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Adaptation Motivation Toward Web-Based Professional Development Scale and Examining Pre-service Teachers Motivation Toward Web-Based Professional Development Perception in Terms of Different Variables

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Abstract

Study: The first purpose of this study was to adaptation of motivation toward web-based professional development scale. Besides, the second purpose of the study was to investigate whether the motivation toward web-based professional development perception of pre-service teachers differed according to gender, occupied or not and internet usage sufficiency.

Method: Cross sectional survey method, being one of the general survey methods, has been used in this research. The participants consisted of 599 pre-service teachers at the Faculty of Education in Sakarya University.

Results: The scale consisted of 29 items and 6 sub-factors. Participants had average or above average scores in all sub-factors. It was found out that gender, occupied or not and internet usage sufficiency did not have a significant effect on motivation toward web-based professional development perception except social stimulation according to gender.

Discussion and Conclusions: In this study, the scale was adapted to Turkish. The adapted Turkish form was found to be consistent with the original form regarding item-factor consistency and structure. Furthermore Participants had average or above average scores in all sub-factors. Ministry of National Education is going to plan in-service training with web-based education next years. This result showed that future teachers' have motivation about this.

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Keywords: Motivation, web based education, web-based professional development scale.

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1. Introduction

In our age named informatics age, computer and internet are at the first step of rapidly developing technological innovations. Technologies of computer and internet are in every space of our everyday life. With the changing life culture, teachers' qualifications are changing also. Now, teachers are expected to have both context information, and pedagogical information and technology usage information. Besides technology information needed to have at teachers, they are expected to have educational technology standards formed by international committee for teachers. Reformed by ISTE (International Society for Technology in Education) National Technology Standards and Performance Indicators for Teachers (NETS-T) was updated in 2008:

Active teachers take as an example and carry out the National Technology Standards for Students (NETS-S) when they make a design, perform, and estimate learning experiences to connect with students and develop learning; prosper professional practice; and supply affirmative models for students, colleagues and society. Whole teachers should learn next standards and performance indicators.

- 1.1. *Make Easier and Revive Student Learning and Creativeness:* Teachers utilize their knowledge about subject, teaching and learning, technology to make easier experiences that develop student's learning, creativeness and innovations in both face-to-face and virtual platform.
- 1.2. *Make a Design and Improve Digital-Age Learning Experience and Appraisals:* Teachers make a design, improve, appraise learning experiences and appraisals combining modern tools and resources, to maximize context learning in content and to improve the knowledge, skills and attitudes determined in NETS-S.
- 1.3. *Model Digital-Age Work and Learning:* Teachers show knowledge, skills and work duration sample of an innovator professional in global and digital society.
- 1.4. *Support and Make a Design Digital Citizenship and Responsibility:* Teachers comprehend local and global societal matters and responsibilities in an improving digital culture and show legal and ethical behavior in their professional practices.
- 1.5. *Connect with in Professional Improvement and Leadership:* Teacher continually develop their professional practice, sample lifelong learning, and show leadership in their school and professional society by supporting and display the influential usage of digital tools and resources.

According to updated these standards teachers are expected to utilize from the internet and usage of technology. With this, determining teachers' motivations about web usage activities happened an important state. Generally, motivation is defined as a refreshment situation that having physiological, cognitive and affective dimension, giving energy, directing the persons to make some activities (Fidan, 1997). By the means of motivation, persons do physical activities such as obtaining what they want, (or avoiding what they don't want) or being patient; planning, repeating, organizing, following, deciding, solving, appraising the process (Pintrich and Schunk, 1996). "Motivation" refers to the process whereby goal-directed activity is instigated and sustained (Schunk, Pintrich & Meece, 2008). In the past, the role of an individual's motivations in his/her learning has been high lightened by many educators and researchers (e.g., Kauffman, 2004; Rau, Gao & Wu, 2008).

In web-based education, because of learning is more individual and independent activity, real motivation become inevitable to occur for effective learning (Kaya, 2002). It is found that got highest motivation students increase their performance both web environment and class (Sankaran and Bui, 2001). In particular, it has been revealed that motivation has a reciprocal relationship with learning and performance, while on the other hand, what learners do and learn also influences their motivation (Morris, Finnegan, & Wu, 2005; Pintrich, 2003; Schunk et al 2008). In this article, the first purpose of this study was to Turkish adaptation of motivation toward web-based professional development scale which is developed by Chia-Pin Kao, Ying-Tien Wu and Ching-Chung Tsai (2011). Besides, the second purpose of the study was to investigate whether the motivation toward web-based professional development perception of pre-service teachers differed according to gender, occupied or not and internet usage sufficiency.

2. Method

Cross sectional survey method, being one of the general survey methods, has been used in this research. In this research, the cross sectional survey method is applied in order to examine the assessments that are made by pre-service teachers in web professional motivation.

2.1. Participants

The participants of the study were 599 pre-service teachers at Faculty of Education in Sakarya University, Turkey. 111 (18.6) were pre-school, 159 (26.5) were psychological counselling and guidance, 161 (26.9) were science education, 105 (17.5) were in computer education and instructional technologies and 63 (10.5) were in primary education department. In the participants group, 382 of the students (46.4%) were female and 215 (53.6%) were male. 2 of participants did not fill in the gender variable. The average age of the participants was 21 and their ages ranged from 18 to 25. 61 (10.2%) of the pre-service teachers were employed and 531 (88.6%) of them were unemployed. 7 (1.2%) participants did not fill in the occupation variable.

2.2. Motivation toward web-based professional development scale

The motivation toward web-based professional development scale is composed of 29 items and 6 sub-factors having 5 point Likert type. The theoretical total score ranges from 29 to 145. The scale was translated in to Turkish and then back translated in to English by two bilingual English speakers to ensure translation quality. In order to ensure language equivalence 21 university students received both Turkish and English form of the scale over a 2-week interval. The correlation between Turkish and English form was .97 (correlation of the sub-factors in two forms ranged from .69 to .96). High correlations obtained in both samples treated as sign of language equivalence. In order to perform explanatory and confirmatory factor analysis the Turkish form was administered to 599 pre-service teachers.

Principal component analysis was performed using the varimax rotation method. Kaiser-Mayer-Olkin (KMO) test was first done to test the sampling adequacy. The KMO value was found to be 0.924. Bartlett's Sphericity test ($\chi^2_{(406)} = 7116.15, p = .000$) indicated that correlation between items were sufficiently high for the analysis. EFA was conducted and it was found that 29 items and six sub-factor structure of the original scale was preserved when it was administered to Turkish students. The results of EFA also showed that eigen value of the Turkish form of the scale is 19.50 and it explains 66.88 % of total variance. Items factors loadings ranged from .450 to .833. All items in the Turkish form were found to be consistent with the sub-factors of the original scale; only the order of sub-factors has changed. CFA was used to explore the goodness of fit of the 29 items six factor model obtained through EFA. The first order CFA analysis of the six factors model provided the following modification indexes: $\chi^2/df = 3.64$, RMSEA = .079, SRMR = .011, CFI = .96, NFI = .94, NNFI = .95, GFI = .83, AGFI = .80. Second order CFA were conducted to find out whether the Turkish scale was consistent with the original scale. Fit indexes were found to be $\chi^2/df = 3.56$, RMSEA = 0.079, SRMR = 0.11, GFI = 0.83, AGFI = 0.80, CFI = 0.96, NFI = 0.95 and NNFI = 0.96. When fit indexes were examined, it can be concluded that all values good the criterion values or very close to them. Cronbach Alpha coefficient was found to be .93 for overall scale. The reliability values for the factors was .84, .87, .81, .74, .79 and .82, respectively.

2.3. Procedure

The data was collected at the end of the spring semester of 2012-2013 academic year. For the analyses of this data, t-test was used for the variables of gender, occupied or not; and internet usage sufficiency. All analyses were carried out using SPSS computer program and significance level in analyses was assumed to be .05.

3. Results

Score ranged from 5 to 25, mean score was 19.73 and standard deviation was 4.35 in personal interest factor. Also the study participants' occupational promotion factor scores ranged from 4 to 20, mean score was 15.78 and standard deviation was 3.50. Furthermore external expectation factor scores ranged from 6 to 30, mean score was 21.17 and standard deviation was 5.16. Score ranged from 5 to 25, mean score was 19.16 and standard deviation was 4.27 in practical enhancement factor. Also the study participants' social contact factor scores ranged from 5 to 25, mean score was 17.59 and standard deviation was 4.48. Furthermore social stimulation factor scores ranged from 4 to 20, mean score was 12.96 and standard deviation was 3.68. Lastly total score of the scale ranged from 32 to 145, mean score was 106.38 and standard deviation was 20.49 in the participants. Participants had average or above average scores in all sub-factors. The other findings of the study will be presented in the following variable order variables: gender, occupied or not and internet usage sufficiency. Initially, t-test has been conducted for the gender

variable.

Table 1. Motivation toward web-based professional development levels of participants according to gender

	Gender	N	\bar{X}	SD	df	t	p
Personal Interest	Female	382	19.88	4.38	595	1.27	.205
	Male	215	19.41	4.27			
Occupational Promotion	Female	382	15.95	3.44	595	1.80	.073
	Male	215	15.42	3.58			
External Expectations	Female	382	21.38	4.96	595	1.48	.141
	Male	215	20.74	5.46			
Practical Enhancement	Female	382	19.33	4.14	595	1.49	.140
	Male	215	18.79	4.46			
Social Contact	Female	382	17.50	4.38	595	-0.47	.635
	Male	215	17.68	4.64			
Social Stimulation	Female	382	12.72	3.55	595	-2.15	.032**
	Male	215	13.39	3.86			
Total Scale	Female	382	106.79	19.91	595	0.76	.445
	Male	215	105.46	21.49			

Findings demonstrated no significant differences among personal interest ($t_{(595)} = 1.27$ $p > .05$), occupational promotion ($t_{(595)} = 1.80$ $p > .05$), external expectation ($t_{(595)} = 1.48$ $p > .05$), practical enhancement ($t_{(595)} = 1.49$ $p > .05$), social contact ($t_{(595)} = -0.47$ $p > .05$) and total scale ($t_{(595)} = 0.76$ $p > .05$) scores according to the gender. On the contrary there is a significant difference among social stimulation scores ($t_{(595)} = -2.15$ $p < .05$) with regard to the participants' gender (Table 1). As to social stimulation scores, the results illustrate that the scores of male pre-service teachers on social stimulation (**Error! Objects cannot be created from editing field codes.** = 13.39) are higher than the scores of female pre-service teachers (**Error! Objects cannot be created from editing field codes.** = 12.72). These findings point out that when compared to female pre-service teachers, the male pre-service teachers possess a higher level of social stimulation to web motivation. Secondly, the differences between the motivation toward web-based professional development and occupied or not has been examined. Since the participants are categorized as either pre-service teachers who occupied or not, t-test has been used for the analysis.

Findings demonstrated no significant differences among personal interest ($t_{(590)} = -1.59$ $p > .05$), occupational promotion ($t_{(590)} = -1.93$ $p > .05$), external expectation ($t_{(590)} = -1.31$ $p > .05$), practical enhancement ($t_{(590)} = -1.86$ $p > .05$), social contact ($t_{(590)} = -1.24$ $p > .05$), social stimulation ($t_{(590)} = -0.24$ $p > .05$) and total scale ($t_{(590)} = -1.70$ $p > .05$) scores according to the occupied or not (Table 2). These findings point out that when compared to pre-service teachers occupied or not, no significant different possess to professional web motivation. As the third aspect, the differences between motivation toward web-based professional development and the internet usage sufficiency of pre-service teachers. Since the participants are categorized as either pre-service teachers who sufficient or not to the internet usage, t-test has been used for the analysis. Findings demonstrated no significant differences among personal interest ($t_{(597)} = 0.23$ $p > .05$), occupational promotion ($t_{(597)} = -0.39$ $p > .05$), external expectation ($t_{(597)} = -0.11$ $p > .05$), practical enhancement ($t_{(597)} = 0.18$ $p > .05$), social contact ($t_{(597)} = 0.49$ $p > .05$), social stimulation ($t_{(597)} = 1.77$ $p > .05$) and total scale ($t_{(597)} = 0.42$ $p > .05$) scores according to the sufficient to internet usage or not (Table 2). These findings point out that when compared to pre-service teachers sufficient to internet usage or not, no significant different possess to professional web motivation.

Table 2. Motivation toward WBPD levels of participants according to occupied or not and internet usage sufficiency

		Occupied or Not			Internet Sufficiency		
		N	t	p	N	t	p
Personal Interest	Yes	61	-	.113	305	0.23	.824
	No	531	1.59				
Occupational Promotion	Yes	61	-	.055	305	-0.39	.694
	No	531	1.93				

External Expectations	Yes	61	-	.192	305	-0.11	.913
	No	531	1.31		294		
Practical Enhancement	Yes	61	-	.063	305	0.18	.854
	No	531	1.86		294		
Social Contact	Yes	61	-	.216	305	0.49	.623
	No	531	1.24		294		
Social Stimulation	Yes	61	-	.812	305	1.77	.078
	No	531	0.24		294		
Total Scale	Yes	61	-	.090	305	0.42	.679
	No	531	1.70		294		

4. Conclusion and Discussion

In this study, Toward Web-Based Professional Development Scale, developed by Chia-Pin Kao, Ying-Tien Wu and Ching-Chung Tsai" (2011), was adapted to Turkish. The adapted Turkish form was found to be consistent with the original form regarding item-factor consistency and structure. The scale consisted of 29 items and 6 sub-factors, named "Personal Interest", "Occupational Promotion", "External Expectations", "Practical Enhancement", "Social Contact", "Social Stimulation". The scale have 5 point Likert type.

Participants had average or above average scores in all sub-factors. Ministry of National Education is going to plan in-service training with web-based education next years. This result showed that future teachers' have motivation about this. It was found out that gender, occupied or not and internet usage sufficiency did not have a significant effect on motivation toward web-based professional development perception except social stimulation according to gender.

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