

An Investigation on Knowledge Acquisition Attitudes and Habits of Physical Education Teachers

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Abstract

This paper explores the attitudes of physical education (PE) teachers on knowledge acquisition and evaluates some perceptions and relationships of related variables. 241 participants, 76 of whom were (31.5%) female and 165 (68.5%) male with an age range between 23 and 57 (average=34 years), job experience range between 1 and 32 years, involved in the study. PE Teachers' Knowledge Retrieval Questionnaire (Özan & Erten, 2008) and a personal information form consisting daily knowledge-related activities and demographic information were filled by PE teachers in the school setting. 65.1% of PE teachers were found to be thinking the academic job-related knowledge given them was not satisfactory. Compared to their men colleagues, women PE teachers showed more significant positive knowledge acquisition attitudes and actions such as reading. The job experience and duration of daily Internet usage variables were not differentiating knowledge acquisition attitudes.

Keywords: *Physical education teacher, knowledge acquisition, lifelong learning*

1. Introduction

In the 21st century, learning and knowledge management has been the core concept of different types of literacy on information-communication technologies, creativity, critical thinking and innovation. Kereluik et al. defines knowledge by three categories in which foundational knowledge means “to know”, meta knowledge means “to act” and humanistic knowledge means “to value”. (Kereluik, Fahnoe, & Karr, 2013). After Michael Polanyi’s contribution to the field by debating with Karl Popper (Jacobs & Mullins, 2011), knowledge concept has become to be considered as explicit knowledge which is “knowing that” and tacit knowledge which is “knowing how” (Lubit, 2001). Simons, Van der Linden, and Duffy (2000) propose twelve kinds of learning in the new learning concept as a result from the shift of action learning side to the experiential learning side. Until the second decade of the 21st century, knowledge management domain had become the main source of the new innovations era in education, business and information and communication technologies for continuing professional development. Balay (2010) emphasizes that knowledge is more intense and more complicated now. In order to explore the new knowledge, it’s necessary to develop new strategies, find new ways and tools to reach, evaluate and use it. In fact the problem is not just to access the new knowledge, because sources are being larger and easier to reach day by day, but to retrieve the necessary knowledge, store, organize and apply it by utilizing it in the current teaching settings. This means teachers need to learn new sources like digital databases and Internet resources, new data collection software programs and change the daily routine and habits to organize all. Teaching material and programs also need to be updated within short time periods comparatively as well. Teachers’ mission might be explained as to learn more than to teach in the new knowledge era. Also one of the missions of PE is “establishing a culture to learn” (Rink, 2013) and the main facilitating agents are teachers. Many studies focused on the importance of teacher’s personal-professional development and continuous learning during their lifetime to lead students better and better via acquired new knowledge. The term professional development is increasingly being replaced by lifelong learning (Fenwick, 2001). There are many practical reasons for teachers to develop their own knowledge capacity every day. Clarà

(2014) mentions Lortie's "wash-out" phenomenon for explaining how different the knowledge in the universities than the real life is. Jurasaitė-Harbišon & Rex (2010) addresses the main informal learning environment as the school itself, where teachers can socialize knowledge between their colleagues, but "not learning" behavior is alleged for teachers (Van Eekelen, Vermunt, & Boshuizen, 2006) to explain the resistance to learning and partly prevent sustaining lifelong personal development. Yet, evaluation of the teacher knowledge is one of the main challenges in teacher education (Kleickmann et al., 2012) and the related studies have grown in the past decade (Kelcey, 2011).

Shulman (1987) described seven categories of the knowledge base for teaching as a) content knowledge, b) general pedagogical knowledge, c) curriculum knowledge, d) pedagogical content knowledge, e) knowledge of learners, f) knowledge of contexts and g) knowledge of educational ends. Many studies showed the pedagogical content knowledge for teaching PE as the core knowledge domain (Herold & Waring, 2010; Tinning, 2002; Zhao, 2010) and it's still being argued if PE courses succeed enough to teach this to pre-service PE teachers. Kovac, Sloan & Starc (2008) agreed on Locke's (1990) proposal of sub-disciplinary which states that PE school knowledge is partly irrelevant from the school settings. Like all the other disciplines, PE teachers need to increase their knowledge capability by seeking the lifelong learning opportunities in the real world or with the digital sources. Different ways of "discovery of new knowledge" (Zhao, 2010) became a desired value for teachers. Turkey is a candidate country of the European Union, where continuing professional development of PE teachers is one of the interest areas (Makopoulou & Armour, 2011; Žvan & Lešnik, 2014) and various PE teacher developmental programs were conducted in several countries (Armour, 2010).

2. Related Studies

Akpınar (2003) investigated the effect of higher education on teachers' use of information technologies in classroom settings in İstanbul. Akpınar found teachers from different regions of Turkey who studied their higher education and were using Internet technologies significantly different in and out of classroom. Yaman (2008) studied the abilities of educational technologies and multimedia use of PE teachers. According to this study, female PE teachers were found to be using educational technologies more widely than male colleagues. Another result was that the teachers with job experience of 0-5 years were using more educational technologies than those with 21 years of experience. Özmen and Muratoglu (2010) studied the knowledge management strategies of the Turkish school principals in a small scale, yet no satisfactory results were obtained for almost all knowledge management dimensions. In their study, Kalemoglu-Varol (2014) found that computer usage related self-efficacy shows a low level of impact on using educational technologies attitude for prospective PE teachers.

3. Methodology

The main focus of this research was to examine how PE teachers retrieve the required knowledge and how they perceive knowledge management related concepts, what factors, such as gender and age, were affected on the knowledge related attitudes. Evaluating PE teachers' knowledge literacy and the ways of knowledge access for lifelong learning in Turkey is necessary. Understanding PE teachers continuing personal development desire is essential to design new educational programs and create a better learning environment. PE area still need "research knowledge to feed and support" (Armour, 2010) teachers.

Participants

Two hundred and forty one PE teachers from six different regions of İstanbul were accepted to fill the "PE Teachers' Knowledge Retrieval Questionnaire" and a personal information form. According to the gender distribution, 76 of the participants (31.5%) were female and 165 were male (68.5%), the age range was between 23 and 57 (average=34 years), job experience varied between 1 and 32 years (average=8.7), most of the teachers (n= 213; 88.4%) were employed in public schools, other teachers (n= 28; 22.4%) in private schools. About 8.3 percent of the participants graduated from a master of science

program, one participant had a doctoral degree. Fifty nine percent of the participants were employed in a primary or secondary school, 41 percent of teachers were employed in a high school. Foreign language speaking levels of teachers; 12.7 percent were not speaking, 26.6 percent reported themselves as beginner level, 44.7 were in intermediate level, 12.7 percent were progressive and 3.3 percent were speaking in advanced level. All questionnaires were applied by researchers in the school settings.

Data Collection and Analysis

The **PE Teachers' Knowledge Retrieval Questionnaire** (developed by Ozan & Erten 2008) which consisted of seven sub-scales was used to retrieve the primary data. The questionnaire consisted of 61 items and designed as a five-point Likert scale. Each category was defined from "strongly agree" to "agree", "having no idea", "not agree" and "strongly not agree". Subscales of the questionnaire were "giving importance to knowledge" (9 items), "the effort to access knowledge" (15 items), "sharing the knowledge" (9 items), "utilizing the knowledge" (7 items), "collecting and storing the knowledge" (6 items), "negative attitude" (9 reverse items) and "evaluation of the job knowledge" (6 items) respectively. The questionnaire's internal consistency is reported as .96 (Cronbach Alpha), in our study, Cronbach Alpha coefficient was found as .86, each subscale's Cronbach Alpha scores were calculated between .62 and .82 level.

Personal Information Form: The form was designed to retrieve the personal information such as age, gender, educational level, employment status, job experience, and daily routines for gathering information such as reading, time spent on the Internet, the quantitative distribution of spent time on the Internet.

The data were interpreted through descriptive analyses, Pearson correlation analyses used for discriminate inter-variable relationships. Independent samples t test and one way ANOVA tests conducted for examine the group differences, significance is accepted as .05 level.

4. Results

Most of the PE teachers (65.1%) were found to be thinking the academic job-related knowledge given by university was not satisfactory. Just one third (34.9%) of PE teachers were found to be thinking the job-related knowledge was enough for their personal education. One question in the personal information form was how many pages of book PE teachers read during the last three-month period. The median value was 300 pages. It means half of the teachers were reading approximately three pages of book on a daily routine. Twenty five percent of the PE teachers reported that they were reading one page or less daily. At the top of the group, the last quarter of the PE teachers said to have read 610 pages or more in the last three months. On a daily basis, this equals 5-6 pages or more. The average book reading habit of the PE teachers during three months was 500.2 pages. Woman PE teachers (average=632 pages per three months) read significantly more pages than men (average =444 pages) ($t=2.2$; $df=237$, $p=.028$).

Table 1. Distribution of Seven Subscales by Gender

	Gender							P
	Male		Female		Total			
	Mean	SD	Mean	SD	Mean	SD		
Giving importance to knowledge	4,3987	,37699	4,4591	,30434	4,4177	,35617	N.S.	
Effort to access knowledge	4,1329	,36347	4,2360	,33332	4,1654	,35679	<.05	
Sharing the knowledge	3,7825	,58026	3,8231	,58771	3,7953	,58170	N.S.	
Utilizing the knowledge	4,1619	,44244	4,2274	,40620	4,1826	,43157	N.S.	
Collecting and storing the knowledge	3,9576	,60336	4,0570	,53024	3,9889	,58204	N.S.	
Negative attitude	3,0451	,71577	3,1623	,66702	3,0821	,70150	N.S.	
Evaluation of the job knowledge	3,9202	,75047	4,0219	,70466	3,9523	,73639	N.S.	

All teachers showed a positive attitude on Knowledge Retrieval Questionnaire subscale scores. According to gender, a slight difference was found, women PE teacher's scores were higher than men's all subscales, a significant difference was found on "Effort to access knowledge" dimension. Other subscales showed no significant differences.

Table 2. Pearson Correlations Between Subscales

	1	2	3	4	5	6
1. Giving importance to knowledge						
2. Effort to access knowledge	,607**					
3. Sharing the knowledge	,536**	,671**				
4. Utilizing the knowledge	,689**	,704**	,724**			
5. Collecting and storing the knowledge	,537**	,555**	,615**	,551**		
6. Negative attitude	-,199**	-,149*	-,188**	-,160*	,101	
7. Evaluation of the PE job knowledge	,272**	,278**	,126	,161*	,228**	-,029

*Correlation coefficient is significant at the 0.05 level

**Correlation coefficient is significant at the 0.01 level

Subscale inter correlations were shown in Table 2. According to the results, a strong positive relationship was found between all the subscales except a negative attitude to knowledge subscale. This negative relationship was related with the nature of the "negative attitude" subscale's reverse structure. Significant correlations between subscales were interpreted as the high internal consistency of the questionnaire.

The scores ($t=2.38$; $p<.018$) of the teachers who graduated from a master of science degree on "giving importance to the knowledge" (average=4.49) were higher than the college graduates' (average=4.40). Private school teachers' "utilizing the knowledge" scores (average=4.34) were higher ($t=2.02$; $p<.04$) than public school PE teachers' (average=4.16). Other subscales were not significant according to educational level.

Regular book reading habit showed a significant relationship with Knowledge Retrieval Questionnaire's several subscales. When teachers' book reading habit increased, "giving importance to the knowledge" ($r=.253$; $p<.001$), "effort to access knowledge" ($r=.181$; $p<.005$), "utilizing the knowledge" ($r=.235$; $p<.001$) and "collecting and storing the knowledge" ($r=.169$; $p<.009$) subscale scores increased, too. As mentioned above, the median value of the book reading habit of PE teachers was 300 pages for three months period. When high reading and low reading groups mean subscale scores are compared, high reading group showed a significantly higher attitude than less reading group on "giving importance to the knowledge" scores ($t=3.64$; $p<.001$) and "utilizing the knowledge" ($t=2.34$; $p<.02$) subscales. When daily Internet usage time duration was compared to Pearson correlation, just "effort to access knowledge" subscale showed a significant relationship ($r=.125$; $p<.054$). Other subscales were not significantly related. The negative evaluations subscale score was significantly higher where the teachers believed the school knowledge was not satisfactory (average=2.01) than teachers who believed they got enough (average=1.74) knowledge from the school ($t=2.87$; $p<.01$).

No significant relationship was found between the daily Internet usage of PE teachers and Knowledge Retrieval Questionnaire subscales.

5. Discussion

One of third of PE teachers were found to believe that job-related professional content knowledge acquired from the school was not satisfactory. Other studies supported the negative perception of the school knowledge in PE. In a study on student PE teachers, Capel et al. posits a lack of critical thinking, deep learning and reflective skills in the PE courses in universities, which results in well-trained technicians instead of well educated teachers (Capel, Hayes, Katene, & Velija, 2011). As mentioned in

the introduction, probably the gap between school knowledge and the field practices helped to create this perception.

PE teachers were found to show a high attitude for all subscales of the Knowledge Retrieval Questionnaire. This could be interpreted as teachers' showing a will to learn the necessary knowledge they need. According to Van Eekelen et al. (2006) there was a differentiation between "will to learn" and "ability to learn". Despite PE teachers' presence of their belief of knowledge gap from school knowledge, their attitudes were found not enough to close the gap. An indicator of the paradox was the low daily book reading rates of PE teachers. Half or the PE teachers were found to read three pages or less book in their daily routine, approximately less than one book per month. This result was similar with Yılmaz's (2002) findings on primary school teachers in Ankara-Turkey, where similarly 30.7 per cent of teachers read bimonthly one book or less. Another significant result was female PE teachers' reading more books than male colleagues. Woman teachers were found to read an average of seven pages daily, two pages more than men. Batur, Gülveren & Bek conducted a study on pre-service teachers' reading habits with 420 students at Usak University in western Turkey (Batur, Gülveren, & Bek, 2010). According to the study, woman pre-service teachers showed more positive reading attitude than male colleagues. Kovac, Sloan & Starc found female PE teachers were more likely to get involved in professional development programs organized by the Faculty of Sports (Kovac et al., 2008). These studies showed similar results with our findings and the difference between female and male PE teachers knowledge attitude may be widespread. There were opposite results on Konan & Oğuz's study for primary, secondary and high school teachers' reading habits in an eastern city of Turkey, Malatya with 463 participants (Konan & Oğuz, 2013), our general finding on low reading habits of PE teachers was confirmed, but they found no difference between female and male teachers in their reading habit. Objective criteria meet subjective evaluations when PE teachers' Knowledge Retrieval Questionnaire scores were examined, women scores were slightly higher than men's scores in all subscales. A significant difference was found on "effort to access knowledge" subscale scores. This result was similar to the one in Yaman's study on PE teachers for abilities of educational technologies and multimedia (Yaman, 2008). However, Kalemoglu-Varol did not found any difference according to gender on prospective PE teachers for education technology attitudes (Kalemoglu-Varol, 2014) and Ozmen & Muratoglu found similar attitudes between female and male teachers on knowledge management dimensions (Ozmen & Muratoglu, 2010). Despite different findings, woman PE teachers' attitudes for knowledge retrieval dimensions were slightly more positive than man teachers', their belief on satisfaction from the school knowledge was better, also their objective daily book reading habit was significantly higher.

Another remarkable result of the study was the Internet usage habits were found not related with the knowledge attitude scores. PE teachers reported they were using the Internet 34 per cent for knowledge seeking, but no significant relationship was found between the Internet usage duration and Knowledge Evaluation Questionnaire subscales. Different Internet usage processes such as entertainment, mailing, communication, chat, social networks and others probably reduce the time of effective Internet use for knowledge literacy based seeking.

6. Conclusion & Recommendations

Gender and book reading habit were found as two important determinants on actual knowledge seeking behavior and on attitudes of knowledge. If a PE teacher is reading less books and the gender is male, probably he shows less knowledge-based attitudes than a woman colleague and shows more book reading group, according to this study. A remarkable part of PE teachers believe their school knowledge was not satisfactory, paradoxically their objective attitude of book reading was not enough. Women teachers showed more intention in both knowledge acquisition attitudes and book reading than their men colleagues. Internet usage itself did not differentiate knowledge attitudes significantly.

Designing a new PE curriculum and approaches seems to need to look from the student perspective as well, for creating more effective PE courses. Besides, consideration of the gap between woman and man PE teachers' perceptions and attitudes on knowledge acquisition seems important in the new curriculum design studies.

New studies focusing on gender issues may help to understand the difference between male PE teachers' attitudes on knowledge acquisition and negative attitudes, and why they read less than female colleagues. Another study on the Internet usage can be helpful to understand the relationship between knowledge acquisition attitudes and the Internet relationships. Dyson proposes more studies are needed "with" teachers, administrators, parents and students, rather than "on" teachers, administrators, parents and students (Dyson, 2014).

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