Metacognitive Awareness and Academic Motivation: A Cross-Sectional Study in Teacher Education Context of Turkey

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Abstract

Metacognitive awareness has been shown to have a significant role in second or foreign language (L2) learning (Anderson, 2002; Ohata & Fukao, 2014; Öz, 2015). The present study investigated the role that metacognitive awareness plays in the enhancement of academic motivation among prospective English teachers in a Turkish context. A total of 104 students participated in the study. Data were collected using the Metacognitive Awareness Inventory (MAI; Schraw & Dennison, 1994) and the Academic Motivation Scale (AMS; Vallerand et al., 1992). Findings showed a statistically significant relationship between metacognitive awareness and academic motivation. The analysis of moment structures (AMOS) and multiple squared correlations revealed that knowledge of cognition (KOC) and regulation of cognition (ROC) as the two major components of metacognitive awareness appeared as significant predictors of academic motivation, explaining 44% of the variance in the academic motivation of prospective English teachers. These findings underscore the importance of metacognitive awareness, and fostering construction of new knowledge, regulating and monitoring cognition would contribute to the creation of a supportive environment for promoting academic motivation among students, more specifically in teacher education programs. It is further concluded that metacognitive training can motivate students to improve their metacognitive knowledge and strategy use in learning an L2.

Keywords: Metacognition; metacognitive awareness; academic motivation, amotivation, ELT; teacher education

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1. Introduction

Research on second or foreign language (L2) learning has shown that individual differences variables have the potential to influence L2 learners’ behavior during L2 learning process (Andreou, Andreou, & Vlachos, 2006; Dörnyei, 2005, 2009; Dörnyei & Ryan, 2015). Given the complexity of L2 learning as a cognitive process and as a long and often tedious process (Dörnyei, 2005), this becomes even more vivid and significant since, L2 learners often “bring to the language classroom a complex set of characteristics such as learning styles and strategies, attitudes, experiences, and expectations” (Öz, 2007, p. 53). These differences have long been acknowledged by researchers and practitioners in the field of second language acquisition (Dörnyei, 2005, 2009). Furthermore, successful L2 learners often employ a plethora of strategies to tackle the problems they encounter in their learning and a growing body of research (Chamot & El-Dinary, 1999; Cohen & Macaro, 2007; O’Malley & Chamot, 1990; Oxford, 1990, 2011) has acknowledged that learning strategies play a crucial role in successful language learning.

It is also argued that the way one controls and monitors his/her L2 learning process influences and possibly conditions language achievement (Anderson, 2002; Mokhtari & Reichard, 2002; Öz, 2005, 2007; Pressley, 2000). That is, this awareness and monitoring of one’s L2 learning process referred to as ‘metacognition’ or ‘metacognitive awareness’ are important aspects of successful language learning (Mokhtari & Reichard, 2004; Öz, 2014). A significant body of research (Anderson, 2002; Ohata & Fukao, 2014; Öz, 2015; Wenden, 1999; Zenotz, 2012) has now revealed that metacognitive awareness and the ability to control and regulate one’s cognition and self-controlled mechanisms employed while learning an L2 can play a significant role in learning an L2.

Given the complexity and dynamic nature of metacognitive knowledge, it is assumed that understanding the nature of metacognitive awareness and ways of developing and regulating this knowledge in L2 learners is of great importance in dealing in detail with self-regulated and self-determined language learning. According to Schraw and Dennison (1994, p. 460), the core content of metacognitive awareness is the fact that it provides opportunity for “individuals to plan, sequence, and monitor their learning in a way that directly improves performance”. Likewise, Anderson (2002) asserts that helping students to think about what happens during language learning process will encourage them to develop stronger learning skills. Additionally, according to Paris and Winograd (1990), metacognition can greatly contribute to academic learning and motivation.

It is plausible, therefore, to claim that developing stronger learning skills may lead to stronger academic motivation and academic success among prospective English teachers. To this end, the present study explores the role of metacognitive awareness in the Turkish context with regard to the possible interface between metacognitive awareness and academic motivation. The main purpose of the study is to investigate whether metacognitive awareness and its underlying constructs, i.e. factors such as knowledge of cognition and regulation of cognition, would result in variation in L2 learners’ academic motivation.

2. Literature review

2.1. Metacognitive awareness

Metacognition has been defined in many different ways in the literature ever since it was introduced by Flavell (1979) in cognitive psychology. Flavell (1976, p. 232) defines metacognitive knowledge as “one's knowledge concerning one’s own cognitive processes and products or anything related to them” and also as one's awareness of his/her own cognition (Flavell, 1979). It is also viewed as a complex thinking process that entails active and dynamic control over one’s cognitive process (Wenden, 1998, 1999) and simply as an individual’s “knowledge about learning” (Wenden, 1998). In other words, metacognitive learners actively control and monitor their L2 learning process while doing tasks and tackling problem-solving activities. Despite the diversity of definitions of metacognition and lack of a single agreed-upon definition of the construct, there has been a consensus over the underlying components of metacognition. These include metacognitive knowledge or knowledge of cognition, i.e. one’s knowledge of his/her own learning, and metacognitive strategies or regulation of cognition that encompass one’s ability to regulate and manage learning process (Raoofi, Chan, Mukundan & Rashid, 2014; Schraw, 1994; Schraw & Dennison, 1994; Schraw & Moshman, 1995; Schraw et al., 2006).
The related literature highlights the usefulness of metacognitive awareness and enhancement of metacognitive skill training (Anderson, 2002, 2012; Batang, 2015; Pintrich & Schunk, 2002). This implies that more proficient L2 learners have higher metacognitive awareness of strategies they employ while doing tasks than less proficient and less successful learners. However, having a quick glance on the research into metacognition of pre-service teachers, more specifically in a Turkish context (Alkan & Erdem, 2014; Memnun & Hart, 2012; Topcu & Ubu, 2008; Yeşilyurt, 2013), one can readily notice that most studies revolve around the metacognition of pre-service teachers in fields other than English language teaching. Recent research (Batang, 2015; Maftoon, Birjandi, Farahian, 2014; Öz, 2014, 2015; Sun, 2013) have shown that metacognitive awareness also greatly affects different aspects of L2 learning process and academic achievement.

Batang (2015), for instance, investigated the relationship between prospective secondary teachers’ awareness of metacognitive strategies and their levels of reading comprehension. His findings showed a significant relationship between metacognitive strategy use and reading comprehension level. That is, the more they use effective strategies, the higher their reading comprehension level will be. He asserts that metacognitive strategies employed by L2 learners during reading help them to easily and quickly understand what they read. Öz (2014), found that both knowledge of cognition and regulation of cognition significantly predicted academic achievement of prospective English teachers, with regulation of cognition as being stronger predictor of academic achievement, $\beta = .33$, than knowledge of cognition, $\beta = .30$.

In a recent comprehensive study in line with research into metacognitive awareness of pre-service English teachers, Öz (2015) explored 87 pre-service English teachers’ metacognitive awareness and the underlying components of metacognition construct along with such factors as gender, grade point average (GPA), and the type of practice school. His findings revealed that a great majority of the participants possessed a very high level of metacognitive awareness. Furthermore, there was a strong correlation between underlying components of metacognitive awareness, i.e. knowledge of cognition and regulation of cognition, supporting the contention that “cognitive knowledge facilitates cognitive regulation” (Öz, 2015, p. 51). Additionally, the findings revealed a positive relationship between metacognitive awareness and academic achievement of the participants, indicating that as metacognitive awareness increases, the academic achievement of the participants tends to increase, too. However, the findings showed no statistically significant differences among participants’ levels of metacognitive awareness in relation to demographic factors such as gender and the type of practice school.

2.2. Academic motivation

Over the past few decades, there has been a growing interest in the role of motivation in learning an L2. In line with the evolution of motivational research in the field of SLA and Gardners’ (1985) seminal work on motivation and his socioeducational model of second language learning (1985, 2001), many scholars (Dörnyei, 2005; Dörnyei, Henry, & Muir, 2016; Dörnyei & Ryan, 2015; Dörnyei & Ushioda, 2011; Gardner, 2001, 2010) have tried to better understand the nature of motivation and operationalize the construct. Research has shown that motivation as a complex and multifaceted construct serves as an important factor that greatly contributes to language achievement and academic performance (Deci & Ryan, 1985, 2000, 2002, 2008; Dörnyei, 2005, 2009, 2014; Dörnyei & Ryan, 2015; Öz, 2016).

Due to the dissatisfaction with the inadequacy of traditional conceptualization of motivation by Gardner (1985), other models of motivation emerged in an attempt to unfold the true nature of construct (Öz, 2016). Deci and Ryan’s (1985) self-determination theory and Dörnyei’s (2005) motivational self-system are among influential motivational models that have revolutionized motivational studies in SLA research over the past few decades.

Self-determination theory (Deci & Ryan, 1985), basically as a motivational theory, focuses on self-determined or autonomous and controlled behaviors (Deci, Vallerand, Pelletier & Ryan, 1991). Additionally, SDT postulates that a person who is unmotivated feels no aspiration and eagerness towards accomplishing an end (Deci & Ryan, 2000). Consequently, SDT introduces a tripartite model of motivation which addresses both “energization” and ‘direction’ issues closely connected with basic psychological needs, i.e. the need for competence, autonomy, and relatedness, inherent in human life (Deci & Ryan, 2000; Deci et al., 1991). Central to the theory is the distinction between intrinsic and extrinsic motivation. Intrinsically motivated people often tend to accomplish tasks out of their interest in doing activities without expecting material rewards whatsoever while extrinsically motivated people engage in activities that
are instrumental not volitional in nature. Considering academic motivation, intrinsic and extrinsic motivations are conceived of as two important motivated academic behaviors (Areepattamannil & Freeman, 2008; Cokely, 2003; Vallerand et al., 1993; Vallerand et al., 1992).

Self-determination theory identifies three types of intrinsic motivation, namely intrinsic motivation to know which concerns with doing learning tasks just for pleasure and satisfaction, intrinsic motivation to accomplish things, which is concerned with one’s motivation to do something beyond prescribed activities just for the mere pleasure of satisfaction and accomplishment, and intrinsic motivation to experience stimulation which refers to one’s engagement in undertaking and doing tasks for acquiring stimulating sensations and experiences (Ayub, 2010; Deci & Ryan, 1985, 2000; Vallerand et al., 1992). Extrinsic motivation, on the other hand, is concerned with motivated behaviours occurring due to external rewards. There are four different types of external motivation, i.e. external regulation, introjected regulation, identified regulation, and integrated regulation. SDT posits that through internalization of external motives an individual’s behaviors can be regulated, identified, and integrated in order to achieve functionally self-determined and autonomous behavior (Deci & Ryan, 1992, 2000; Deci et al. 1991). Amotivation, as the third type of motivation introduced by SDT, refers to a situation in which a person is neither intrinsically nor extrinsically motivated.

Prior research (Amrai, Motlagh, Zalani, and Parhon, 2011; Areepattamannil & Freeman, 2008; Areepattamannil, Freeman, & Klinger, 2011; Ayub, 2010; Komarraju, Karau, & Schmeck, 2009; McGhee, 2010; Önder, Beşoluk, İskender, Masal, & Demirhan, 2014; Sikhwari, 2014; Strobel, 2012) has indicated that academic motivation is positively correlated with academic achievement. Sikhwari (2014), for instance, investigated the relationship between motivation, self-concept and academic achievement of 193 second year university students in South Africa. The findings revealed significant correlations between self-concept, motivation and academic achievement of students, with females being more motivated than their male counterparts. Önder et al (2014) found that academic motivation significantly affected academic achievement. Likewise, Amrai et al. (2011) reported a positive correlation between academic achievement and different aspects of motivation.

Evidently, intrinsic and extrinsic motivations as the two supplementary components of self-determination theory are central to academic performance and achievement. Additionally, as can be understood from the related literature, central to metacognitive awareness and self-determination theory is the fact that both are in search for training autonomous L2 learners. However, there seems to be a research gap in the literature regarding the relation between metacognition and academic motivation. Therefore, the current study aimed to address this research gap through formulating the following research questions:

1. What are pre-service English teachers’ perceived levels of metacognitive awareness?
2. To what extent does metacognitive awareness predict the variability in participants’ academic motivation?
3. Are there any differences in pre-service English teachers’ metacognitive awareness and academic motivation in relation to gender and age differences?

3. Methodology

3.1. Research design

The current research study aimed to establish the relationship between the metacognitive awareness and academic motivation. The study is a quantitative research. Therefore, due to its quantitative nature, a cross-sectional survey design was utilized to collect data. The cross-sectional design was used because it can measure current perceptions and attitudes of the respondents in a short period of time (Creswell, 2012). Additionally, the relational survey model was also utilized to determine if there is a relationship among two or more variables (Kline, 2011; Tabachnick & Fidel, 2013).

3.2. Setting and participants

The sample consisted of 104 (78 females, 75% and 26 males, 25%) pre-service English teachers enrolled in a pre-service EFL teacher education program at a major state university in Turkey. The participants were selected using the simple random sampling. They voluntarily completed an online survey and gave consent for data collection. The age of the participants ranged from 19 to 23 years ($M = 20.29, \ SD = 0.95$).
3.3. Measures

3.3.1. The metacognitive awareness inventory (MAI)

The participants’ perceptions of metacognitive awareness were measured using the Metacognitive Awareness Inventory (MAI; Schraw & Dennison, 1994). It is a 7-point Likert scale consisting of 52 items ranging from 1 = strongly disagree to 7 = strongly agree. The MAI measures metacognitive awareness based on two main components of knowledge of cognition (17 items) and regulation of cognition (35 items). The metacognitive knowledge itself comprises three subcomponents, namely declarative, procedural, and conditional knowledge. Metacognitive regulation also comprises five subcomponents, i.e. planning, information management skills, monitoring, debugging strategies, and evaluation. The internal consistency of the scale was measured using Cronbach’s alpha for the main components as well as subcomponents. The internal consistency for overall metacognitive awareness was Ƞ= .96, metacognitive knowledge was Ƞ= .94, and metacognitive regulation was Ƞ= .95. Besides, the internal consistency for subcomponents of metacognitive knowledge ranged from Ƞ= .89 to Ƞ= .81 (declarative knowledge .89, procedural knowledge .81, and conditional knowledge .81), and the internal consistency for metacognitive regulation subcomponents ranged from Ƞ= .85 to Ƞ= .80 (planning .85, information management skills .84, monitoring .85, debugging strategies .80, and evaluation .85).

3.3.2. The academic motivation scale (AMS)

In order to assess the participants’ academic motivation, the Academic Motivations Scale (AMS; Vallerand et al. 1992, 1993) was utilized. Deeply rooted in self-determination theory, the AMS consists of 28 items measured on a 7-point Likert scale ranging from 1 = does not correspond at all to 7 = corresponds exactly. The AMS measures the participants’ perceptions of academic motivation based on three subscales of intrinsic motivation (12 items), three subscales of extrinsic motivation (12 items), and amotivation (4 items). As seen in Table 1, the internal consistency of the whole scale was Ƞ = .92 and for its subscales it ranged from Ƞ = .92 to Ƞ = .71.

<table>
<thead>
<tr>
<th>Variables</th>
<th># of items</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrinsic motivation (Total score)</td>
<td>12</td>
<td>.92</td>
</tr>
<tr>
<td>intrinsic motivation to know</td>
<td>4</td>
<td>.92</td>
</tr>
<tr>
<td>intrinsic motivation to accomplish</td>
<td>4</td>
<td>.88</td>
</tr>
<tr>
<td>intrinsic motivation to experience stimulation</td>
<td>4</td>
<td>.85</td>
</tr>
<tr>
<td>Extrinsic motivation (Total)</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>extrinsic motivation identified</td>
<td>4</td>
<td>.80</td>
</tr>
<tr>
<td>extrinsic motivation introjected</td>
<td>4</td>
<td>.83</td>
</tr>
<tr>
<td>extrinsic motivation external regulation</td>
<td>4</td>
<td>.71</td>
</tr>
<tr>
<td>Amotivation</td>
<td>4</td>
<td>.86</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>.92</td>
</tr>
</tbody>
</table>

3.3.3. Procedures for data collection and analysis

A survey methodology was employed for data collection in the study. The participants voluntarily completed an online survey. First of all, to be identified and scored easily, the completed questionnaires were serially numbered codified. Additionally, the items on metacognitive awareness scale were scored 1, 2, 3, 4, and 5, and the items on AMS were scored 1, 2, 3, 4, 5, 6 and 7 for response anchors ranging from does not correspond at all to correspond exactly, respectively. Then, the collected data were analyzed to address the research questions formulated in section 2 above. The IBM SPSS Statistics 22 was employed to obtain descriptive statistics such as frequencies, percentages, and means as well as preliminary information on the participants’ perceptions of metacognitive awareness and
academic motivation. In order to determine the relationship between metacognitive awareness and academic motivation, structural equation modelling (SEM) was conducted using IBM AMOS 22 statistical package. According to Kline (2005, 2011), SEM is a powerful measure of interrelated relations among variables in a single model. Besides, SEM seems to be the best alternative for regression analysis in representing prediction power of predictor variables.

4. Results

Descriptive statistics were used to determine the metacognitive awareness levels of the participants. To do this, following the frequently used cut-off points in the literature (Memnun & Hart, 2012; Öz, 2015) the perfect scores of participants’ perceptions of knowledge of cognition and regulation of cognition were converted into four mean ranges of Very High (3.75-5), High (2.50-3.74), Low (1.25-2.49), and Very Low (0-1.24). The results of percentages analyses, as shown in Table 2, revealed that 65% of the participants reported a very high level of metacognitive awareness for knowledge of cognition, 30% reported a high level of metacognitive awareness for knowledge of cognition, and only 5% had low level of metacognitive awareness for knowledge of cognition. Similarly, 63% of the participants showed a very high level of metacognitive awareness for regulation of cognition, 36% had a high level, and only 2% of them reported a low level of metacognitive awareness for regulation of cognition. No participant reported a very low level of metacognitive awareness neither for knowledge of cognition nor for regulation of cognition.

Table 2. Distribution of metacognitive awareness of pre-service English teachers

<table>
<thead>
<tr>
<th>Metacognitive awareness</th>
<th>Knowledge of Cognition</th>
<th>Regulation of Cognition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>Very High</td>
<td>68</td>
<td>65</td>
</tr>
<tr>
<td>High</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>Low</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Very Low</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
<td>100</td>
</tr>
</tbody>
</table>

The results further indicated that 67% of females had very high levels of metacognitive awareness for knowledge of cognition while 61% of males reported very high levels of metacognitive knowledge. However, 35% of males showed a high level of metacognitive knowledge while 28% of females had a high level of metacognitive awareness for knowledge of cognition. As shown in Table 3, a small proportion of the participants from both groups reported a low level of metacognitive knowledge, i.e. 5% and 4% in males and females, respectively. Neither of the groups showed very low levels of metacognitive awareness. For regulation of cognition, 65% of males and 61% of females had a very high level of metacognitive regulation, nearly the same proportion of high metacognitive awareness was observed in both groups, while only 3% of females reported a low level of metacognitive awareness for regulation of cognition. No participant showed very low levels of metacognitive awareness.

Table 3. Distribution of metacognitive awareness of pre-service English teachers in terms of gender

<table>
<thead>
<tr>
<th>Metacognitive awareness</th>
<th>Knowledge of Cognition</th>
<th>Regulation of Cognition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>Very High</td>
<td>16</td>
<td>61</td>
</tr>
<tr>
<td>High</td>
<td>9</td>
<td>35</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Very Low</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>100</td>
</tr>
</tbody>
</table>
The results of structural equation modelling (SEM) revealed a significant relationship between two central components of metacognitive awareness, i.e. knowledge of cognition (KOC) and regulation of cognition (ROC), and overall academic motivation of the prospective English teachers. As shown in Figure 1, metacognitive awareness explained 44% of the variance in overall academic motivation, with ROC ($\beta=.51$, $p<.001$) as a stronger predictor of academic motivation. KOC ($\beta=.17$, $p<.001$), though significant, emerged with less strong prediction power than ROC. Moreover, as expected, the two subcomponents of metacognitive awareness significantly correlated ($r=.92$) with each other, which indicates a higher index of correlation coefficient between the two predictor variables. Goodness-of-fit indices were $\chi^2/df=8.98$, GFI=.98, CFI=.96, and RMSEA=.03, showing that both data and theory driven model adequately fits the data.

Fig. 1. The relationship between metacognitive awareness and academic motivation
Note: KOC = Knowledge of Cognition; ROC=Regulation of Cognition; Academic _M = Academic motivation

In order to find out the interrelated relationships between related components of metacognitive awareness and three subscales of academic motivation, SEM analysis was conducted again with more details. As indicated in Figure 2, the findings revealed significant positive paths between KOC and ROC and almost all subscales of academic motivation except for the relationship between KOC and amotivation where the path was found to be negative. A careful scrutiny of the paths between variables revealed that, except for amotivation subscales, KOC and ROC significantly predicted intrinsic and extrinsic motivation along with related components. Together, KOC and ROC explained 43% of the variance in intrinsic motivation for knowledge, 37% of the variance in intrinsic motivation for accomplishment, and 32% of the variance in intrinsic motivation for simulation. Regarding extrinsic motivation, an inspection of squared multiple correlations revealed that metacognitive awareness accounted for 22% of the variance in external regulation, 15% of the variance in introjected regulation, and 48% of the variance in identified regulation. As stated earlier, metacognitive awareness did not significantly predict variance in amotivation dimension of academic motivation. It accounted for only one percent of the variance in amotivation. Like overall academic motivation, Goodness-of-fit indices, i.e. $\chi^2/df=9.65$, GFI=.97, CFI=.95, and RMSEA=.04, were in line with agreed-upon indices of goodness of fit in the literature (Kline, 2011).
In order to determine the predictive power of related sub-processes of metacognitive awareness in relation to overall academic motivation, further statistical analyses were carried out. As illustrated in Figure 3, three components of metacognitive knowledge significantly predicted 43% of overall academic motivation, with conditional knowledge ($\beta=.45, p<.001$) and declarative knowledge ($\beta=.37, p<.001$) being the strongest predictors, respectively.
Likewise, as shown in Figure 4, five components of regulation of knowledge also significantly predicted 49% of overall academic motivation, with information management skills as being the strongest predictor ($\beta=.57$, $p < .001$) followed by evaluation process ($\beta=.27$, $p < .001$).
Finally, an independent-samples T-test and One-way Analysis of variance (Anova) were run to determine viable differences between participants’ perceptions of metacognitive awareness and academic motivation in terms of gender and age factors. The results showed no statistically significant differences between male and female groups, $t(102) = -2.50, p>.05$, and $t(102) = -2.52, p>.05$, for KOC and ROC, respectively. Similar results were obtained for academic motivation, $t(102) = -1.57, p>.05$. Further analysis for the role of age differences in determining the participants' perceptions of KOC, ROC, and academic motivation revealed no statistically significant differences among age groups, $F(5, 98)=3.55, p>.05$ for KOC, $F(5, 98)=2.55, p>.05$ for ROC, and $F(5, 98) = 1.25, p>.05$ for academic motivation.

5. Discussion

The present study sought to investigate the relationship between metacognitive awareness of pre-service English teachers and their perceptions of academic achievement. More specifically, the purpose was to determine to what extent metacognitive awareness of the learning process can influence and even predict variability in the participants’ academic motivation and performance. Besides, the researcher investigated the existence of possible differences in the participants’ levels of metacognitive awareness as well as their perceptions of academic motivation in relation to such variables as gender and age differences.

The findings indicated that nearly 7 out of 10 participants reported very high levels of metacognitive awareness for both metacognitive knowledge (65%) and metacognitive regulation (63%). The findings underscore the importance of raising metacognitive awareness in prospective English teachers, suggesting that developing metacognition and strategy use would be of great help in their practical and professional teaching (O’Malley & Chamot, 1990; Oxford 1990; Pintrich & Schunk, 2002; Zentoz, 2012). Similar studies in L2 learning research (Goh, 2008; Öz, 2015; Raoofi et al., 2014; Plonsky, 2011; Sun, 2013) as well as other disciplines (Alkan & Erdem, 2014; Clark and Moulding, 2012; Özsoy & Günindi, 2011; Memnun & Akkaya, 2009; Topcu & Ubuiz, 2008) have established the importance of metacognitive development among pre-service teachers. Even though there were some differences between metacognitive awareness levels of male and females in both metacognitive knowledge and metacognitive regulation, the existing differences did not reach statistical significance. These findings are in line with previous research findings (Öz, 2015; Tüysüz et al., 2008), suggesting that metacognitive awareness is central to teacher education programs in all disciplines regardless of such demographic variables as gender and age differences.

The findings revealed significant relationship between metacognitive awareness and academic motivation. Both knowledge of cognition and regulation of cognition significantly contributed to the prediction of academic motivation. More importantly, there was a strong positive correlation between the two components of metacognition, which corroborates prior research in the area of metacognitive awareness. Schraw (1994, 1998) maintains that knowledge and regulation of cognition are interrelated and are “domain-general in nature” (Schraw, 1998, p. 115). From SLA and teacher education perspective, this harmony between metacognitive knowledge and regulation, according to Öz (2015), can play a vital role in training self-regulated L2 learners and teachers.

The findings of the present study also indicated a significant relationship between metacognitive awareness, intrinsic motivation and extrinsic subscales of academic motivation, and metacognition predicted major proportion of the variance in all components and subcomponents except for amotivation. Unfortunately, the literature on the relationship between metacognition and academic motivation is so scarce and, to the best knowledge of the researcher, no research study has addressed the metacognitive knowledge and regulation of pre-service English teachers in relation to academic motivation. The current study, thus, can be considered as the pioneer in this area. Based on the findings of this study, it seems plausible to assert that metacognitively aware learners are both intrinsically and extrinsically motivated. Given that a significant body of research has now acknowledged that more proficient learners are metacognitively aware and less proficient ones are not metacognitively aware (Anderson, 2012; Maftoon et al., 2014), it can be claimed that fostering metacognitive awareness may greatly contribute to our better understanding of motivational aspects of L2 learning as well as language teacher education.

6. Conclusion

The present study showed that metacognitive awareness significantly predicted academic motivation, more specifically intrinsic and academic motivation. A great majority of the participants reported very high levels of metacognitive awareness. These findings corroborate previous research over the last decades, which underscore the
significance of construct SLA research as well as other disciplines. The implications are that teacher education programs should aim at enhancing metacognitive knowledge and regulation of pre-service English teachers through metacognitive awareness raising and instruction since enhanced metacognitive skills are potentially capable of empowering pre-service teachers. This training and awareness raising will undoubtedly result in “improved practices of language teaching” (Öz, 2015, p. 52) and coupled with academic motivation would behave as a boomerang, contributing significantly to successful language learning. According to Anderson (2012, p. 182), “If we want metacognitively aware learners, we must have metacognitively aware teachers. When learners engage in reflecting upon their learning, they become better prepared to make conscious decisions about what they can do to improve themselves as language users”.

This study extends our knowledge of the role which metacognitive awareness can play in enhancing academic performance among pre-service English teachers. As stated above earlier, self-determination theory postulates that both intrinsic and extrinsic motivations are important factors in academic achievement. It is thus important for teachers to familiarize themselves with motivational units of their learners. The study may serve as a well-documented guide for teachers and educators to develop metacognitive skills and strategy use in pre-service English teachers and help them to navigate their efforts to facilitate successful and affective language learning in academic settings. It is thus compelling to argue that pre-service teachers should be encouraged to rely on both intrinsic and extrinsic motivation. Only in this way can we provide them opportunity to feel autonomous and self-determined in undertaking responsibilities.

Obviously, it seems plausible to claim that integration of metacognitive awareness raising and training component into L2 learning and teacher education programs not only “can increase the less proficient learner’s awareness of their learning process” (Anderson, 2012, p. 181), but also helps to motivate less motivated learners toward motivated language learning. Put differently, lack of motivation can, to a large extent, be compensated through raising metacognitive awareness. This can positively and significantly affect students’ academic performance through enhanced academic motivation. Therefore, teacher training programs need to update their programs and incorporate in their curricular courses which appeal to their students’ metacognitive awareness since it is crucial for them to know why and when to use their metacognitive skill appropriately in different contexts. This systematic training is necessary since teachers will need to monitor and evaluate their teaching practices, which will ultimately lead to the betterment of their professional career and enable them to motivate their students toward enhanced L2 learning through control and regulation of their metacognitively-oriented professional skills. However, there is no empirical research in the current literature dealing with impact of metacognitive awareness on academic motivation. Therefore, further research is needed to unfold the dynamics of metacognitive awareness and the way it relates to academic motivation and success in academic contexts.

References


