

Full Length Research Paper

Relationship between critical thinking levels and attitudes towards reading habits among pre-service physical education teachers

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The purpose of the present research is to define the critical thinking levels and reading habits of students studying at the department of physical education and sports teaching and analysing the relationship between these. The participants of the present research are 136 pre-service physical education teachers studying at Mugla Sitki Kocman University Faculty of Sport Sciences and Marmara University School of Physical Education and Sports in 2015-2016 Academic Year Fall Semester. The relations between variables were tested with correlation analysis at 0.01 significance level, and the differences were tested with Mann-Whitney U at 0.05 significance level. Two scales were utilized in order to define pre-service physical education and sport teachers' critical thinking and reading habit levels. These scales are; California Critical Thinking Disposition Inventory and Scale for Attitudes towards Book Reading Habits. According to the findings obtained in the present research, pre-service physical education and sport teachers' both critical thinking and book reading habits are at medium level. There is a positive and significant correlation between pre-service physical education teachers' critical thinking levels and book reading habits. As book reading habits of pre-service teachers increase their critical thinking levels increase accordingly.

Key words: Critical thinking, reading habit, physical education, teacher.

INTRODUCTION

The purpose of the present research is to define the critical thinking levels and reading habits of students studying at the department of physical education and sports teaching and to analyze the relationship between these. Adopting the habit of reading books is an important step for pre-service physical education and sport teachers to perceive their environment and the world in the correct way, and adapt to their social

environment easily. Critical thinking and book reading habit can contribute to pre-service physical education teachers' educate themselves, analyse, synthesize and interpret the events correctly both during their lives, and after finishing their school lives. Conceptual information and studies on critical thinking and book reading habit are as follows:

There are many definitions of critical thinking in the

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literature. These definitions focus on different dimensions of critical thinking. Watson and Glaser (1964) define critical thinking as the ability to understand assumptions, values, attitudes and beliefs. Almost all of these approaches take critical thinking as the process starting when thinking starts in the mind and ends when it turns to behaviour. These claim that critical thinking occurs with the combination of knowledge, skills and attitudes. Realizing the problem, finding proofs for assumptions, obtaining information for the trueness of proofs, and using this process as an attitude form the contents of critical thinking.

In accordance with this definition, the dimensions of critical thinking are inference, realizing the assumptions, deduction, interpretation and evaluation of arguments (Carter, 1973).

Ennis (1985) states that critical thinking evaluates clues and proofs carefully and aims at reaching at objective decisions using appropriate cognitive processes. Hudgins and Edelman (1986) focus on process dimension of critical thinking, and highlight three different aspects of critical thinking as; judging, developing knowledge, and interrogating; and they claim that critical thinking is reflective and rational thinking. They also suggest that critical thinking is finding proof before accepting some consequences. On the other hand, Halpern (1989) focuses on the end of the process and argues that critical thinking is intentional, rational and target-driven thinking. Similarly, Paul (1988) states that critical thinking is reaching at consequences based on observation and information. Kazanci (1989) lists the process of critical thinking as defining the problem, hypothesizing, testing the hypothesis, inference, and judgement. Cuceloglu (1993) defines the processes of critical thinking as defining the problem, defining the limits, defining the pros and cons of the options, solution and evaluation. According to Mcknown (1997), critical thinking requires reasoning, deep thinking, and focusing. Inferences are based on valid proofs through reasoning, deep thinking is related to developing a thought and evaluating others' thoughts, and focusing includes setting a target and deciding accordingly. These three features complement each other and form critical thinking. Researches on the critical thinking levels of pre-service teachers in the related literature are mostly descriptive studies. Karaduz (2010) conducted a compilation study describing the relationship between critical thinking and linguistic skills. Additionally, there are other studies on pre-service Turkish language teachers' ideas on the tendency for critical thinking (Cetinkaya, 2011) and the variation of critical thinking by some variables (Sen, 2009). Some other studies tried to define pre-service teachers' critical thinking tendencies (Turnuklu and Yesildere, 2005), the relationship between critical thinking and some variables (Ekinci, 2009; Dutoglu and Tuncel, 2008). There are some studies on the use of critical thinking during lessons (Demirkaya, 2008), the relationship between attitudes

toward critical thinking and research anxiety among university students (Cokluk-Bökeoğlu and Yılmaz, 2005), the relationship between critical thinking and academic achievement (Akbiyik, 2002), defining and comparing the critical thinking levels of students at Physical Education and Sport Department (Sacli et al., 2008).

Today, members of all occupations need education in both their professional and social lives. With life-long personal education members of occupation can adapt to new conditions more easily, and contribute to the development of their professions. For this reason, reading habit is the basis of all professions for the continuation of learning after school and development of intellectuality of individuals with lifelong personal education (Gomleksiz, 2004; Ozbay et al., 2008; White, 2004). Reading habit refers to considering the act of reading as a requirement and source of pleasure, and realizing this act regularly and consistently throughout life (Yılmaz, 2002). With reading habit, individuals can acquire skills, such as realizing life, reaching new information, synthesizing and analysing, interpreting and evaluating events, and contributes to the development of communicative skills, such as speaking, expressing oneself (Akca, 2008; Odabas and Mart, 2005). Additionally, reading habit contributes to intellectual development and academic achievement, besides socio-cultural development by helping bringing up objective, independent, critical thinking, creative, productive, self-confident individuals with different perspective, and open minds. Development of all these competencies at desired extent is only possible by developing positive attitudes towards reading (Arici, 2008; Yılmaz, 2006).

METHODS

The universe of the present research is 136 pre-service physical education teachers studying at Mugla Sitki Kocman University Faculty of Sport Sciences and Marmara University School of Physical Education and Sports in 2015-16 academic year fall semester. The relations between variables were tested with correlation analysis at 0.01 significance level, and the differences were tested with Mann-Whitney U at 0.05 significance level.

Two scales were utilized in order to define pre-service physical education and sport teachers' critical thinking and reading habit levels. These scales are next described.

California critical thinking disposition inventory

California Critical Thinking Disposition Inventory (CCTDI) was developed in 1990 with Delphi Project conducted by American Philosophical Association. The original form is an inventory, and it was adapted to Turkish as a scale. Unlike similar critical thinking scales, CCTDI is used to evaluate individuals' critical thinking disposition or critical thinking levels, not to measure a skill. CCTDI total scores are also used to evaluate the efficacy of educational programs offered to develop critical thinking disposition and/or skill. The scale consists of seven sub-scales, which were defined theoretically and tested psychometrically (truth-seeking, open-mindedness, disposition to analyze, disposition to systematize, self-confidence, inquisitiveness, and maturity) and 75 items (Kokdemir,

Table 1. Critical thinking and book-reading habit levels of pre-service physical education and sport teachers.

Statistical parameters	Critical thinking	Reading habit
N	136	136
Mean	167.02	104.1250
Standard deviation	23.95	16.52

Table 2. Correlations between critical thinking and reading habits of pre-service physical education and sport teachers.

Correlation	Critical Thinking - Reading habit
Pearson Correlation	0.428**
P	0.000
N	136

**p<0.01.

Table 3. Difference in critical thinking across genders among pre-service physical education and sport teachers.

Gender	N	Mean rank	Mann-Whitney u	p
Male	73	65.71		
Female	63	71.73	2096.0	0.374
Total	136			

Table 4. Difference in reading habit across genders among pre-service physical education and sport teachers.

Gender	N	Mean rank	Mann-Whitney U	p
Male	73	60.17		
Female	63	78.15	1961.0	0.008
Total	136			

2003; Facione and Galnen, 1995).

The original form of CCTDI is in English, and it was adapted to Turkish by Kokdemir (2003) who tested the validity and reliability of the scale on 913 students of Baskent University Faculty of Economic and Administrative Sciences. In the Turkish adaptation of the scale, 24 items were removed, considering that remaining 51 items were more representative (Chen and Lin, 2003). The revised form of the scale consists of 6 sub-scales and 51 items; and the Cronbach Alpha reliability coefficient was calculated as 0.88 for the whole scale; 0.75 for disposition to analyze sub-scale and open-mindedness sub-scale; 0.78 for inquisitiveness sub-scale; 0.77 for self-confidence sub-scale; 0.61 for truth-seeking sub-scale; and 0.63 for disposition to systematize sub-scale.

Scale for attitudes towards book reading habit

Scale for Attitudes towards Book Reading Habit was developed by Gomleksiz (2004). Cronbach Alpha reliability coefficient of the scale was calculated as 0.88, which showed that it was a reliable scale to

measure book-reading habits among university students. The scale consists of 21 positive and 9 negative of 30 items. The scale consists of six sub-scales; love, habit, necessity, desire, effect, and benefit. The scale is scored on 5-point likert type scale and higher scores refer to more positive attitudes towards book-reading habit.

FINDINGS

Of the pre-service physical education and sport teachers, who participated in the present research, 53.7% were males and 46.3% were females; 30.9% were 4th grade, 32.4% were 3rd grade, 25.0% were 2nd grade and 11.8% were 1st grade students; 78.4% came from nuclear families, 14.7% came from extended families, and 6.6% came from broken families; and 63.2% came from middle income families; 23.5% came from high income families; 7.4% came from low income families; 5.1% came from very high income families, and 0.7% came from very low income families (Table 1).

Critical thinking and reading habits are at medium level among pre-service physical education and sport teachers.

There is a positive correlation between critical thinking levels and reading habit levels of pre-service physical education and sport teachers (p<0.01). As reading habits of pre-service teachers increase, their critical thinking levels increase accordingly (Table 2).

There is no significant difference in critical thinking levels of pre-service physical education teachers across genders (p>0.005) (Table 3).

There is a significant difference in reading habits of pre-service physical education and sport teachers across genders (p<0.005) (Table 4).

DISCUSSION

According to the findings of the present research, pre-service physical education and sport teachers' both critical thinking and reading habits are at medium level (Table 1). Similarly, Mcninch and Steelman (1990) found in their research that pre-service teachers did not read adequately. In addition, Olsan and Gillis (1983) found that pre-service teachers did not have a positive attitude towards reading. The reason for these findings may be that educational programs do not include adequate classroom atmosphere, methods, techniques and educational materials intended to develop these concepts among individuals. According to Meyer (1988:2) transfer of knowledge is more important than developing thinking skills at faculties and universities. Accordingly, passive educational styles are adopted and generally the education is carried out without attaching enough importance on critical thinking.

As presented in Table 2, there is a positive correlation between critical thinking levels and reading habit levels of pre-service physical education and sport teachers. As

reading habits of pre-service teachers increase, their critical thinking levels increase as well. According to the findings of the research conducted by Kirmizi et al. (2014), there is a low level significant and positive correlation between pre-service classroom teachers' critical thinking dispositions and attitudes towards reading habit. This finding is in agreement with the related finding of the present research.

As can be seen in Table 3, there is no significant difference in critical thinking levels of pre-service physical education teachers across genders. On the other hand, there is a significant difference across genders in terms of reading habits (Table 4). Female pre-service teachers have more positive attitudes towards reading habit than male pre-service teachers, which is in agreement with findings of some other researches (Arici, 2008; Hopper, 2005; Hughes et al., 2006; Mullis et al., 2003; Saracaloglu et al., 2003; Tercanlioglu, 2001).

No studies were conducted on the subject of the present research before, but many researchers have found that critical reading is also a skill, and critical thinking education should be on skill basis. Ozcan (2007) reported that there was a significant difference in critical thinking scores between the experiment group, on who problem-solving method was conducted, and the control group, in favour of the experiment group. Canturk et al. (2009) found in their research that there was a significant difference in critical thinking skills of students who were taught with problem-based learning method and students who were taught with traditional method. Bagdat (2009) observed that classes with critical thinking skills could evaluate the text from different aspects, and accept or reject the proposed ideas. Additionally, the group with critical thinking skills could analyze, synthesize and evaluate using the data obtained before. According to these findings, teaching critical thinking on skill basis creates a significant difference than other teaching methods.

It is known that reading habit and critical thinking skill are two concepts that are not inherited but can be developed life-long. According to Stein and Steven (2003), reading habit and critical thinking can be acquired in time and through experiences. Walsh and Paul (1988) claim that reading habit and critical thinking can be taught to anyone of any age, because it's a phenomenon that develops with age (Cited in: Demirci, 2001:3). It is very important that a pre-service teacher has developed critical thinking disposition, because teachers should be able to take measures for the problems that can occur in the classroom environment, be organized and solve problems. That pre-service teachers start their profession with "critical thinking skill and reading habit" can contribute to their success in the profession, understanding and interpreting students. As well know, many nonsense discussions result from not being open-minded. The way to prevent such negative situations is raising open-minded individuals with critical thinking

disposition. In the educational environment, teachers should make their students feel that they take students' different ideas into consideration, and also serve as role models to their students.

Further research is required with different sample to be able to generalize the results of this study. Similar studies in different regions of the world will also allow scientists to see if the relationship between the basic psychological needs and psychological well-being occur similarly in every culture. It will also enable social scientists to see the differences of people according to social environment in which individuals sustain their life (Bayansalduz, 2012).

Conclusion

Consequently, there is a positive and significant correlation between critical thinking and reading habit of pre-service physical education teachers. As reading habit levels of pre-service teachers increase their critical thinking levels increase accordingly. There is no significant difference in critical thinking levels of pre-service physical education and sport teachers across genders. However, female pre-service teachers have more positive attitudes towards reading habits than male students.

Pre-service physical education and sport teacher can acquire critical thinking skills through modern education and teaching. For this, universities, defined as the environment of universal thinking people, have a very important place. Modern education should aim at raising teachers who know why and how to learn what, use and develop knowledge they learn, and produce new information, instead of raising individuals who accept ready information without questioning. In order to be able to develop these two concepts, educational programs should include concepts that contribute to the acquisition of critical thinking skills and reading habit. Additionally, the program should set educational tools for this purpose, provide a comfortable education environment, support the learning of these skills with different methods and techniques, and evaluate the process with appropriate assessment tools.

Additionally, because development of critical thinking and reading habit, which have positive effects on academic achievement and social life, is a life-long process, in-service trainings should be offered to teachers and the awareness should be raised in the society. Because critical thinking and reading habit are two concepts that can be developed, and the development of these concepts starts in the family, programs can be offered to families to present the importance of critical thinking and reading habit.

The present research was conducted at physical education and sport teaching departments of two universities. Different findings can be obtained in further studies conducted on broader samples. Further studies

can be conducted to present how to develop critical thinking skills and reading habits among pre-service physical education and sport teachers.

Conflict of Interests

The author has not declared any conflict of interests.

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