demand to build a website and they started to work on that away. During that website building process, the office-mate of the M8 sometimes attended them. As the mentor reported during the evaluation process, the office mate was fascinated by the practices and got prompted to learn technology. And, this showed that the mentee was between mastery and impact stage.

Conclusion

Fourteen weeks technology mentoring program was like a pilot scheme for both faculty members and PhD students joining the program. The mentees joined the program in order to present their gratifications in evaluation meetings. When evaluation meetings were investigated, the most pointed out suggestion by almost all faculty members was for the prolonging the program for two semesters. The main reason of this suggestion was mentees' being uninformed about what exactly they would gain from the program occurring for the first time. According to the stages of technology use, one semester can be enough for the mentees starting the program at impact stage but two semesters can be more efficient for the mentees starting the program at survival stage. Peer to peer communication is one of the most critical components of mentoring program. Since the mentee faculty members' shared their rooms with others and their office-mates inevitably involved into the process, which was regarded as a negative factor by some mentors. In order to overcome this problem, working hours should be arranged properly. The mentee faculty members usually would like to arrange practice time after office hours; however this undermines the technology use practices comparatively due to the tiredness of faculty members and the relief of day or week endings. Arranging practice days and hours properly would insure the process to progress efficiently.

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