

Prospective teachers' metacognitive awareness levels of reading strategies

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Abstract

The main purpose of this study is to determine prospective teachers' metacognitive awareness levels of reading strategies. A quantitative survey method was used. Participants consisted of 150 prospective primary teachers and 150 prospective Turkish language teachers from Necmettin Erbakan University in Turkey. The data were collected through *Metacognitive Awareness of Reading Strategies Inventory* during the spring semester of the 2014–2015 academic year. Results show that prospective teachers' *global reading* and *problem solving strategies* levels are high while their *support reading strategies* level is medium. Female participants' metacognitive awareness level was found to be higher compared to males. Prospective Turkish language teachers' problem solving strategies level is higher than that of prospective primary teachers. Prospective primary teachers preferred *historical* and *psychological* books more while prospective Turkish Language teachers favoured all types of books equally. The metacognitive awareness levels of participants reading book *everyday* and *sometimes* are significantly higher than those of reading book *never*.

Keywords: Metacognitive awareness, reading strategies, prospective teachers.

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1. Introduction

Reading comprehension is one of the language skills imparted in the primary school period and improved continuously in the following years. Reading is a complex endeavour that is based on the functioning of psychomotor skills and requires attention to many features such as the meanings of words, phonological properties, sentence content and punctuation (Adams, 1990). It entails the activation of schemata and effective interaction between the author and the reader (Akyol, 2011) and must be structured by the reader for the purpose of deriving meaning from the text (Denton & Al Otaiba, 2011). In sum, reading consists of complex psychomotor, affective and cognitive processes which need to be taken into consideration for an effective reading instruction.

Readers make use of different reading strategies for effective comprehension during the reading process. Reading strategies capitalised on before reading, while reading and after reading are ways that can be selected by readers to help them achieve their reading goals (Aarnoutse & Schellings, 2003). Using various reading strategies, methods and techniques lays the ground for paying attention to structural features of the text and effective participation in the reading process. It facilitates the comprehension of the text content and contributes to the development of such skills as review, evaluation and retention of the text (Akyol, 2007). Good readers are cognisant of where to use reading strategies according to their reading goals. This awareness is associated with the metacognitive structure of the reader. While metacognitive awareness means one's being aware of what should be done, strategy use means putting one's knowledge into action (Cogmen, 2008).

The word *metacognition* means an individual's knowledge about his/her cognitive operations and everything related to them (Flavell, 1999). While cognition includes perception, comprehension, retention and similar mental processes, metacognition includes an individual's thinking about his/her own perception, comprehension, retention and similar mental processes (Garner & Alexander, 1989). In short, metacognition can be defined as thinking about one's own thinking process (Carrell, 1998; Gilbert, 2005; Webster, 2002). Metacognitive awareness is a clear awareness of reading strategies employed to monitor, regulate and plan comprehension (Grabe & Stoller, 2002). Metacognitive strategies include selective attention, planning, monitoring and evaluation strategies (O'Malley & Chamot, 1990).

Metacognitive reading strategies can be defined as the reader's conscious monitoring of the reading process and intervening in this process when necessary and evaluating this process in all aspects for the construction of comprehension (Basaran, 2013). In other words, a student's monitoring of his/her reading process, self-evaluation of his/her level of reading comprehension, detection of his/her shortcomings and if needed, reading again can be considered to be the indicators of his/her metacognition (Cogmen & Saracaloglu, 2010). Hartman (2001) identified metacognitive reading strategies as glancing, predicting, checking comprehension, clarifying, testing for comprehension, revising, summarising, activating prior knowledge and connecting new knowledge with the former.

Recently, many researchers have developed various scales to elicit metacognitive strategies used while reading. For example, Taraban, Kerr and Rynearson (2004) developed the *Metacognitive Reading Strategies Questionnaire* to evaluate metacognitive strategies of college students during reading, Karatay (2007) developed the *Reading Strategies Scale* to assess prospective teachers' reading strategies, and Mokhtari and Reichard (2002) developed the *Metacognitive Awareness of Reading Strategies Inventory (MARSII)* to examine the metacognitive strategies of adolescents and adults in reading.

The current research literature on metacognition in reading mostly focuses on the use of reading strategies. Gelen (2003), for instance, reported that those students who had been trained about how to use metacognitive strategies in line with the purpose of reading were more successful in comprehension and retention of meaning than the ones who had not been subject to any strategy training. Eilers and Pinkley (2006) concluded that metacognitive reading strategy instruction has

positive effects on comprehension levels of students. Kaya (2006) reported that the use of metacognitive reading strategies enhanced the attitudes of the fourth grade students towards Turkish language course.

Recent research has also given rise to the idea that good readers are also strategic readers who are not only more sophisticated to use various reading strategies but also they are more sophisticated in terms of monitoring and regulating the strategies they use during the process of reading (Pang, 2008). Prior research proved that there is a high correlation between students' metacognitive awareness of reading strategies and their reading success (Cakiroglu, 2007; Coskun, 2011; Dogan, 2002; Duman & Arsal, 2015; Muhtar, 2006; Temizkan, 2008). Research also shows that females' metacognitive awareness levels in reading are higher than those of males (Al-Dawaideh & Al-Saadi, 2013; Ates, 2013; Jimenez, Puente, Alvarado & Arrebillaga, 2009; Temur & Bahar, 2011; Topuzkanamis & Maltepe, 2010). A recent study conducted on the effect of technology on reading has revealed that while the mean of secondary school students' metacognitive awareness level was medium in general, the mean of metacognitive awareness level of students having a mobile phone, a profile in social networks and going to internet cafes was found to be low (Turkyilmaz, 2015). With increasing level of book reading frequency of prospective teachers, their strategy utilisation is also increasing (Edizer, 2015).

The main purpose of this study is to determine prospective primary and Turkish language teachers' metacognitive awareness levels of reading strategies. Specifically, answers to the the following questions were sought in this study:

1. What are prospective primary and Turkish language teachers' metacognitive awareness levels of reading strategies?
2. Are there any significant differences in participants' metacognitive awareness levels in terms of their gender (male and female)?
3. Are there any significant differences in participants' metacognitive awareness levels in terms of their programme types (primary teaching and Turkish language teaching)?
4. Are there any significant differences in participants' metacognitive awareness levels in terms of their favourite book types (narrative/story, historical, emotional, psychological, fiction, religious and fantastic)?
5. Are there any significant differences in participants' metacognitive awareness levels in terms of their reading habits (everyday, sometimes, rarely and never)?

2. Method

2.1. Research design

A relational survey method was used in this study. This model aims to determine the presence and degree of variance between two or more variables (Karasar, 2014).

2.2. Participants

Participants consisted of 150 prospective primary teachers and 150 prospective Turkish language teachers from Ahmet Kelesoglu Education Faculty of Necmettin Erbakan University in Turkey. Of the participants, 198 (66%) are females and 102 (34%) are males.

2.3. Data collection

The study data were collected through the use of *MARSI* developed by Mokhtari and Reichard (2002) during the spring semester of the 2014–2015 academic year. The Turkish adaptation of this inventory was made by Ozturk (2012). This inventory consists of 30 items and three sub-dimensions

(namely, *problem solving strategies, global reading strategies and support reading strategies*). The Cronbach's alpha reliability coefficient of *MARSI* was calculated as $\alpha = 0.90$ in the present study.

2.4. Data analysis

To analyse the study data, first, means (\bar{x}) and standard deviations (SD) for each sub-dimension were calculated. Later, independent *t*-test was used for gender and programme type comparisons and one-way analysis of variance was used for book type and reading habit comparisons. The results of *MARSI* were distributed in the range of 5.00 – 1.00 = 4.00. This range was divided into five, so that levels determining the cut points of the inventory could be established.

The evaluation of *MARSI* factor (dimension) scores was carried out on the basis of the following criteria:

Options	Scores	Score interval	Score evaluation
Strongly disagree	1	1.00–1.79	Very low
Disagree	2	1.80–2.59	Low
Undecided	3	2.60–3.39	Medium
Agree	4	3.40–4.19	High
Strongly agree	5	4.20–5.00	Very high

3. Findings

3.1. Prospective teachers' metacognitive awareness levels of reading strategies

Table 1 shows prospective teachers' metacognitive awareness levels of reading strategies.

Table 1. Prospective teachers' metacognitive awareness levels of reading strategies

	N	\bar{X}	SD	Min.	Max.
Global reading strategies	300	3.74	0.53	3.68	3.80
Problem solving strategies	300	3.74	0.56	3.68	3.80
Support reading strategies	300	3.39	0.58	3.33	3.46

According to Table 1, prospective teachers' levels of global reading strategies ($\bar{X} = 3.74$) and problem solving strategies are high ($\bar{X} = 3.74$) while their level of support reading strategies is medium ($\bar{X} = 3.39$).

3.2. Gender differences in participants' metacognitive awareness levels of reading strategies

Table 2 shows gender differences in participants' metacognitive awareness levels of reading strategies.

Table 2. Gender differences in participants' metacognitive awareness levels of reading strategies

	N	\bar{X}	SD	df	t	p
Female	198	3.68	0.50	298	3.031	0.03
Male	102	3.50	0.46			

According to Table 2, significant gender differences exist in participants' metacognitive awareness levels of reading strategies ($t_{(300)} = 3.031, p < 0.05$). Female participants' metacognitive awareness level ($\bar{X} = 3.68$) was found to be higher than that of males ($\bar{X} = 3.50$).

3.3. Programme type differences in participants' metacognitive awareness levels of reading strategies

Table 3 shows programme type differences in participants' metacognitive awareness levels of reading strategies.

Table 3. Programme type differences in participants' metacognitive awareness levels of reading strategies

	Programme type	N	\bar{X}	SD	df	t	p
Global reading strategies	Primary teaching	150	3.69	0.56	298	1.55	0.121
	Turkish language teaching	150	3.78	0.50			
Problem solving strategies	Primary teaching	150	3.66	0.57	298	2.59	0.010*
	Turkish language teaching	150	3.82	0.54			
Support reading strategies	Primary teaching	150	3.37	0.61	298	0.65	0.511
	Turkish language teaching	150	3.42	0.55			

According to Table 3, there is a significant difference between prospective primary and Turkish language teachers' metacognitive awareness levels only with regard to problem solving strategies ($t_{(300)} = 2.59, p < 0.05$). The mean of prospective Turkish language teachers for this sub-dimension ($\bar{X} = 3.82$) is higher than that of prospective primary teachers ($\bar{X} = 3.66$).

3.4. Book type differences in participants' metacognitive awareness levels of reading strategies

Table 4 shows book type differences in participants' metacognitive awareness levels of reading strategies.

Table 4. Book type differences in participants' metacognitive awareness levels of reading strategies

Programme	Book types	N	\bar{X}	SD	F	p	Significance (LSD)
Primary teaching	Narrative/story	19	3.32	0.44	2.55	0.022	2 > 1, 4 > 1, 2 > 7, 4 > 7
	Historical	38	3.75	0.48			
	Emotional	19	3.61	0.49			
	Psychological	20	3.67	0.40			
	Fiction	27	3.51	0.66			
	Religious	10	3.69	0.42			
	Fantastic	17	3.32	0.55			
Turkish Language teaching	Narrative/story	15	3.66	0.51	0.806	0.567	
	Historical	31	3.66	0.49			
	Emotional	30	3.77	0.48			
	Psychological	32	3.60	0.44			
	Fiction	14	3.63	0.47			
	Religious	14	3.58	0.41			
	Fantastic	14	3.84	0.38			

According to Table 4, there is a significant difference between prospective primary teachers' metacognitive awareness levels of reading strategies based on their favourite book types ($F = 2.55; p < 0.05$). Metacognitive awareness levels of participants whose most preferred book types are *historical* ($\bar{X} = 3.75$) and *psychological* ($\bar{X} = 3.67$) are found to be higher than that of those whose most preferred book types are *narrative/story* ($\bar{X} = 3.32$) and *fantastic* ($\bar{X} = 3.32$). No significant differences existed in prospective Turkish language teachers' metacognitive awareness levels of reading strategies with regard to the book type factor.

3.5. Reading habit differences in participants' metacognitive awareness levels of reading strategies

Table 5 shows reading habit differences in participants' metacognitive awareness levels of reading strategies.

Table 5. Reading habit differences in participants' metacognitive awareness levels of reading strategies

Reading habit	N	\bar{X}	SD	F	p	Significance (LSD)
Everyday	51	3.75	0.46	5.68	0.001	1 > 4, 2 > 4
Sometimes	210	3.63	0.48			
Rarely	30	3.51	0.50			
Never	9	3.06	0.54			

According to Table 5, participants' metacognitive awareness levels of reading strategies vary significantly with regard to their reading habits ($F = 5.68$; $p < 0.05$). Metacognitive awareness levels of participants who read books *everyday* ($\bar{X} = 3.75$) or *sometimes* ($\bar{X} = 3.65$) are higher than that of those who *never* ($\bar{X} = 3.06$) read books.

4. Discussion and conclusions

The results of this study show that prospective teachers' *global reading strategies* and *problem solving strategies* levels are found to be high while their *support reading strategies* level is medium. Similar results were also reported by Ates (2013) who studied university students from 10 different faculties and concluded that participants' problem solving strategies level is high while their support reading strategies level is medium.

Another finding of this study is that metacognitive awareness levels of female participants are higher than those of male participants. This finding also concurs with those reported by previous research (see Al-Dawaideh & Al-Saadi, 2013; Ates, 2013; Jimenez et al., 2009; Temur & Bahar, 2011; Topuzkanamis & Maltepe, 2010).

Also, problem solving strategies levels of prospective primary teachers are lower than those of prospective Turkish language teachers. Likewise, Topuzkanamis and Maltepe (2010) found that prospective Turkish language teachers' reading strategy application level is higher than that of prospective primary teachers. This situation is maybe because of the fact that reading strategy training is given in the Turkish language teacher education programmes.

While metacognitive awareness levels of reading strategies of prospective Turkish language teachers do not vary significantly depending on the type of book they read, metacognitive awareness levels of reading strategies of prospective primary teachers whose most preferred types of books are *historical* and *psychological* are higher than those whose most preferred types of books are *narrative/story* and *fantastic*.

The final finding of the study is that metacognitive awareness levels of reading strategies of participants reading books *everyday* and *sometimes* are significantly higher than that of those who *never* read books. Thus, it can be argued that book reading habits are directly related to metacognitive awareness in reading. That is, it can be concluded that individuals not reading periodically or reading very little cannot develop adequate metacognitive awareness of reading comprehension.

Further research about metacognitive awareness of reading strategies can be conducted with other teacher candidates in Turkey. Also, more in-depth data through interviews can be obtained in addition to the survey technique.

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