Relationships among Foreign Language Anxiety, Academic Self-Efficacy Beliefs and Metacognitive Awareness: A Structural Equation Modelling

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Abstract

The present research attempted to investigae the relationships among foreign language classroom anxiety, academic self-efficacy beliefs and metacognitive awareness of Turkish university students studying English. The population included the students at the University of Fırat who were already registered to study at different engineering departments, and had compulsory English prep-class education. The sample consisted of 271 students who wanted to take part in the study. For data collection, the Foreign Language Classroom Anxiety Questionnaire developed by Horwitz et al (1986), the Academic Self-efficacy Questionnaire developed by Owen and Froman (1988) and the Metacognitive Awareness Inventory developed by Schraw and Dennison (1994) were used. The analyses of the study were carried out by using structural equation modelling. As a result, it was found that academic self-efficacy predicted foreign language classroom anxiety significantly in a positive way; academic self-efficacy predicted metacognitive awareness significantly in a negative way, and foreign language classroom anxiety predicted metacognitive awareness significantly in a positive way.

Keywords: Foreign language anxiety, Metacognitive awareness, Structural Equation Modelling

1. Introduction

Like in all other learning areas, psychological characteristics of an individual are significantly effective also in the level of the learning taking place in foreign language contexts. Thus, some researchers (Skehan, 1989; Dörnyei, 2006; Kang, 2012) attribute the changes in foreign language achievement mostly to individual differences,and it is widely believed that a successful language learning process is remarkably affected by the so-called individual differences. However, an individual's psychological characteristics are interrelated in such a complex way (Oxford, 1992) that it is difficult for the individual differences research to produce results compatible with each other (Lalonde&Gardner, 1984; Skehan, 1989). It is understood that more research is needed to resolve this complicated structure. To this end, as Roberts & Meyer (2012) point it out, correlational studies are a perfect way of investigating how different variables may be effective on a targeted behavior. And this was taken as a rationale to conduct this study, in which such three individual learner characteristics as foreign language anxiety, academic self-efficacy and metacognitive awareness were investigated together.

It has already been claimed by some researchers that one of the most important barriers in front of success in foreign language learning is anxiety (Horwitzet al., 1986; MacIntyre& Gardner, 1991; Young, 1991; Aida, 1994; Kunt, 1997; Horwirtz, 2001; Horwitz, 2010; Wang, 2011; Huang, 2012). Foreign language anxiety, mostly speaking skill oriented for Turkish foreign language learners, is understood to define tension and appraisal feelings especially as regards with foreign language learning contexts(Dewaele, 2007). Furthermore, foreign language anxiety is a unique structure of self-perceptions, beliefs, emotions, and behaviors concerning classroom language learning stemming from the uniqueness of the language learning process(Horwitz et al., 1986; MacIntyre & Gardner, 1991; Aida, 1994). It is generally claimed that foreign language anxiety, mostly having a debilitating effect on the learning process (Onwuegbuzieet al., 1999; Yan &Horwitz, 2008), should be minimized (Young, 1991; Huang, 2012).

Another significant variable in predicting learner achievement is self-efficacy.Self-efficacy is one's beliefs in one's own capacity for performing a certain task (Bandura, 1977;Bandura, 1997). Self-efficacy determines how people think, feel, how they motivate themselves and behave accordingly (Bandura, 1994).Self-efficacy beliefs, which have an impotant effect on learning and which are reported to predict academic achievement significantly (Zimmerman, 1999; Usher &Pajares, 2008), are said to play a positive role in the control and regulation of anxiety and its appraisal(Bandura, 1994).

The third variable of the study was metacognition, which is defined as an individual's knowledge about his/her own cognitive processes (Flavell, 1979); knowledge about, awareness for and control of one's own learning (Cross & Paris, 1988; Baird, 1990; Schraw &Dennison, 1994; Tobias&Everson, 1997) and an individual's awareness and control over his/her thinking (Kuhn& Dean, 2004; Martinez, 2006). The role of metacognitive awareness in student achievement and motivation has been emphasized in many relevant studies (Flavell, 1979; Martinez, 2006; Schrawet al., 2006;Schunk, 2008). In some studies (Brown,

1987; Flavell, 1987; Schraw &Dennison, 1994) metacognition is said to involve two interrelated components: metacognitive knowledgeandmetacognitive regulation.Flavell (1979) thinksthat metacognitive knowledge includes in the first place "knowledge or beliefs about what elements or variables play role and interact in what ways to affect the process and result of cognitive behaviours".This metacognitive knowledge consists such three sub-components as declarative knowledge (knowledge about oneself and one's strategies), procedural knowledge (one's knowledge about how to use strategies) and conditional knowledge (one's knowledge about when and why to use strategies), whereas metacognitive regulation involves activities used for regulation and control of learning (Papaleontiou-Louca, 2003). Schraw &Dennison (1994) relate metacognitive regulation with some sub-componentswhichhelp the monitor aspect of learning: planning, information management, comprehension monitoring, debugging and evaluation. Some researchers are of the opinion that those students with higher metacognitive awareness act more strategically in learning, and perform better (Brown, 1987; Flavell, 1979; Ganz&Ganz, 1990; Schraw &Dennison, 1994; Livingston, 1997;Schunk, 2008; Downing, 2009). However, Schunk (2008) underlines the fact that metacognitive knowledge is not enough on its own and that although students may be metacognitively aware they may not be able to use strategies and thus it is also necessary to teach them to use metacognitive strategies at suitable time and place.

This study focuses on metacognitive awareness, academic self-efficacy and foreign language anxiety. There are similar studies in the relevant literature. For instance, Bandura and Wood (1989) report that self-efficacy affects performance directly and analytical strategies indirectly, and metacognition has a mediating effect in the relationship between self-efficacy and performance. Moreover, Bouffard-Bouchard, Parent and Larivee (1991) concluded that the students who had high self-efficacy used metacognitive skills more and performed better than those with low self-efficacy.Kanfer and Ackerman (1989) found that people who had strong sense of self-efficacy attempted more to use metacognitive strategies while performing a task, and perform better than those with lower self-efficacy (as cited in Alcı and Yüksel, 2012).It was identified in some studies that there is a negative correlation between self-efficacy beliefs and foreign language (Tsai, 2013; Noghabi, 2012; ErkanandSaban, 2011; Çimen, 2011; Anaydubalu, 2010; GhonsoolyandElahi, 2010; Mills et al., 2006; Cheng, 2001; MacIntyre et al., 1997). On the other hand, Çubukçu (2008) reported that there was no significant correlation between students' English self-efficacy beliefs and their foreign language anxiety.Nosratinia et al. (2014)found that there was a significant correlation between students' self-efficacy and metacognitive awareness. Similarly, Yailaghet al. (2013) also emphasized that there was a positive correlation between self-efficacy and metacognition, and found that self-efficacy and achievement goals had an important role in predicting metacognitive factors.Similar findings were reported in some other studies (RahimiandAbedi, 2014; Cera et al.,2013). Furthermore, Coutinho (2007), in a study on the relationship between goals, metacognition and academic success, found that metacognition was a predictor of self-efficacy, while self-efficacy was a predictor of performance.Another relevant finding is that of Dobson (2012), who stated that meta-cognition may allow learners to learn to tackle anxiety and use self-regulation of feelings to combat academic anxiety. And Ahmed et al. (2011) concluded that low self-efficacy of learners may cause high degrees of

anxiety. In spite of all these studies, we could not find any study dealing with the relationships among foreign language anxiety, academic self-efficacy and metacognitive awareness together.

2. Method

In this descriptive quantitative research, a correlational survey design was employed. The research population comprised the pupils at Fırat University who were already enrolled to study at various engineering departments, and thus had just received compulsory English prep-class education. As one of the researchers was teaching these students at the time, the method of convenience sampling, in which members of the target population are selected for the purpose of the study if they meet certain practical criteria, such as geographical proximity, availability at a certain time, or easy accessibility (Dörnyei, 2010), was employed. The sample consisted of 271 students who voluntarily wanted to take part and answer the questionnaires administered by the researchers. In order to collect data, three questionnaires were used. For measuring the foreign language anxiety of the students, the Foreign Language Classroom Anxiety Questionnaire developed by Horwitzet. al. (1986) was made use of. The validity-reliability of the questionnaire was carried out by Gürsu (2011), which justified the three-factor structure of the original questionnaire. These factors were relabeled by Gürsu (2011) as *speaking anxiety in language class*, *interest towards language class* and *anxiety of talking with native speaker*. The test-retest correlation of this questionnaire was calculated to be .85. Another questionnaire, The Academic Self-efficacy Scale was developed by Owen and Froman (1988) and was adapted into Turkish by Ekici (2012). As a result of the scale adaptation, the 33-item and three-factor (*Social status, cognitive applications* and *technical skills*)structure of the scale was confirmed. This three-factor structure accounts for 45.8 %of total variance. The third data collection instrument was the Metacognitive Awareness Inventory developed by Schraw and Dennison (1994). The validity and reliability of this inventory was carried out by Yıldız (2010).With a secondary confirmatory factor analysis,this inventory was turned into a four-factor (*knowledge management*, *planning*, *monitoring* and *evaluation*) and 19-item new structure. The cronbach alpha of this 19-item structure was calculated as .89.

3. Fındıngs

In this part, in accordance with the main purpose of the study, the relationships among foreign language anxiety, metacognitive awareness and academic self-efficacy were investigated. This investigaion was carried out with standardized regressioncoefficients, the findings are as shown in Figure 1 below:

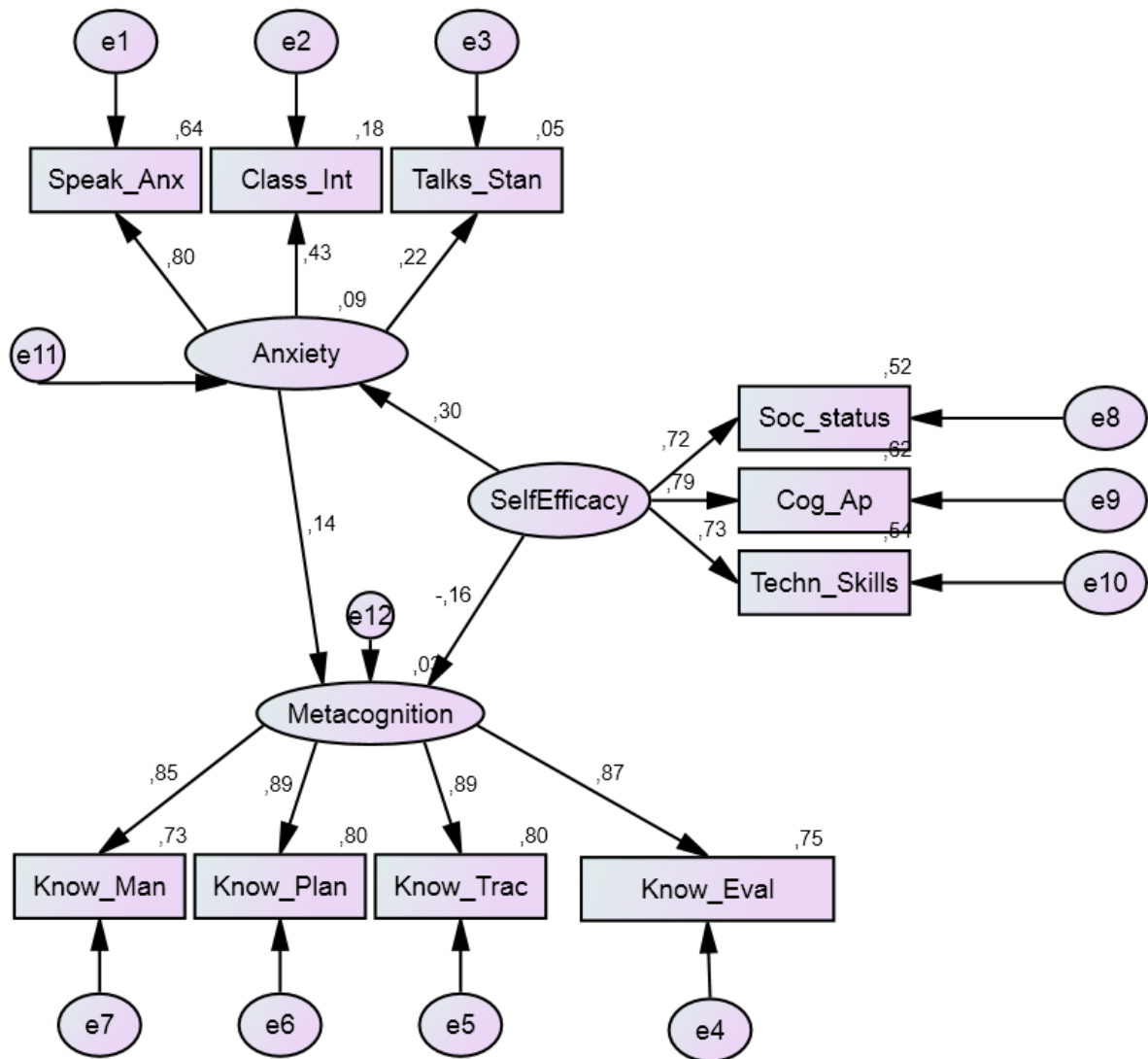Figure1:Standardized Regression Analysis Results of the Data Collection Instruments

On examining the standardizedregression (beta) coefficients,it was identified that foreign language classroom anxiety had a positive impact on metacognitive awareness (β=,14; p<.05). In a similar fashion, it was found that academic self-efficacy affected foreign language classroom anxiety in a positive way (β=,30; p<.05). However, academic self-efficacy had a negative effect on metacognitive awareness (β=,-.16; p<.05). The Fit Indexes of this model are shown in Table 1 below:

Table1.The Fit Indexes of the Model

CMIN	DF	P	CMIN/DF	CFI	GFI	AGFI	RMSEA	SRMR	IFI	NFI
51.699	32	.015	1.616	.983	.963	.936	.048	.0464	.983	.958

The Chi-square goodness of fit gives us the degree of how much the observed correlation matrix diverges from the hypothetical correlation matrix. A low X^2value is a measure showing that the model and the data show good fit (Çokluk et al., 2010). It is accepted that the X^2 /sd rate's being under 2 or 3 is a sign of perfect fit (Schreiber et al., 2006), while its being under 5 is a sign of moderate fit (Sümer, 2000). The GFI and CFI take values between 0.00 and 1.00, and it is necessary for the scale value tested for these two values to be close to 1. The GFI's taking values between.95and over shows that the goodness of fit of the data with the model is perfect (Schreiber et al. 2006). In addition, for the model-data fit, it is accepted for the GFI value to be .85and over (Sümer, 2000). What's more, it is necessary for the IFI value to be over .90(Wilson and Muon, 2008). The RMSEA and SRMR values being close to 0 or lower than .05 also shows the perfect goodness of fit of the model and the data (Sümer, 2000). However, it is also stated that a .08 and lower values can also be accepted (Schreiber et al.,2006). In conclusion, it is seen that the X^2 /sd, GFI, CFI, IFI, RMSEA and SRMR values of the proposed model are within the limits accepted as valid in the relevant literature.

4. Dıscussıon

This study tried to identify the relationships among foreign language anxiety, academic self-efficacy and metacognitive awareness. As a result, it was found that academic self-efficacy predicted foreign language classroom anxiety significantly in a positive way. This find is compatible with those of Tuncer & Doğan (2015)'sand Çekirdek (2014)'s. However, many studies in the relevant literature (Erkan and Saban,2011; Tsai, 2013; Anaydubalu, 2010; Ghonsooly and Elahi, 2010; Mills et al., 2006; Cheng, 2001; MacIntyre et al., 1997) reported that there was a negative correlation between these two variables and thus higher self-efficacy was related with lower anxiey. On the other hand, Çubukçu (2008) found that there was not any significant correlation between these variables in question. It is stated in the relevant literature that self-efficacy perceptionsorganize human behavioursviacognitive, motivational, affective as well as decision processes (Bandura, 1997); influnceifpeople think in a self-facilitating or self-debilitating way, how much they motivate themselves and how long they resistwhen confronted withhardships, people'ssusceptibility for stress as well asfordepression (Bandura and Locke, 2003);and individualshaving low levels of self-efficacy canthink things seem to be more difficult than they actually are, and this feeds anxiety and stress (Pajares, 2002). The finding of the study in question seems to be at odds with these ideas. However, some researchers (Vancouver, Thompson, Tischner, & Putka, 2002; Vancouver, Thompson, & Williams, 2001) claimed that one's beliefs about self-capabilities are not decisive or may be self-debililating (as cited in Bandura and Locke, 2003). On the other hand, it is understood that the researches Bandura (1977, 1997, 2003) puts forth as evidence for the fact that self-efficacy beliefs have a negative effect on anxiety seem generally to be medical studies, and

more research is needed on the relationship between academic self-efficacy and foreign language anxiety, which is a unique kind of anxiety taking place in learning environments.

Another finding of the study is that academic self-efficacy predicted metacognitive awareness significantly in a negative way. This finding is not compatible with the researches reporting a positive correlation between these two variables (Nosratinia et al., 2014; Rahimi and Abedi, 2014; Yailagh et al., 2013; Cera et al., 2013; Landine and Steward, 1998). The mediating role self-efficacy judgements have in human behaviour is influencedby some variables. There might be discouraging things or performance limitations. In other words, even people with high self-efficacy and capabilities mightwishnot to actin accordance with what they believeortheir capacities just because there is nothing to encourage them. For, they may not have necessary resources, or they may perceive some social limitations in the result or the way they foresee. In this kind of situations, efficacy could not predict performance. The fact that people may underestimate or overestimate their competence and that they may suffer from this kind of false judgements. The results of these misjudgements have a role in the continuous self-evaluation process of self-efficacy. If this kind of results are few, people might not feel obliged to reevaluate their competences, also they mightcarry on tasks that are beyond their capacity. Thus, the relationship between efficacy judgements and the behaviour that comes after may become complicated due to misevaluation of competencies. Thus, in order to evaluate the effect of experiences on competence, self-efficacy should be checked periodically (Pajares, 2002). Bandura claims that as strong self-efficacy perceptions are usuallywhat is produced by time and a myriad of experiences, so are very persistent as well as predictable; whereas weaker beliefs need to be continually reevaluated if they are to act as a predictor (as cited in Pajares, 2002). Also, in identifying the relationship between self-efficacy and behaviour, one must make sure efficacy beliefs are related with the target behaviour (Pajares, 2002). In this sense, Zimmerman (1999) emphasized that self-efficacy beliefs are multifaceted and domain-specific, thus there may be differences between self-efficacy perceptions in an academic field and that of another; and the measurement of these perceptions will also be different. The misevaluation of self-perceptions will bring about a vague relationship. Bandura (1986) stated that measurement of self-perceptions in this sense should be arranged according to the area of psychological function that is being investigated (as cited in Pajares, 2002). What's more, metacognitive judgements are mostly incompatible with learning objectives or task performance, which can be explained with a concept, known as metacognitive miscalibration, which means an individual's misevaluation of his/her competency level as either over self-confident or under self-confident, leading to early termination of performance effort (Moores et al., 2006).

The last find of thisresearch is that foreign language classroom anxiety predicted metacognitive awareness significantly in a positive way. In other words, the students with higher anxiety are more metacognitively aware. Flavell (1979) thinks that metacognition playsa significant role in language acquisition. Metacognitive knowledge in foreign language learning means the assumptions learners have about themselves as learners, about elementsaffecting language learning, and about the nature of language learning and teaching (Victori & Lockhart, 1995).In this study, the students' general metacognitive awareness about

their own learning was investigated, not their metacognitive awareness about foreign language learning. It is understood from the finds of this research that there was also an increase in metacognitive awareness in general together with an increase in foreign language anxiety. We can conclude that in coping with foreign language anxiety, metacognitive awareness is not enough on its own, but it is also necessary to teach foreign language learners how to use metacognitive strategies.

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