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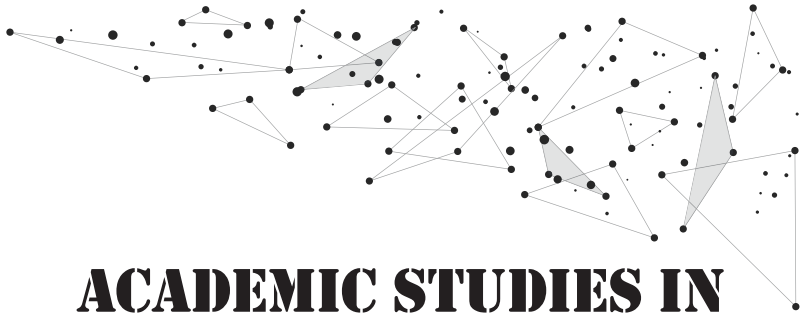

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İmtiyaz Sahibi / Publisher • Gece Kitaplığı
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Sosyal Medya / Social Media • Betül AKYAR

Birinci Basım / First Edition • © EKİM 2018 / ANKARA / TURKEY
ISBN • 978-605-288-605-2

Gece Kitaplığı / Gece Publishing
Adres / Address: Kızılay Mah. Fevzi Çakmak 1. Sokak
Ümit Apt. No: 22/A Çankaya / ANKARA / TURKEY
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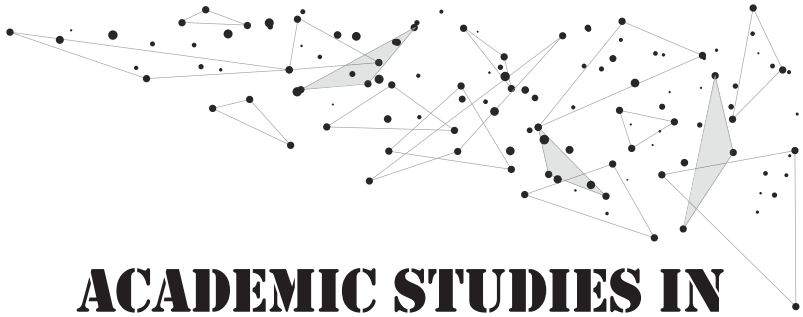

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İÇİNDEKİLER

CHAPTER 1

PARENTAL DIVORCE AND THE IMPORTANCE OF FATHERS' ROLES IN CHILDREN'S LIVES

Besra TAŞ

INTRODUCTION

According to the data obtained by Turkish Statistical Institute (TÜİK), it is seen that there is a dramatic increase in the number of divorcing couples within the last decade when it is analyzed year by year. The number of divorces is 94.219 in 2007, in 2008 the total number of divorces is 99.663, when we look at 2009, it is 114.162. After that, in 2010, total number of divorces is 118.568, in 2011 total number of divorces is 120.117, in 2012 total number of divorces is 123.325, in 2013 total number of divorces becomes 125.305, in 2014, it is 130.913, in 2015 it was found out that 131.830 couples were divorced, in 2016, the number of divorced couples was calculated as 126.164 (TÜİK, 2007-2016). According to the results of the data, in the last decade 1.184.266 couples were divorced. The number of divorced couples were constantly increased in all the years except 2016 in comparison to the previous years. Although the number of divorced couples decreased in 2016, it does not change the fact that divorce is a crucial problem in our country. Many children can be forced to grow up without being their fathers because of parental divorce. When children form their identities for their future lives, they more or less take the same features of the person who lives nearest. For this reason, the most important factors to form character are parents. One of the most common mistakes generally committed after divorce is to cut the communication between the father and the child. In most cases, the communication between the father and the child can be cut in time unintentionally though. It is important to maintain the role of a father which is not known or recognized after the divorce. In most cases, children can be victims and they pay the price and they are forced to be away from their fathers and mothers without their will. In some cases, mothers do their best to cut the communication between the child and the father completely because of their anger or the feeling of revenge. However, it is very important for children's healthy growing to provide them convenience to communicate with their fathers. In the beginning of the divorce period, fathers try to keep in touch with their children carefully. Although unintentionally, their effort weakens in time. Moving to another place, new marriage, mothers who are trying to ruin the communication can be seen as the reasons of this situation in most cases. Most of the time, mothers make it difficult for fathers to see their child on meeting days by saying that the kid is sick. If it happens one after another, it is observed that the father and the kid act like strangers to each other when they come together. In some cases, when fathers do not realize the importance of their role in children's lives for their health, they can neglect their children after divorce. Besides, in some other cases, the opposite case can be seen, and mothers try to do their best to maintain the communication between fathers and their children, but fathers neglect or reject to keep in touch with their children. This

second case is generally rare. Some of the fathers do not want to keep in touch with their children, because they express that when they see them, they suffer a lot more and their longing is becoming stronger.

PARENTAL DIVORCE AND BEING WITHOUT A FATHER

"It is much more difficult for children to experience their parents' break up than adults because they lose something fundamental for their development: family structure level" **(**Wallersteın & Blakeslee, 1989). In Kalmijn' study (2015) it is moved from the hypotheses that divorced fathers have weaker relationships with their grown-up children than married fathers and divorced fathers who live with a new wife/girlfriend have weaker relationships than divorced fathers who live alone. It is found in the study that the communication is affected negatively between fathers who got divorced when their children were younger or who have a partner/wife and their children. It is determined that adolescences who have fathers living with a partner have less interest and support than from those who have fathers who does not have a partner or married fathers. Leon (2003) finds that having a good and positive communication between the father and the child is correlated with their previous communication before divorce. Skevik (2006) stated that some Norwegian fathers who live separately from their children and whose children participated in his study can only see their children three times a week. The other group in the study consisted of fathers who are away from their children for three or more months. The writer mentioned about two important factors. He first mentioned the importance of the increase in the inclusion of fathers to the lives of small children recently and then he continued with the increased number of divorces and the fathers who must leave their homes and finally the negative situation occurs when they live away from their children. It is emphasized that Norway is the country which two trends mentioned above can be seen. Amendt, (2006) also concluded in his study carried out with divorced fathers that losing the communication between the father and the child does not happen suddenly and reluctantly and instead they have a story causing this loss. It is seen in the study that losing the communication stems from open and closed conflicts and the lack of ability to solve these conflicts (Amendt, 2006). It is important to have a functional communication between the father and the child for the healthy psychological development of the child and for the recognition of the self-respect that children should have for themselves (Stolz&Strini, 2009). Stolz&Strini (2009) concluded in their studies that students who have a good communication with their divorced fathers and who are supported by their mothers to have a good communication with their fathers feel better than the ones who do not have. Psychanalyst Figdor (1997) assessed parental divorce from children's perspective in his study. Fidgor points out that together with the mother the children got also divorced from their fathers. He accepts that when fathers leave home, it means they also got divorced from their children. The children have difficulties to understand this new situation as they are not used to these break ups. They never understand why their fathers not only leave their mothers but also leave them, and they feel abandoned and alone. (Figdor, 1997). Thus, he emphasizes that the father not only got divorced from his wife, but he also divorced from his children. He stated that this was deter-

mined by the children. Children questions themselves and why their father have left them. They put the blame on themselves as if they did something bad to cause this situation and they feel the sorrow of their fathers leave and the sense of losing their fathers. Most of the time, they think that this divorce is directly related to them and they believe that this happened because of their incapalities (Figdor, 1997). Fthenakis (1996) expresses that if children have a good communication with their fathers before the divorce, it can be easier for them to overcome the effects of divorce period. At the same time, he points out that if the children have a good communication with their parents after divorce, these children will not have or will have less behavioral problems; it is stated that these problems can be fixed. If the opposite of this situation happens, social interaction, an important part of children, will be cut. The character, self-confidence and their future social interaction way of these children are also damaged (Fthenakis, 1996). Wallerstein & Blakeslee (1989) emphasizes the importance of communication between fathers and their children and although the parents were divorced, the father still has a vital role in all development of the children especially during adolescence. Living away from their children cannot be prevented. Children take their father' value and thinking structure, their fathers have an influence on their features, professional choices and even their communication forms with other people. Children who experienced a difficult divorce period do not generally know where they belong to and they are dragged by their parents from one place to another (Hafter, 1979).

THE PERIOD AFTER DIVORCE AND THE IMPORTANCE OF COMMUNICATION BETWEEN FATHERS AND CHILDREN

Schmidt-Denter & Beelmann (1995) concluded their studies with the fact that the children who have the most difficulties after their parents got divorced are the ones who have less and bad communication with their fathers. The fathers of the children in this group stated that their decision about divorce was wrong. There are also fathers who are not satisfied with the decisions of courts about the frequency of meetings for fathers and their children. But at the same time, most fathers cut the communication with their children themselves as they cannot re-order their lives after divorce (Schmidt-Denter & Beelmann, 1995,). Wallerstein & Blakeslee (1989) points out that the children do not get rid of their fathers in this period after divorce as their fathers broke up with their mothers. For children their fathers still stay as a special person even after divorce. Although biological fathers have left their children after divorce, they still have a crucial in the life of their children. Besides, it is emphasized that fathers are idealized by their children. **(**Wallerstein & Blakeslee, 1989). Öngider (2013) examined "accept-reject" perceptions of primary school children who are coming from divorced and married families and their psychological adaptation levels comparatively. A the end of the study it is seen that father are as influential as mothers in psychological adaptation of children who live in a married family, but the influence of fathers in divorced families on their children are getting decreased when compared to married families and the role mothers on children's lives is getting much stronger (Öngider, 2013). In the same way, fathers also blame themselves for the divorce and they have the sorrow of divorce many times. This also affects

fathers psychologically. When most fathers have to live away from their children after divorce as they cannot take their children's custody, they are branded as the "guest father". They are excluded about the issues related to their children's daily and developmental processes many times. Although they want to keep contributing to the development of their children, in many cases they are not allowed to do so. Fathers are completely excluded, and they can only be an obligatory guest due to the orders of the court, but only as "guest father". They state that even though they want to have a good father and child communication, they are not allowed to do so. (Wallerstein & Blakeslee, 1989). It is seen in Wallerstein & Blakeslee's study that (1989) especially first grade primary level boys have longings for their fathers. **(**Wallersteın & Blakeslee, 1989). This study is also concluded the fact that the psychological situation of boys depends on their communication with their father after divorce. In the study, it is seen that boys who feel themselves better and who adapt themselves to the new family order are the ones who still have the feeling that their fathers are good people **(**Wallersteın & Blakeslee, 1989). Tazi-Preve et al. (2007) concluded in their studies conducted about the communication between the father and the child that children face with the difficulty to lose the communication with their fathers as having a permanent relationship with them after divorce is under question. It is stated to have problems in communication in such situations as fathers generally set up a new life or start a new relationship (Tazi-Preve et al, 2007). Seltzer (1991) expresses that after leaving their children, whether fathers continue their communication with their children changes according to certain situations. The relationship of fathers with their children after divorce depends on the birth of the children and life conditions. It is shown that fathers whose children were born without being married are less interested with children than fathers who have children after getting married. At the same time, it is pointed out that this is strongly correlated with socio-economic conditions, geographical distance and time of leaving home.

THE OPINIONS OF YOUNG ADULTS WHO GROW UP WITHOUT HAVING A FATHER AND THEIR DESIRE TO SET UP THEIR OWN FMILIES

When we analyze the studies carried out by the following people; Hetherington, Kelly, 2003; Wallerstein & Blakeslee (1989); Wallerstein & Levis & Blakeslee 2002; Napp-Peters, 1995; Napp-Peters, 1988; Taş, 2012; Taş, 2017; it is seen that divorce has long term effects together with its short-term influence on the children. Figdor (1997) obtained important results in his longitudinal study carried out about the children in divorced families. While they are talking about the importance of father role, they also attract attention to another side. It is stated that children who grow up in divorced families and receive education only from their mothers have problems about forming their gender identities. Girls who experienced such situations display either exaggerated feminine or seducing behaviors or completely opposite, masculine behaviors. It is determined that these women either externalize their own gender because of their wishes to be a man or they display completely opposite. At the same time, it is also shown that these young people have problems while choosing their partners or setting up their families. Young people are either over-dependent to their partners or they reject or avoid having family relations or having partners. It is observed that they display very dominant mascu-

line behaviors towards their partners when they are with them. The same radical communication relations can be seen in male adults. In the same way, they display either womanly behaviors or manly dominant behaviors (Figdor, 1997). Wallerstein, Lewis, Blakeslee (2002) determined with their 25-year longitudinal study that especially young women who grow up in divorced family have difficulties in setting up their own family and in personal affairs. This situation shows that they have problems in attachment, they are in a relationship with their partner without feeling love, they try to upset her partner without having an excuse (Wallarstein, Lewis, Blakeslee, 2002). After parental divorce, the children who are growing up in divorce families can develop more differently than others like for example early maturity in terms of responsibilities and having a late adolescence and these children have expressed that they do not feel the same as they feel before divorce anymore. It is seen that they have problems in their choices to set up their own families, living with a partner as being married or without being married, having a child or not. Women who grew up in divorced families unconsciously tend to choose partners who are older than them as they lack their father love and affectionate while growing up. It is said that this is related to love, affection and compassion of the fathers, which is longing for (Wallarstein, Lewis, Blakeslee, 2002). Taş (2012) determined in his study carried out in Germany about the opinions of young university students who grew up in divorced families and who grew up in un-separated families that the opinions of young adults coming from divorced families contains more rejection than the others. Taş, Balay (2017) have similar results in another study carried out in Turkey. It is determined that young adults growing up in normal families have stronger feelings about forming their own families than young adults growing up in divorced families.

DISCUSSION AND CONCLUSION

Although parental divorce is necessary in some cases, when families have children, it is necessary to think about it more carefully and sensitively. Hence, parents keep staying as the parents of their own children even after divorce. This awareness is generally neglected in this period. As it is stated by Stolz and Strini (2009), parents think that after completing divorce period, the process for their children is also finished and they do not need to do anything else especially for their children. However, what you need not forget is the awareness about the fact that they keep staying as their parents of their own children till the end of their lives after they got divorced. When we analyze especially the following studies by Leon (2003), Figdor (1997) Wallerstein, Lewis, Blakeslee (2002) Wallerstein & Blakeslee, 1989, Schmidt-Denter & Beelmann (1995) Tazi-Preve et al. (2007), Amendt, 2006, the importance of fathers' role after divorce is indispensable. After divorce, the primary responsibility of the sides is to keep in touch for the healthy development of their child despite having a huge conflict with each other. One of the issues that children have the most difficulty after their parents got divorced is the despair of deciding on one side between their parents. This despair is defined as Loyalitätsconflict by the experts. One of the most common situations for children after divorce is to try to determine one side from their parents (Wallerstein and Blakeslee, 1989). It is important to provide necessary support for children not to experience this despair (Loyalitätsconflict). Children

feel themselves in a trap when they are guided by their parents to make a choice in favor of one side. The unconscious guidance of the parents affects children' s psychology negatively. There are many studies providing examples showing the negative effect of this unconscious guidance like the ones carried out by Wallerstein and Blakeslee, 1989; Hafter, 1979; Figdor, 1998). Children ae often forced to make a choice between their parents after divorce (Wallerstein & Blakeslee, 1989). As fathers generally leave the house after divorce, children usually stay with their mothers and they grow up without having a father. In this case, there are many studies emphasizing the importance of the responsibilities of both sides, like for example by Leon (2003), Figdor (1997) Wallerstein, Lewis, Blakeslee (2002) Wallerstein & Blakeslee, 1989, Schmidt-Denter & Beelmann (1995) Tazi-Preve et al. (2007), Amendt, 2006. It is seen as crucial to make some effort to include fathers to play a role in the development of the children for their future lives after divorce period. In some cases, mothers reject to maintain communication between the fathers and the children because of their anger or the feeling of revenge against their husbands. However, the active role of fathers is extremely important for the healthy development of the children after divorce (Wallerstein, Lewis, Blakeslee (2002) Wallerstein & Blakeslee). Figdor (1997) attracts attention to an important point when evaluating divorce in terms of children's perspectives. He states that the fathers got divorced from both their wives and children after divorce. Thus, he points out that the perception of the children is in this way. It is stated that children cannot understand why their fathers have left their mothers and when their fathers leave home, they think that their fathers also got divorced from them. At the same time, the children are not used to these partings, so they have difficulties in understanding them. They never understand why their fathers did not only leave their mothers but instead they left both and they feel alone and abandoned. As children cannot understand this situation, they put the blame on themselves. In this questioning period, they can think that their parents got divorced because of their mistakes. They think that they are responsible from this divorce and accept it as their own incapability. This makes children psychologically very tired (Figdor, 1997). Particularly, when children are younger during parental divorce, it is getting more difficult for them to overcome this period. There are also some cases that parents have to delay divorce as their children are not psychologically ready yet to this situation. Many parents are not aware of this fact but sometimes parents who are can also make the same mistake as divorce period is also difficult for them and they may neglect their children during this tough days. For this reason, field experts like Fithenakis & Niesel &Kunze, (1982) state the importance of receiving professional assistance for both parents and children in this transition period while divorcing. This should also be discussed from cultural perspective in some cases. In many countries the awareness of receiving professional assistance have not seen as important as it should be yet. Divorce are not only the problems of individuals, they are the problems of the society as well. They should be considered as a social problem and people who decided to get divorced should be provided necessary assistance. Especially, children who are raised by only their mothers after divorce may have gender identity problems in the future. (Figdor, 1997). This is a serious problem which we need to take some serious precautions. Children who do not

have opportunities to see their fathers need to have individuals who will have the role of a father. Grandfathers, uncles or if they do not have any, a male pedagogue can also function similarly in this period. This is used in Germany during family counselling. A male pedagogue who is an expert in his field carry out social activities with children or adolescences who need the role of a father while their parents are divorcing in addition to psychological assistance. The purpose here is to allow children to see a male role model. In conclusion, it is seen that the children must keep seeing their fathers and both parents must fulfill their responsibilities on this issue, on the other hand, in addition to short term disadvantages, there can be long-term disadvantages for the development of the children in various aspects like forming identities and forming gender identities. Wallerstein / Blakeslee (1989), states in their longitudial studies that these children accepts their fathers as a role model even though their fathers do not live with them when they need to make a choice about forming their identities and even about their professional lives. In many cases children in divorced families miss their parents who leave the house after divorce and feel longing for them. While describing this situation, Smith (1998) discusses the things children experienced in four groups. They are explained as sorrow, anger, fear and complexity (Smith, 1998). When children feel sorrow, they spread their feelings around themselves but as their parents are busy with their own problems, they do not mostly realize the sorrow of their children. When children have the sorrow of their parents who leave the house, this is mostly their fathers, they display their pain with extra-ordinary behaviors. After divorce, displaying extra-ordinary behaviors is in fact positive for children. Although these extra-ordinary behaviors are perceived as a work-load for parents, Hötker-Ponath (2008) states that they are more positive in terms of displaying feelings than not showing any kind of feelings about the situation. Parents accepts these behaviors as load for themselves as they think it is difficult cope together with their own problems and the problems of their children. Another point that parents should pay attention in divorce period is the fact that both parents should explain this period to their children together. Children tend to behave more negatively when they suddenly hear their parents are divorcing. Textor (1991) points out the importance of sharing this divorce period with the children for both parents. When parental divorce is suddenly learnt and seen by children, it becomes more negative for everybody in the family. The importance of receiving professional assistance is strongly emphasized in many studies like for example; Stett (2009), Schmidt-Denter & Beelmann (1995), Stolz& Strini (2009), Figdor (1998), Hunter (1999). It is emphasized that it is inevitable for people who experienced a divorce to take professional assistance to integrate themselves successfully into the society again. Hunter (1999) advocates that in order to overcome this period, people can move forward or backward while taking help from others. This is quite normal, and we should keep helping people who are trying to get rid of the problems generated by this divorce period. While talking about the importance of professional assistance, it is pointed out that this assistance period brings huge profits for the individuals (Hunter, 1999). Schmidt-Denter & Beelmann (1995) states the importance of group counseling in their students on children after divorce period and this counseling have really positive effects on individuals, especially it is expressed

that the following issues are successfully solved; the communication between parents and the children after divorce period, the communication between siblings, fixing behavioral problems, overcoming the disorders occurred after divorce, adapting to the new process after divorce and integration to the society (Schmidt-Denter & Beelmann, 1995). Another study carried out on this topic belongs to Fithenakis et al. (1996). The emphasized the importance of professional help before, while and after divorce for parents, children and adolescence to overcome this period successfully and in order not to withdraw themselves from the society. Stett (2009), claims that disorders or behavioral problems after divorce period cannot be overcome in two years without taking help from a professional and even a long-term recovery will not be possible. Especially, it is inevitable for children and adolescents to take professional help together with the adults. Ministry of Family and Social Policies should support these individuals to receive help to have a healthy society (Stett, 2009). In accordance with all these results, the primary responsibility of parents after divorce to provide communication to their children with both sides and put some effort to make it real and this awareness should be given to them. In some cases, mothers can say that fathers are dangerous for their children. As it is mentioned above, it is seen that maintaining communication even in such cases is necessary for the healthy psychological development of the children. It will be more suitable to allow children to see their fathers together with an expert in order to reduce the worries of their mothers about their safety. Fathers should do their best in order not be a guest father in the lives of their children after divorce. They should have an active role in their children's lives and they do not think that seeing their children on regular meetings and spending time with them to hang around and buying them presents are enough.

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CHAPTER 2

ADVERBIAL CONNECTORS IN TURKISH EFL LEARNERS' ARGUMENTATIVE ESSAYS[1]

M. Pınar BABANOĞLU, Cem CAN

INTRODUCTION

Empirical corpus data can be contributed to different fields of language centered studies under corpus-based linguistic research as in heterogeneous fields like lexicography, grammar, speech, semantics, pragmatics and discourse analysis, sociolinguistics, stylistics and language teaching, or in domains such as studies of language variation, dialect, register, style or diachronic studies. Grammar studies have been the most frequent types which have used corpora because corpus research serves a representative for the grammar of a whole language variety and empirical data for testing hypotheses of grammar theories (McEnery & Wilson, 2001). Especially, description of grammar has undergone a dramatic change with the development and improvement o corpus linguistics techniques. For example, in *Comprehensive Grammar of the English Language*, Quirk et al (1985) provided descriptions of structures with occasional mentions of corpus analysis of use in. Other grammar resource is *The Longman Grammar of Spoken and Written English* in which Biber et al. (1999) presents a corpus based descriptions of structures with specific corpus results. In addition, many corpus-based grammar studies (Aarts, 1991, McCarthy and Carter, 1995, Greenbaum et al., 1996, Breivik, 1999, Leech, 1999) have provided descriptions of functions of specific grammatical features within written and spoken data.

In the field of second language acquisition (SLA), researchers have began to develop 'learner corpora' which contains written or spoken texts of second language (L2) learners last two decades. By learner corpora, researchers are able to use corpora from second language learners to describe and explore the linguistic patterns of L2 learners rather than relying on information from case studies and single examples (Reppen, 2006). One of the larger learner corpora is ICLE (Granger, 1998, 2002, 2009) and other one is Longman's Learner Corpus.

The development of learner corpora has enhanced the corpus linguistics on SLA and language pedagogy (Partington, 1998; Flowerdew, 1998; Ringbom, 1998; Conrad, 1999; Biber and Reppen, 2002; Granger et al., 2002; Meunier, 2002; Granger, 2003). Reppen (2006) states that ''as more second language corpora are developed, they will become powerful resources for cross-linguistic comparisons of different first language speakers producing different target languages'' (p.249).

Research Background

Altenberg & Tapper (1998) states that ''effective communication requires coherence and clarity'' (p.80). One way of achieving this goal is to signal logical semantic relations between units of discourse via connectors like 'however' (to

1 This study was generated from the first author's doctoral dissertation titled "A corpus-based study on Turkish EFL learners' wrıtten English: the use of adverbial connectors by Turkish learners" in which the second author acted as the thesis supervisor.

indicate contrast) or 'therefore (to indicate result)'. English adverbial connectors or 'Conjuncts' connect linguistic units such as sentences, paragraphs and even larger parts of texts (Quirk et al., 1985, pp.631-632). Connectors provide coherence by signaling logical and semantic relations between units of a discourse and they help reader/listener to relate units each other to make sense (Altenberg & Tapper, 1998). They can consist of either one single adverb like 'nevertheless' or a prepositional phrase like 'for example'. In this particular study, the choice of adverbial connectors is based on the list of semantic conjuncts classification in Quirk et al. (1985). The conjunct function entails a conjunct specific set of semantic relations. They are connected with, but are frequently rather remote from, the adverbial relation that is assumed in the speaker-related clause to which they correspond (Quirk et al., 1985). Seven roles of conjunctives described by Quirk et al. (1985) are as *Listing*, *Summative*, *Appositive*, *Resultive*, *Inferential*, *Contrastive* and *Transitional*. Connectors like 'firstly' and 'first of all' are considered as Enumerative; and 'therefore', 'so', and 'thus' are as Resultive adverbials. In *The Longman Grammar of Spoken and Written English,* Biber et al., (1999) presents the following 'real life' examples of English adverbial connectors from corpora containing academic prose, news or conversation:

Example 1.

Enumerative

This new structure must accomplish two special purposes. **First**, as a part of overcoming the division of Europe there must be an opportunity to overcome through peace and freedom the division of Berlin and Germany. **Second**, the architecture should reflect that American's remains linked to Europe. (NEWS) (Biber et al., 1999, p.875)

Example 2.

Resultive

This year's commitment we will not reach this year. **Therefore**, we'll go into deficit! (CONV) (Biber et al., 1999, p.877)

Example 3.

Contrastive/Concessive

They were economically active; **yet**, as the workshops were closed down one after another, they had few places to go to be active. (ACAD) (Biber et al., 1999, p.879)

Previous Studies

One of the cornerstone research in adverbial connector investigation related to learner corpora was carried out by Granger &Tyson (1996), using two sub-corpora of ICLE (French and German) as learner data and LOCNESS as native English corpus. They compared French EFL learners' use of conjunctive adverbials with native speakers of English and other German EFL learners and hypothesised an overuse in general usage. However, Granger & Tyson (1996) found no overall overuse; instead they suggested that some patterns were the result of L1 conventions and translation equivalents. They concluded that "'heightened aware-

ness of the semantic, stylistic and syntactic properties of connectors will lead students to think more carefully about the ideas these connectors are linking' (Granger & Tyson 1996, p.26). A similar study was carried out by Altenberg and Tapper (1998) examining the use of adverbial connectors of Swedish EFL learners. They used Swedish sub-corpus of ICLE and compared it with LOCNESS. The overall results revealed that Swedish learners underuse the connectors but they showed evidence of overuse and underuse in individual connectors. They also compared their results with Granger and Tyson's (1996) study and found certain similarities and differences between the two learner groups, therefore they suggested that the learners' connector usage might not be entirely influenced by their mother tongue. Narita et. al (2004) used Japanese sub-corpus of ICLE and LOCNESS for L1 reference to investigate connector usage. They found significant overuse in the use of connectors and they also indicated that, parallel to Altenberg and Tapper (1998) and Tanko (2004), some connectors were used more by the learners while others were less often. In the same way, other studies reported overuse of adverbial connectors by learners such as in Taiwnese (Chen, 2006) and Chinese learners (Fei, 2006). Can (2011) found overuse and underuse of connectors in Turkish EFL learners essays. Also overuse and underuse in certain individual connectors is a common result in some studies (Tanko, 2004; Bikeliene, 2008, Heino 2010). In sum, according to the above mentioned studies, although there are differences between the frequencies and the particular limitations in investigations, the overuse, underuse and misuse of adverbial connectors by L2 learners seems to be general tendencies. These issues then require discussing the problematic nature of adverbial connectors and possible solutions.

Statement of the Problem

This study attempts to investigate the use of adverbial connectors of Turkish learners in their argumentative essays. The aim is to examine similarities and/or differences between native speakers of English and English as a foreign language learners from various mother tongue backrounds, whether there are common interlanguage properties across EFL learners. The reason of the selection of adverbial connectors as the linguistic elements to investigate in this study is their importance for the coherence and the cohesion of the texts that learners should be aware of. The correct use of connectors is important for two reasons: explicit signaling of connections and rhetorical purpose in terms of indications of attitude and emphases (McCarthy and Carter, 1994). Cook (1989) states that "language learners need to know both how and when to use them. Their presence or absence in discourse often contributes to style, and some conjunctions can sound very pompous when used inappropriately" (cited in Tanko, 2004, p.154). However, a number of studies have shown that the use of connectors is problematic for foreign language learners (Altenber & Tapper, 1998). One reason is that connectors are not always used and that they have to be used with discrimination. The other problem is that the use of connectors is sensitive to discourse type which might cause difficulty for learners. And the last issue is that connector usage may vary across languages and not all languages mark connectors explicitly as in English (Altenberg & Tapper, 1998). The problematic usage of connectors are often expressed as under-, over- and misuse by learners. Therefore, the present study

aims to explore the tendency of these possible problems which Turkish learners of English might face when using connectors.

Purpose of the Study

This particular corpus-based study focuses on investigating adverbial connectors in Turkish learners' written English and to examine whether there are traces of interlanguage properties. More specifically, in the present study, following targets were aimed: (1) to provide a comprehensive explanation of the use of the types of adverbial connectors in Turkish learner corpus in comparison to native English corpus and other English learner corpora; (2) and to examine the similarities and differences between different interlanguages to see possible common interlanguage properties. In this way, this study tries to find answers to the following research questions:

1. Which Adverbial Connectors does TICLE corpus contain and how can they be classified?

2. Do Turkish learners use English adverbial connectors as native speakers in a statistically similar way?

3. How is the Turkish EFL learners' use of adverbial connectors different from and/or similar to Spanish and Japanese EFL learners' in respect of interlanguage properties?

Limitations

The present study is limited to the size of the four corpora and the results of the study are limited to the analysis of them; TICLE as a learner corpus of Turkish EFL learners, LOCNESS as native English corpus, SPICLE as a learner corpus of Spanish EFL learners, JPICLE as corpus of Japanese EFL learners. In addition, the study has been carried out by limiting its scope to overuse and underuse of adverbial connectors by EFL learners; misuse of the structures have not been included in the analysis.

METHODOLOGY

In the study, four corpora have been utilized; three learner corpora and a native speaker of English corpus. Turkish Corpus of Learner English (TICLE) (Kilimci & Can, 2009), Spanish Corpus of Learner English (SPICLE) and Japanese Corpus of Learner English (JPICLE) are three learner sub-corpora taken from International Corpus of Learner English (ICLE) which is the widest learner corpus collection consisting of EFL learners' argumentative essays written in English from 16 different L1 backgrounds. Louvain Corpus of Native English Speakers (LOCNESS) was used as native English reference corpora. LOCNESS includes American university students essays. The sizes of four corpora are as follows:

Table 1. The distribution of corpora

Corpora	Number of texts	Number of words
TICLE	280	199532
JPICLE	366	198241
SPICLE	251	198131
LOCNESS	175	162358

Contrastive Interlanguage Analysis (CIA)

Methodology of learner corpus depends on Contrastive Interlanguage Analysis (CIA) that involves comparing learner data with native speaker (NS) data (L2 vs. L1) or comparing different types of non-native speaker (NNS) or learner data (L2 vs. L2) (Granger 1996). NS/NNS comparisons are intended to shed light on non-native features of learner writing and speech through detailed comparisons of linguistic features in native and non-native corpora. NS/NNS comparisons can highlight a range of features of non-nativeness in learner writing and speech, i.e. not only errors, but also instances of under and over representation of words, phrases and structures (Granger, 2002). In this study, application of CIA is illustrated as follow:

CIA

L2 vs. L1	**L2 vs. L2**
TICLE vs. LOCNESS	TICLE vs. SPICLE
SPICLE vs. LOCNESS	SPICLE vs. JPICLE
JPICLE vs. LOCNESS	TICLE vs. JPICLE

1. In the first phase, frequency of total adverbial connectors identified via WordSmith Tools (Scott, 2008) in learner corpora (L2) and native English (L1) corpora.
2. In the second phase, the frequency of connectors gathered from each learner corpora were compared each other via log-likelihood measurement.

Comparison of three learner corpora and a native English corpus is intended to determine possible statistical differences and overuse/underuses between a learner corpus and native English corpus and also learner corpora each other. In the study, the statistical measurements have been made by log-likelihood ratio (http://ucrel.lancs.ac.uk/llwizard.html) which is accepted the most useful statistical device to measure the comparison between two corpora as it calculates the frequency regarding the corpus word size.

RESULTS & DISCUSSION

The first step in the analysis, the connectors used in corpora have been gathered and calculated regardless of their category. Each of adverbial connectors from 157 types was identified over LOCNESS, TICLE, SPICLE and JPICLE. By concordancing through WordSmith software, all instances of adverbial connectors have been found over corpora, then the number of each instance of connectors were calculated and lastly a total frequency of each connector has been obtained. The frequency calculation was made in order to determine the proportion of adverbial connectors in L1 and L2 corpora, thus, the frequency results might be compared each other. Initially, when compared to non-native speakers in frequency, native speakers fall into the lowest amount as 1277, whereas it is 2590 in TICLE, 1851 in SPICLE and 2844 in JPICLE. As a matter of fact, this means English

adverbial connectors have been 133 overused in all three learner corpora when compared to native speakers in frequency analysis. This condition is illustrated in a Figure 1 below:

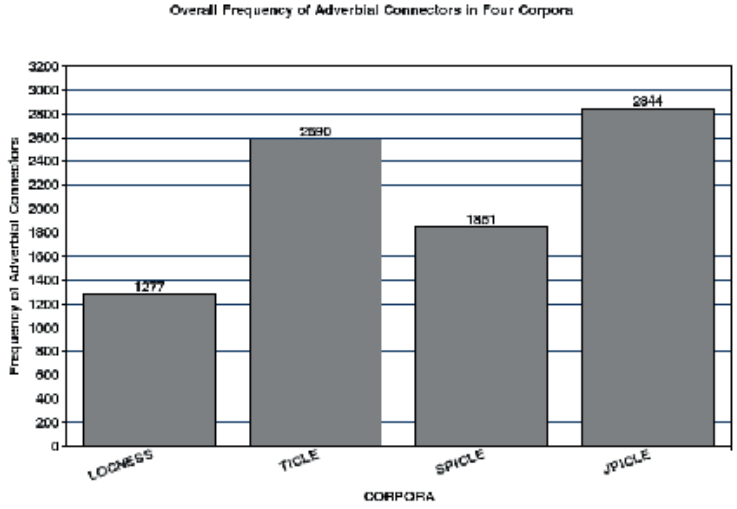

Figure 1. Overall frequency distribution of adverbial connectors in four corpora.

Figure 1 presents a clear picture of frequency differences among four corpora. As can be seen, the lowest frequency belongs to LOCNESS which represents most accurate usage as being the native language data. The highest frequency of connector usage is in JPICE, and then comes TICLE and SPICLE corpora. The significant overuse seems to be in Japanese learners which contains more than two times (2844) from native speakers (1277). There is a difference of 1567 between LOCNESS and JPICLE in number. Similarly, Turkish learners also used approximately more than two times of native speakers' connector usage. As the last L2 data, the lowest number of connector usage is in SPICLE which is the closest to native speakers in terms of usage frequency.

Table 2. Log-likelihood (LL) ratio of overall adverbial connectors in four corpora

	TICLE vs. LOCNESS (L2 vs. L1)	**JPICLE vs. LOCNES (L2 vs. L1)**	**SPICLE vs. LOCNESS (L2 vs. L1)**	**TICLE vs. JPICLE (L2 vs. L2)**	**TICLE vs. SPICLE (L2 vs. L2)**	**SPICLE vs. JPICLE (L2 vs. L2)**
LL Ratio of Adv. connectors	+433.83*	+611.48*	+70.21*	- 16.41 *	+165.39*	-285.59*

$p < 0.05$ (critical value: 3.84) ; a LL value of 3.84 and higher is significant at the level of $p < 0.05$
*significant difference between two frequency score
+ indicates overuse in the first corpus relative to the second corpus
indicates underuse in the first corpus relative to the second corpus

According to the results in Table 2, LL ratio measurement indicates an overuse in TICLE with an + 433.83 LL value ($p < 0.05$) against native English corpus. There is a significant difference between two corpora in terms of connector frequency ($p < 0.05$), so the overuse in TICLE relative to LOCNESS has been approved by LL

calculation. It can be inferred that Turkish EFL learners use significantly more adverbial connectors in their eassys in English than native English speakers. The second L1 vs. L2 comparison in order to see the overuse or underuse statistically was made between JPICLE and LOCNESS. Initial frequency analyses showed the most significant frequency differences in JPICLE when it compared to LOCNESS in which which LL value between JPICLE and LOCNESS revealed a high amount of overuse as +611.48 ($p < 0.05$) as expected from the highest frequency difference between them (Figure 1. above). SPICLE and LOCNESS comparison might be another step in comparing overall frequency of connector usage by means of L1 vs. L2. Again, the overuse in SPICLE in contrast to LOCNESS revealed +70.21 LL value which is statistically significant ($p < 0.05$). Relative frequency per 100 words in each corpus also shows a difference between two corpora (1.03 connectors in SPICLE and 0.76 connectors in LOCNESS per 100 words). The next step in comparing corpora is analysing the statistics of frequency difference between learners' usage of connectors. LL ratio is applied to see the statistical significance of frequency differences or over/underuse among learners. As the major concern of the study, TICLE corpus, which represents the Turkish EFL learners' L2 productions, was compared with other EFL learners by means of LL ratio for frequency differences. When TICLE compared with JPICLE in LL ratio, it indicated an underuse in LL value as -16.41 which is statistically significant which means Turkish learners use less connectors in their essays than Japanese learners. Although revealing a relatively less value, there is a certain underuse in Turkish learners when compared to Japanese learners. In Figure 1, TICLE and SPICLE normally indicated overall frequency difference (2590 in TICLE and 1851 in SPICLE) in respect of the usage of adverbial connectors. As can be seen in Table 1, LL value is +165.39 that indicates a significant difference and a high overuse in terms of Turkish learners which means they use connectors more than Spanish learners in their essays. In terms of SPICLE and JPICLE, the revealed underuse in SPICLE is -285.59 LL value against Japanese corpus is considerably more than -16.41 LL ratio of underuse in TICLE-JPICLE comparison.To sum, Spanish learners use considerably less adverbial connectors in their essays in English than both Turkish and Japanse learners.

Another important issue in connector is that to what extend learners use adverbial connectors to mark the semantic relations (Altenberg and Tapper, 1998). In order to investigate this matter, adverbial connectors have been analyzed within their semantic categorizations over corpora. The main categories of adverbial connectors (Quirk, 1985) were calculated in terms obtaining the total frequency of use. In graphic below presents the frequency of semantic categories of connectors across four corpora:

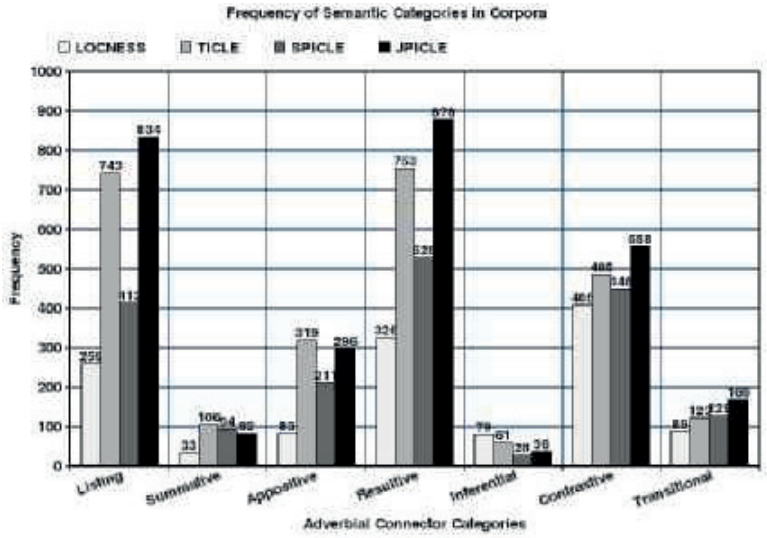

Figure 2. Overall frequency distribution of semantic categories of adverbial connectors in four corpora.

As shown in the graphic, the distribution of semantic categories of adverbial connectors draws similar tendencies in most of the corpora. For instance, adverbial connectors of Listing have been mostly used by Japanese and Turkish learners as in connectors of Resultive category. Japanese learners used 834 connectors from Listing and 878 from Resultive category as the overall highest frequencies in these categories. Turkish learners follow Japanese learners in the use of Listing connectors (753) and Resultive connectors (743). Same condition can be seen in Contrastive category however, the frequency of Contrastive connectors in each corpus is close in total. Appositive connectors were mostly used by Turkish learners as 319 and then by Japanese learners (296). Although similar frequencies in all corpora were seen, Transitional connectors have been used by Japanese learners mostly (169) and then by Spanish learners (129). Native speakers only used Inferential connectors mostly than learners as 79 connectors followed by Turkish learners with 61 Inferential connectors, and this means that Inferential connectors were underused by learners. Again, the graphic shows an overuse of certain connector categories by learners. Therefore, except for Inferential connectors, categorical frequency analysis of adverbial connectors confirms the overuse of connectors by learners.

Besides the overall and categorical evaluation, the adverbial connectors should behandled individually in the material they have been used. The mostly used single connectors can explain the learner attitudes in selection of certain connectors while using an argumentative essay. Table 3 shows the mostly used 10 connectors in each corpora:

Table 3. Most frequently used 10 adverbial connectors in four corpora.

LOCNESS Connectors	n	T/t %	TICLE Connectors	n	T/t %	JPICLE Connectors	n	T/t %	SPICLE Connectors	n	T/t %
however	175	13.7	so	439	16.9	so	604	21.2	so	292	15.7
then	126	9.8	also	208	8.0	however	225	7.9	however	125	6.7
so	125	9.7	for example	182	7.0	for example	200	7.0	for example	94	5.0
therefore	81	6.3	however	151	5.8	then	193	6.7	then	88	4.7
also	77	6.0	then	143	5.5	therefore	122	4.2	therefore	70	3.7
for example	54	4.2	of course	91	3.5	of course	101	3.5	on the other hand	66	3.5
yet	48	3.8	therefore	84	3.2	first	89	3.1	moreover	49	2.6
thus	39	3.0	on the other hand	76	2.9	too	87	3.1	finally	49	2.6
first	31	3.4	moreover	75	2.8	also	82	2.8	of course	47	2.5
though	24	1.8	for instance	63	2.4	on the other hand	76	2.9	for instance	39	2.1

n= raw frequency of connector in corpus

% T/t= Type/token ratio, percentage of the connector in overall connector types in corpus

When compared TICLE with LOCNESS, there are six connectors are identical in TICLE and LOCNESS such as **so**, **also**, **for example**, **then**, **however** and **therefore** which vary in number. However, connectors in LOCNESS like **first**, **though**, **yet** and **thus** do not exist in TICLE in top ten range. Accordingly, in TICLE, the connectors in the most frequent ten range such as **of course**, **on the other hand**, **moreover** and **for instance** have been overused by Turkish learners. At first glance, **So** is the most frequent connector in JPICLE similar to SPICLE and TICLE but when compared to LOCNESS, many of connectors identical except for **of course**, **too** and **on the other hand** which were overused in JPICLE. Among all learner corpora, JPICLE revealed the highest rates in frequency of connectors in general.

CONCLUSION

The total results of frequency analysis of adverbial connector in EFL learner corpora indicated similar conditions to previous studies. Overall overuse of connectors, overuse and underuse of some individual connectors in learner corpora obtained from the frequency analysis indicate identical conditions with many of the previous research. The present study showed a similar conclusion with connector investigations such as in Bolton et al., 2002; Narita et al, 2004 in terms of overall overuse in connectors. When the results of individual connectors is compared with previous research, the overuse in some connectors also similar with some of them Granger & Tyson, 1996; Narita et. al., 2004; Tanko, 2004; Chen, 2006; Fei; 2006; Heino, 2010; Can, 2011). The results obtained from the analysis of connector usage by Turkish learners suggest that the overuse connectors seem common in many EFL learners. This means that the statistical overuse and underuse (if possible) of adverbial connectors by EFL learners might be universal feature of connector usage across EFL learners from different L1 backgrounds. Evaluation of research questions are as follows:

R.Q. 1: Which Adverbial Connectors does TICLE corpus contain and how they can be classified?

Turkish learners use a wide variety of adverbial connectors in their written texts as 104 different types in 7 categories. Approximately 1.5 of every 100 words were used as adverbial connector in TICLE.Turkish learners mostly use adverbial connectors to indicate a result (by Resultive Connectors) and/or to list (by Listing Connectors) in their sentences. Mostly used 10 adverbial connectors in TICLE are *So*, *Also*, *Forexam*ple, *However*, *Then*, *Of course*, *Therefore*, *Moreover*, *First of all*.

R.Q. 2: Do Turkish learners use English adverbial connectors as native speakers in a statistically similar way?

The main focus of the methodology in the present study is to apply the CI-Awhich suggests the comparison between an L1 and L2 in order to investigate the interlanguage properties. Research question 2 seeks interlanguage of Turkish learners by comparing their L2 productions in English with native speakers' L1 written production. In order to answer this second research question, frequency of connectors identified in TICLE has been compared to the frequency of connectors in LOCNESS. The obtained results have been evaluated by means of frequency analysis and then compared through log-likelihood (LL) analysis for the statistical confidence of frequency comparison. According to the frequency and LL analysis, there is certain overuse of connectors in Turkish learners' essays in TICLE when compared to

LOCNESS as NS group. In addition to overuse in TICLE, the choice of connector types also occurred diversity between TICLE and LOCNESS when the mostly used connectors have been analyzed in both corpora. Categorically, Turkish learners mostly prefer to use Resultive connectors whereas native speakers mostly use Contrastive connectors in their argumentative essays.

R.Q. 3: How is the Turkish EFL learners' use of adverbial connectors different from and/or similar to Spanish and Japanese EFL learners in respect of interlanguage property?

The second part of contrastive analysis (in addition to L1 vs. L2) suggests L2 vs.L2 comparison in order to seek the common interlanguage properties. In the study, the frequency analysis of adverbial connectors obtained from three learner corpora, TICLE, SPICLE and JPICLE and the frequency results have been compared with each other via LL calculation to specify the significance of differences. Comparison results indicated that significant overuse in TICLE has been found when compared to SPICLE in overall connectors whereas ther is a statistically significant underuse in TICLE when compared with JPICLE. That is, Turkish learners use more adverbial connectors than Spanish learners and less than Japanese learners. Accordingly, there is a very significant difference between SPICLE and JPICLE. Thus, connector usage by Turkish learners is somewhere between Spanish and Japanese learners' usage. On the other hand, there are common tendencies have been identified in three learner corpora. For example, Resultive connectors are the mostly preferred connectors by Turkish, Spanish and Japanese leaners. Furthermore, Inferential group of adverbial connectors have been commonly underused in three learner corpora when compared to NS data. In addition, there are similarities in the choice of connectors between Turkish EFL

learner and the other EFL learners as well. In the study, the general tendency of overuse of adverbial connectors in three EFL learner corpora seems to be a common attitude. This fact might be due to the common interlanguage properties which tend the learners to determine certain ways of using adverbial connectors. Although the overuse of connector using is accepted as a way of disguising the poor writing in L2 (Crewe, 1990), it is needed more detailed explanation to express the results as a basic common interlanguage property. At this point, many explanations may be devoted to the divergences such as L1 transfer, cultural writing styles or cultural writing habits.

IMPLICATIONS FOR LANGUAGE TEACHING

Appropriate connector usage by EFL learners is the common point of the related investigations of adverbial connectors. Tankó (2004) states that the process of acquisition of adverbial connectors is more effective when it is controlled by both teacher and the learner. In addition, the students' role is more important since they can discover the characteristics of adverbial connectors by Tankó (2004) adds that:

> Information on the variety of adverbial connectors and their frequency in various spoken and written text types can be given on the basis of such sources (e.g. Biber et al. 1999:875–892) that rely on corpus evidence: it is Corpus Linguistics studies that provide the most reliable empirical evidence on the use of adverbial connectors. The teacher can furthermore give valuable feedback concerning the number of adverbial connectors used in student texts as well as make explicit, relevant and therefore effective comments based on particular instances taken from student texts concerning the question of when to use and when not to use adverbial connectors. (2004, p.179)

Data-driven learning (DDL) (see section 2.4.2.) approach provides empirical base to improve the learning of adverbial connectors by EFL learners. The direct Access of learners to corpora via Internet, CD-ROMs or by KWIC (Key Word in Context) concordances including adverbial connectors could help learners to observe paradigmatic presentation of repeated patterns of adverbial connectors as their meaning and the cognitive relation they express, their grammatical function, their genre sensitivity, the linguistic units they span, and the various forms the same adverbial connector can have (Tankó, 2004). By using this approach, Tankó (2004) found that Hungarian students' use of adverbial connectors improved.

Another method in order to create awareness for appropriate adverbial connectors' usage is that developing new EFL materials. Narita et. al. (2006) suggests a computer-based EFL writing tool with a concordance which can help learners to discover the proper use of connectors. In this tool, if the learner enters or selects a connector on the computer screen, a list of sample writings including the that connector could be shown in the KWIC format, then the learner could access the full text to examine the usage of that certain connector (Narita et. al., 2006). In respect of such materials, Narita et. al. (2006) also point out that although further empirical research is needed, repeated exposure to authentic texts of good quality is expected to have a positive effect on EFL writing.

In terms of connector usage by Turkish learners, there are certain conditions can be inferred from the conclusions of the present study. First one is that the usage of adverbial connectors by Turkish learners are generally due to informal register as they generally overuse informal connectors like **so** and **of course**. If the Turkish learners could be aware of register and related connector type, then they can be thought using appropriate connector types for appropriate registers (formal/informal) in English language. In order to create such a learning environment for Turkish EFL learners, EFL teachers can use DDL types of materials and writing tools as noted above.

Another factor that was investigated in the present study is that the possibility of L1 transfer from Turkish language in connector using. Rising awareness of connector systems in both Turkish and English in a comparative way, analyzing cross linguistics differences between these two languages can be effective in the connector usage of Turkish learners. If these conditions can be provided through appropriate teaching methods, e.g. using, searching and analyzing connectors in/over corpora from Turkish and English languages via DDL methods and specifically designed DDL materials, then the balance between two languages can be established in order to use connectors appropriately in both languages.

SUGGESTIONS FOR FURTHER RESEARCH

The present study provides a quantitative approach to the usage of adverbial connectors by Turkish learners by means of comparing native speakers and other learner groups. While doing this, adverbial connectors have been taken to account computing their frequency of use in the sentences within semantic categories they belong to. Future research can evaluate the connectors considering their positions in the sentences they occurred. Next, this study focused on the overuse and underuse of adverbial connectors. Similar studies in the future should be emphasized the misused connectors by learners in order to gain more detailed insight about the usage of connectors. As a last suggestion, academic writing in L2 regarding cultural aspects might be included to a replicated research to see whether there is a relation between interlanguage properties and different cultural attitudes in different L1 backgrounds.

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CHAPTER 3

THE IMPACT OF A STUDENT-CENTERED, AUGMENTED REALITY-ENHANCED MOBILE APPLICATION ON EFL VOCABULARY LEARNING: A CASE STUDY FROM THE LEARNERS' PERSPECTIVE

Işıl Günseli KAÇAR, Buğra ZENGİN

INTRODUCTION

Augmented Reality (AR) can be defined as a technology allowing the superimposition of virtual objects into the real world in real time (Alizadeh, Mehran, Koguchi and Takemura, 2017) Being regarded as a promising emergent technology in educational settings that is likely to raise the engagement levels of the students in the learning process (Alizadeh, et al., 2017), it allows overlaying digital information onto real world through the attachment of photos, texts, 3D models, various websites and videos (Azuma, Baillot, Behringer, Feiner, Juliet and MacIntyre, 2001; Alizadeh et al., 2017; Şenel, 2016). AR is quite in line with certain learning theories such as constructivist learning, situated learning, game-based learning and inquiry-based learning (See Alizadeh et al., 2017).

With the burgeoning interest in AR technologies in instructional environments in recent years, the educational applications, particularly the mobile ones such as Aurasma, Wikitude, Layar and Augment, are increasingly gaining popularity and incorporated into English classrooms (Reinders and Lakarnchua, 2014). However, to date, there is still a paucity of research into AR-enhanced systems and applications for language learning (Wu, Lee, Chang, and Liang, 2013). In fact, a majority of AR-enhanced systems and mobile applications have been developed for teaching science and mathematics (Wu, et al., 2013). This research study aimed to address the research gap in this respect by exploring the perceptions of a group of EFL (English as a Foreign Language) students in the tertiary context as regards Blippar, an AR-enhanced mobile application. Hence, this study aims to address the following research question:

What are the Turkish EFL majors' views regarding the impact of Blippar, an AR-enhanced mobile application, Blippar, on vocabulary learning experience via Blippar?

Literature review

Previous studies (e.g., Chow, Thadani, Wong, Pegrum, 2015; Küçük, Yılmaz, and Göktaş, 2014) explored the students' attitudes towards the use of AR and found that students had a positive attitude towards their AR experience. It was also pointed out that AR can raise the level of student engagement in learning (Chow et al., 2015) and can increase students' motivation, fostering the improvement of English language skills (Reinders and Lakarnchua, 2014). Likewise, the AR learning environment embedding a context-aware learning game was found to develop learners' speaking and listening skills in English (Liu, 2009).

Blippar is a free mobile application that enables the instant vision of materials and objects in a virtual platform via IOS, Android and Windows-based smart phones or tablets without a need to scan or take a photo (Hatırasu, 2013). It uses a visual recognition technology and aims to act as a bridge between the physical and the digital world (Kuyucu, 2014). The application starts to investigate the individual features of the visual or object through scanning under 300 miliseconds (Kuyucu, 2014). When the application recognizes the image, it sends the latter to the server. After the confirmation of the server that it is a Blippar image, it sends the image to the smart device of the defined content user (Kuyucu, 2014).

In a recent exploratory case study, Alizadeh et al. (2017) revealed the perceptions of Japanese undergraduate students in a fifteen-week blended course of English for General Academic Purposes, regarding their experiences of AR-based poster creation using Blippar. The findings indicated that while half of the students found Blippar difficult to use due to technical glitches (e.g, long loading time for some overlayed videos), the majority of them found working with Blippar fun. They were of the opinion that the integration of Blippar into English classes made learning English interesting for them although they reported that using Blippar did not directly contribute to the development of their English. In another study on the impact of AR-based simulation (called Alien Contact) on handheld computers to teach math, language arts and scientific literacy skills to middle and high school students in USA, Dunleavy, Dede, and Mitchell (2009) indicated that the AR-based simulation promoted collaboration among students, with an increase in the learner motivation, providing new insights and understandings related to the learning activity. In a study in the Turkish context on Mobile-assisted Language Learning (MALL) and AR, Şenel (2016) explored how mobile technologies and devices can be used through AR for the improvement of young learners' language skills in an interesting, motivating and challenging fashion. The findings revealed that implementing AR-based mobile learning activities in class provides a number of opportunities for learners such as better understanding, enhanced motivation, retaining knowledge for a long time, and thinking critically. AR applications are becoming more and more popular in the English Language Teaching circles (Reinders and Lakarnchua, 2014).

Instructional and learning approaches

In contrast with traditional classroom activities that are out of context, educational/learning experiences offered via AR are characterized by situated, inquiry-based learning within a socioconstructivist perspective (Yusoff, Zaman, and Ahmad, 2010). Accordingly, AR-enhanced learning activities occur in a socio-constructivist environment where learning takes place via sensory experiences and interaction with the participants in an authentic context that reflects the use of knowledge for real-life purposes (Yusoff, et al., 2010). In fact, in their study on the characteristcs of situated learning for multimedia and online learning, Herrington, Oliver, Herrington, and Sparrow (2000) pointed out the importance of authentic context, authentic learning activities, coaching, scaffolding, collaborative construction of knowledge where learners interact with other members of a community of practice (See also Lunce, 2006), and the impact of context on learning. In situated learning contexts, the relationship between the

members of such communities of practice is likely to be relatively informal and peer-based, as opposed to the formal teacher-student relationship in formal instructional settings. Situated learning prioritizes everyday cognition, emphasizing making tacit knowledge explicit (Herrington et al., 2000). It also emphasized the significance of learner agency (Lave and Wenger, 1991) and the crucial role of activity, context and culture in learning (Lave and Wenger, 1991).

Augmented reality and technology

Technology plays a significant role in AR research (Wu, et al., 2013). AR can be described as a 'technology' blending real and virtual experiences (Klopfer and Sheldon, 2010). This restricted view of AR (Milgram, Takemura, Utsumi and Kishino, 1994), regarding AR as a type of virtual reality with a head-mounted display to transmit information to the real world, is a reflection of the early stages of AR technology (Wu, et al, 2013). With the recent breakthroughs in technology, it has become possible to extend the sphere of AR applications in education as an increasing number of hardware and software devices are used to create AR (Wu, et al., 2013). To illustrate, the developments in handheld computing point out new opportunities for the educational use of augmented reality (Martin, Diaz, Sancristobal, Gill, Castro, and Peire, 2011; Squire and Klopfer, 2007), particularly the use of mobile devices in AR (Feng, Duh, and Bllinghurst, 2008). The mobility opportunity the handheld devices offer is likely to enhance the authenticity of the educational setting as well as leveraging the amount of interaction among learners, as indicated by Klopfer and Sheldon (2010).

Features and affordances

Studies have demonstrated that AR provides many affordances when utilized in educational contexts (Cheng and Tsai, 2013). AR can be used for educational purposes in several ways. The integration of AR-technologies into education might lead to enhanced context sensitivity, more informed decisions on the part of learners (Squire and Klopfer, 2007), decreased task interruptions and the successful management of student attention due to the embedded attention-aware features such as the detection of student locations and working status, the provision of task reminders (Roda and Thomas, 2006).

AR might provide pedagogical affordances related to learning outcomes. These could be classified into certain categories such as learning achievement, motivation and attitudes (Akçayır and Akçayır, 2017). A number of studies pointed out enhanced learning performance promoted through AR (Chang, Hou, Pan, Sung and Chang, 2015; Ferrer-Torregrosa, Torralba, Jimenez, Garcia, and Barcia,2015). The AR approach can help eliminate the incidental cognitive load through the provision of well-integrated, organized and relevant materials, which may lead to an improvement in student learning and an increase in the level of student understanding, (Kamarainen, Metcalf, Grotzer, Browne, Mazzuca, Tutwiler, et al. (2013).

Regarding pedagogical affordances of AR, the most prominent contributions of AR are found to be enhanced enjoyment (Ibanez, Di Serio, Villaran and Kloos, 2014) and an increase in the level of student engagement (Liu and Tsai, 2013).

The use of AR technology was reported to make learning fun (Bressler and Bodzin, 2013; Mohd Yusof, Daniel, Low, and Ab Aziz (2014). Using mobile AR was found to raise the level of student engagement and lead to better performance (Chang et al., 2014; Liu and Tsai, 2013). Additionally, AR enables teachers to assign students responsibility for their own learning (Ferrer-Torregrosa, Torralba, Jimenez, Garcia, Barcia, 2015), allowing students to make their own decisions, leading to enhanced student engagement (Munoz-Cristobal, et al., 2015). It is also reported to facilitate self-directed learning, self-motivation, problem-solving skills and knowledge-application skills (Liu et al., 2009). Although enhanced learning interest was not reported frequently (Akçayır and Akçayır, 2017), some studies reported enhanced learning interest as a result of relatively good concentration on the topic using AR (Chang, Yang and Hwang, 2014; Zhang, Sung, Hou and Chang, 2014). In the same vein, mobile AR technology was revealed to foster collaborative learning in hybrid learning environments (Dunleavy, et al., 2009), and enables multi-sensory learning (Liu and Liu, 2015). As regards the student attitudes towards AR-enhanced learning activities, Liu and Liu (2015) and Wojciechowski and Cellary (2013) and Liu and Tsai (2013) reported the adoption of a favourable student attitude accompanied by enhanced learner achievement, which echoes Chiang, Yang, and Hwang (2014), demonstrating improved student performance through the adoption of the mobile device AR approach. The findings, in general, pointed out the benefits of AR in terms of enhanced positive attitude, learner confidence (Liu and Liu, 2015), and learner satisfaction (Han, Jo, Hyun, and So, 2015).

In AR learning environments a new set of skills could be facilitated (Mathews, 2010; Rosenbaum et al., 2007). To illustrate, AR-enhanced instructional settings could raise learners' awareness of authenticity (Rosenbaum et al., 2007) and promote learner engagement in authentic investigations in the real world (Dede, 2009). Also, they can boost students' motivation and interest, improving their research skills and gaining new understandings and insights into the topic in question (Sotiriou and Bogner, 2008). It was stated that collaborative immersive AR applications could help develop learners' spatial abilities (Kaufmann ad Schmalstieg, 2003; Lin, Chen and Chang, 2015; Martin-Gutierrez et al., 2003). Apart from these skills, AR learning environments can also maximize the transfer of learning (Dede, 2009; Kaufmann and Schmalstieg, 2003).

Another strand of affordance identifed from the AR-related literature in education is the potential of AR to bridge the gap between learning in formal and informal contexts (Wu, et al., 2013). To illustrate, Sotiriou and Bogner (2008), in a project employing AR and other technologies to connect science learning at school and learning experiences of the virtual and traditional museum visits, indicated that the AR-enhanced learning environment had a favourable impact on students' intrinsic motivation to learn science and conceptual understanding of the friction concept. They also found that AR helps learners acquire research skills effectively. Similarly, a recent study by Akçayır, Akçayır, Pektaş and Ocak (2016) concluded that the engagement with AR technology enabled university students' laboratory skills to develop and led to the development of favourable student attitudes related to physics laboratory work.

A further affordance provided by AR is concerned with learners' interactions which might be categorized into three categories: student-student, student-material and student-teacher). AR technology was reported to facilitate interaction among students (Kamarainen et al., 2013) and interaction between students and the learning material, fostering learning by doing, particularly promoting learning for kineaesthetic learners (Hsiao, Chen, and Huang, 2012). In fact, mobile AR applications are said to be quite cost effective and easy to use for young learners (Furio, Gonzales-Gancedo, Juan, Segui and Costa, 2013). On the other hand, Zarraonandia, Aedo, Diaz and Montero (2013) concluded that there is an increase in communication and interactions among teacher-students in AR-enhanced environments. Social interactivity could be promoted via networked mobile devices as well as face-to-face interactions and scaffolding adjusted to various types of explorations could foster individuality (Klopfer, 2008).

As regards other affordances of AR technology, AR provides visual support for students and enables students to visualize concepts that are intangible or invisible or abstract (Akçayır and Akçayır, 2017; Dunleavy et al., 2009). Its ease of use and the fun element it involves are additional affordances for students (Akçayır and Akçayır, 2017).

Design features of AR learning environments

In the design of AR learning environments, including game-based learning, various instructional and learning approaches have been taken into consideration (Rosenbaum, Klopfer, and Perry, 2007; Squire and Jan, 2007; Squire and Klopfer, 2007), place-based learning (Klopfer, 2008; Mathews, 2010), problem based learning (Liu, Tan and Chu, 2009; Squire and Klopfer, 2007, p.375), role playing (Rosenbaum et al., 2007) and jigsaw method (Dunleavy et al., 2009). Among the approaches, game-based learning is one of the most popular for AR. AR games can be defined as "games played in the real world with the support of digital devices that create a fictional layer on top of the real world context" (Squire and Jan, 2007, p.6). Roles, challenging activities, authentic sources and tools embedded in the system are some of the distinguishing features of game-based learning, as pointed out by Squire and Jan (2007). Games involve one or a series of tasks and incorporate elements of fun and challenge as well as curiosity (Wu, et al., 2013). Students could collect information through interaction with virtual characters and the acquisition of virtual data from the authentic context.

Additionally, AR systems could be used to provide remedies for learning difficulties pointed out in the previous research literature (Wu et al., 2013). By providing learning experiences such as manipulating virtual objects or observing the phenomena that are hard to see in nature or those that are unobservable (Kerawalla, Luckin, Seljelot and Woolard, 2006), the AR environments could foster learners' thinking skills and conceptual understandings about the invisible phenomena (Liu et al., 2009), rectifying the misconceptions (Sotiriou and Bogner, 2008). AR technology enables the observation of events that are hard to observe with the naked eye (Wu, et al., 2013). The majority of the AR systems were designed for teaching science and mathematics, subjects which require the visualization of abstract concepts and a few designed for students with special

needs and for language learning. To illustrate, Liu (2009) established an AR-enhanced learning environment where a context-aware learning game was used to assist students in eliminating the learning problems and develop learners' speaking and listening skills in English. Besides, AR environments may facilitate practices and literacies that are relatively hard to develop via other technology-enhanced learning environments (Squire and Jan, 2007; Squire and Klopfer, 2007). Squire and Klopfer (2007) indicated that AR games could be utilized for the activation of learners' prior knowledge, the connection between prior knowledge and the physical world and the engagement of students in academic content and practices.

Pedagogical, learning and application-related issues

Even though the integration of AR into teaching and learning environments might appear promising, the research studies revealed some unfavourable impacts on learning such as low engagement levels (Kerawalla et al., 2006). While the teachers reported being aware of the affordances of AR systems in the classroom, they indicated that they would like to exert more control over the content in the system so that they could make adaptations in the content in line with the learners' needs (Wu et al., 2013). In other words, like many innovative applications, AR provides new possibilities as well as challenges.

Pedagogical Issues

There are certain pedagogical issues to consider as far as in-class implementations of AR systems are concerned. To begin with, schools and teachers could show resistance towards the use of AR in the classroom, like many innovative educational applications. AR is usually associated with innovative approaches such as game-based activities. AR, as an instructional approach, is quite different from the teacher-centred, lock-step and traditional teaching methods (Kerawalla, et al., 2006; Mitchell, 2011; Squire and Jan, 2007). Institutional constraints such as the pressure of covering a particular content in a given time frame are also another obstacle to overcome (Kerawalla et al., 2006). Hence, there might be a gap between the teacher-centered conventional systems used in mainstream teaching and the student-centered exploratory practices promoted by AR systems. A further issue might be related to how to make amendments in the AR system to accomodate it in line with the student needs and how to align the course content and the teaching sequence in accordance with AR systems (Kerawalla et al., 2006).

Learning Issues

AR learning environments also pose challenges for learners and the learning process. The challenge that is most frequently reported was the difficulty for the students' use (Akçayır and Akçayır, 2017). Usability was stated to be an important factor with an impact on educational effectiveness (Chang et al., 2014). In order to eliminate student difficulties while using the AR technology (Munoz-Cristobal et al., 2015). As it involves a great deal of user interaction, it is necessary to address the usability issue (Cheng and Tsai, 2013). In fact, Chiang et al. (2014) and Gavish, Gutierrez, Webel, Rodriguez, Peveri, Bockholt, and Tecchia (2015)

pointed out the hints, scaffolding, guidance and training needed to be provided for students to meet the learner usability challenge. A further issue in this respect is the students' cognitive load in the AR learning environment (Dunleavy et al., 2009). Research warns that students might be challenged by the cognitive overload in the AR environment as a result of the amount of material and the task complexity (Cheng and Tsai, 2013).

Application-related issues

The application related issues might also be taken into consideration in AR-enhanced learning environments (Akçayır and Akçayır, 2017). When it is used with large groups, AR technology may not be cost effective and there may not be adequate amount of time for some AR applications in normal class sessions (Furio et al., 2013).

The cognitive overload, the requirement to use multiple technological devices and the complex tasks are some of the challenges students need to handle (Wu, et al., 2013). In other words, the students in AR environments need to be multi-taskers, which might cause anxiety and confusion. In addition, students need to have developed higher order thinking skills such as analysis and synthesis, collaboration, and problem solving (Dunleavy et al., 2009). It is indicated that one motive behind the learner challenges in AR environments is the lack of such cognitive and social skills (Kerawalla et al., 2006; Klopfer and Squire, 2008; Squire and Jan, 2007). Apart from these challenges, AR environments might pose challenges for younger learners and those who are not used to such learning environments. Thus, additional scaffolding and guidance might be necessary for such learners to find their ways to accomodate to this new way of learning.

Previous research indicated that there are certain limitations associated with AR. To ilustrate, Lin, Hsieh, Wang, Sie and Chang (2011) revealed the technical problems the students encountered due to the complicated nature of AR. Students might find AR technology quite complicated without a well-designed interface, proper and continuous scaffolding (Squire and Jan, 2007). Students might also encounter problems while using the AR applications (Wu, et al., 2013). In addition, some research studies also pointed out the necessity for additional training for studens to be able to make effective use of AR in education (Munoz-Cristobal et al., 2015).

Participants

Participants were fourty-eight EFL majors enrolled in the English preparatory program of the English language and literature department at Namık Kemal University, a small state-university located in the north-west of Turkey. They were all EFL majors who were going to specialize in English language and literature. They were exposed to English instruction enriched in terms of literary texts in the preparatory program. There were 32 female and 16 male students within an age range of 18 and 20. Approximately two-thirds of the participants were female. They were exposed to 20 hours of English instruction each week in the preparatory program at university. They all had an intermediate level of proficiency in

English. Throughout their academic studies in the program, they were engaged in a variety of online activities from various websites such as lyricstraining.com. and voscreen.com They were also provided with some opportunities to develop their creative and critical thinking skills via certain in-class and outside class activities. To illustrate, they were assigned to identify the lexical patterns in various film and TV serials uploaded to an online platform and write creative dialogues using these patterns. One of the researchers acted as the classroom instructor of the participants as well.

Study Context

The AR-enhanced mobile educational application Blippar was integrated into vocabulary teaching activities in the English classes in the preparatory program. The study lasted for 5 weeks in the spring semester of the academic year 2017 and 2018. It started in the mid-semester (the 8th week) after the participants received a two-week hands-on training program concerning the mobile application use for two weeks (Week 8 and 9). The study ended in the 14th week of the semester. Within the framework of the training program, initially at the beginning of the study the researcher, also the classroom instructor, introduced the application in class and described how to use it. Later on, the participants did some applications using the tool individually in class for three hours. The researcher provided scafffolding and guidance for the participants in relation to the application-related issues and the usability issue in and outside class. These in-class individual applications under the supervision of the researcher, the classroom instructor, were followed by some individual and group applications on the campus. Peer learning also took place as the participants provided scaffolding and guidanc for one another while practising vocabulary collaboratively by means of the mobile application on different spots of the campus beyond the boundaries of the classroom. These individual and collaborative applications on the campus lasted for two weeks.

After the hands-on training in and outside class, the participants were asked to use the AR-enhanced mobile application autonomously in their daily life contexts as frequently as possible. There were no constraints as to the number of words they needed to work on in this informal vocabulary learning experience.

Research Design

The qualitative case study research design was selected in this study as the aims to conduct a comprehensive, holistic and in-depth investigation of a complicated phenomenon such as the EFL learners' views regarding the use of Blippar, a mobile educational application of Augmented Reality, in a real life context (See Cresswell, 2014; Merriam, 2009; Yin, 2014). It involved a "detailed, in-depth data collection involving multiple sources of information" (Cresswell, 2007, p.3), such as semi-structured interviews and reflection journals.

Semi-structured interviews were also used as a data collection instrument in the study. They are inverviews that aim to conduct an in-depth exploration of research participants' experiences and the meanings they associate with these

(Adams, 2010). Such interviews are beneficial in cases where the topic of interest is underexplored or relatively unfamiliar (Adams, 2010). They have a relatively open framework enabling focused, conversational, two-way communication. Although there are pre-prepared guideliness, the interviewer may follow topical agendas in the conversation that may deviate from the guide, as suggested by Keller (2008). The semi-structured interviews with the participants in the study lasted 30 minutes. It was conducted in Turkish and audio-recorded with the permission of the participants. Later on, they were transcribed. The transcriptions were backtranslated in order to ensure reliability. Also, member checking was used as an additonal tool to contribute to the reliability in the study.

Reflective journals constituted the second data collection instrument in the study. They serve as a source of narrative research (Connelly & Clandinin, 1990) documenting the current practice in different fields such as education (Bashan and Holsblat, 2017). The incorporation of reflective journals as a data collection tool enabled the researchers to hear the voice of EFL learners regarding their views on the benefits and challenges of learning vocabulary with the AR-enhanced mobile application Blippar and changes they experience as a part of their learning experience (Dunlap, 2006). The use of such journals also served as a pedagogical instrument to promote criticism and self-analysis of the learners concerning their learning experience with AR-supported mobile application (Anderson, 2012), sharpening their metacognitive abilities (Bashan and Holsblat, 2017).

Data Collection

The data in the study were collected via reflection journals. Upon completing the study at the end of the term, the EFL majors were asked to write a reflection about their informal, outside-class vocabulary learning experiences using the mobile educational application Blippar throughout the study. They made comments on the benefits and challenges of learning vocabulary via Blippar. They were also asked to indicate the new insights they gained into the mobile learning application in their journals. Also, semi-structured interviewes were held with the participants regarding their vocabulary learning experiences via the educational application. In order to avoid any expression problems participants may face while expressing themselves in English.

Data Analysis

Conventional content analysis was used in order to analyse the data. It is usually preferred in studies which aim to describe a phenomenon on which the existing research literature is constrained (Hsieh and Shannon, 2005). This study aimed to investigate the views of a group of Turkish EFL majors in a tertiary learning environment regarding the impact of the integration of Blippar, an AR-enhanced mobile application, on their vocabulary learning experience. The researchers permitted the categories to emerge from the data and avoided employing preconceived categories (Kondracki and Wellman, 2002). Researchers aimed at inductive category development (Mayring, 2000), allowing new insights to emerge (Kondracki and Wellman, 2002). Two researchers who are faculty staff members in different universities, experienced in qualitative data

analysis, were involved in the data analysis to ensure reliability. The researchers read all the data in an iterative fashion and formed a wholistic picture based on it (Tesch,1990). Later on, they identified the key ideas, concepts in the data and derived the codes (Miles and Huberman, 1994; Morgan, 1993; Morse and Field,1995). Initially, they worked on the data coding process independently and then they came together and compared and contrasted the codes that they identified in the data. The next step was to sort the codes into categories based on the relation between different codes. The emergent categories are, then, grouped into theme-related clusters (Coffey and Atkinson, 1996; Patton, 2002), the subcategories. Depending on the relationships between them, the researchers combined several subcategories into a smaller number of categories (Morse and Field, 1995). Although preconceived categories were not imposed in the data analysis, the researchers faced some challenges in the analysis. They occasionally failed to achieve a complete understanding of the data or could not concur with the codes. In such cases, they revisited the the codes together and achieved congruence in the code identification via discussion. In line with Lincoln and Guba (1985) and Manning (1997), order to foster trustworthiness, internal validity, and reliability, member checking was employed.

Results and Discussion

In relation to the EFL majors' views on the impact of Blippar, an AR-enhanced mobile application, on their vocabulary learning experience, several themes emerged as a result of content analysis. The expansion of lexical knowledge is the first and most recurring theme. Participants emphasized that the enhancement of vocabulary skills was the greatest benefit of the vocabulary learning experience, which echoes Reinders and Lakarnchua (2014). They reported that the Blippar experience contributed to their lexical repertoire in English to a certain extent. The following quote is quite revealing in this respect:

> I learnt a lot of new words which are connected to each other.... With these words I wrote better essays. Also I improved my speaking with these new words.... new words in a fun way.

The provision of a meaningful vocabulary learning opportunity for EFL majors through the activation of prior knowledge, the creation of new thematic word associations and lexical sets was reported in the study. The participants reported that their vocabulary learning engagement through Blippar facilitated the topical categorization of the newly-learnt words. The following quotes reveal this feature of Blippar concisely:

Blippar categorizes words such as foods or animals… good way for learning English and level up our world knowledge…

> … isn't only about one particular topic. I can access a variety of words. This can be about art, office, appearance, indoor and sort of things. That's why, Blippar can expand one's vocabulary.

Learners described learning vocabulary by means of Blippar as an innovative means of enlarging their lexical repertoire. In the study learners were involved

in an engaging experiential learning endeavor by hunting words in the informal learning environment outside class. The findings indicated that the use of application raised the engagement level of the participants in the learning process (Alizadeh et al., 2017, Liu and Tsai, 2013; Munoz-Cristobal, et al., 2015). The EFL learners in the study pointed out the potential of Blippar to establish a connection between learning in a formal and an informal context, which echoes Wu et al. (2013) and Sotiriou and Bogner (2008). Similar to the science learning experiences of the cohort in Sotiriou and Bogner (2008), the EFL majors in the study reported that the virtual vocabulary learning experience via Blippar was complementary to the traditonal in-class learning. The following quotes are quite revealing in this respect:

> Blippar categorizes words such as foods or animals. …good way for learning English and level up your word knowledge. It was one of the best ways to learn new words when I started to use this, I learnt so many words…you can see all the words in front of you and also the meanings of them … I realized something new around us that we haven't heard until now.

> It is a useful app for learning vocabulary because when you show it a thing in your area, it shows you so many words about that thing. Even the synonym of that word… And you know the subject's name, synonym, things which are similar to that subject.

Some participants also emphasized the vocabulary learning experience via Blippar enabled them to enrich their academic vocabulary regarding scientific concepts, which was stated by Sotiriou and Bogner (2008). It can be concluded that the employment of AR-enhanced mobile applications may contribute to the EFL majors' cognitive skills development. The participants, in addition, reported enjoying learning non-academic, colloquial vocabulary via Blippar, which is revealed in the following quote:

> … learned words like jar, liquid and molding… I will continue to use Blippar in every part of my life. I will suggest this application to my friends as well…

The aforementioned quote demonstrates the student-centered nature of Blippar, which constitutes the second main theme in the study. The participants also indicated that they enjoyed the student-centered nature of the AR-enhanced application. They remarked that they were content with the possibility of developing their lexical competence by utilizing a user-friendly AR-enhanced mobile application such as Blippar in their daily lives, in an informal learning environment. The introduction of such mobile applications to EFL majors can be regarded as a valuable addition to their professional development strategies. Blippar provides a complementary online learning space to the face-to-face traditional learning space, which can be regarded as a precious affordance to support student learning and engagement in the learning process (Chang, Wu and Hsu, 2012). The participants also emphasized that AR-enhanced environments such as the one Blippar provided for them also appeals to the affective side of learning (Wu, et al., 2013). The AR environment enabled them to have the "subjective impression

that one is participating in a comprehensive, realistic experience" (Dede, 2009, p.66).The ease of use, which the participants associated with Blippar in the study, appears contradictory to the findings of other studies such as Kerawalla et al. (2006) and Wu et al. (2013), which indicated potential student anxiety and confusion in AR environments due to the gap between the teacher-centered traditional teaching and the student-centered teaching environment.

The ubiquitous learning facility is the third theme in the study. The participant EFL majors underscored their satisfaction with the alternative online learning space provided by the AR-enhanced mobile application, which confirms Broll et al.(2008), Dunleavy, et al. (2009), and Wu et al. (2013).). In the following quote, one participant expresses his satisfaction to be granted such a liberating opportunity as being able to learn without being confined to four walls:

> … good example for virtual reality, Everywhere you go, you can use 'Blippar' which means it lives and learns with you.

They were of the opinion that the ubiquitous feature of Blippar enhanced the learning efficiency, fostering the recognition as well as retention of vocabulary. This echoes the findings of Wu et al (2013), which stated the role of AR approach in alleviating the learners' cognitive load through the provision of a well-integrated, relevant materials, facilitating their cognitive development and the rate of their learning. The following comments are illustrative in this respect:

> I used it (Blippar) in different places, school, dormitory, cafe, outside class. I learnt many new words I haven't heard before. That's why, the app is good. It can boost your vocabulary.
>
> While learning new words… both have a good time and take them to our permanent mind.
>
> When travelling in a foreign country and you don't know the name of something, you can use the app and learn it.

Some EFL learners found the AR-enhanced mobile application so beneficial that they even thought of recommending it to their relatives, which is reflected in the following quote:

> I also downloaded it to mum's phone. She's using it whenever she wants and by this way she's able to memorize some words such as table, chair more easily than before.

The promotion of learning transfer is the fifth theme that emerged in the study. The participants revealed that thanks to the integration of the AR-enhanced mobile application into vocabulary learning, they could transfer the new words they learnt in the vocabulary lesson to other language skills such as speaking and writing, which is in accordance with Kaufmann and Schmalstieg (2003), indicating the promotion of learning transfer via AR learning environments. They indicated that they used the words they learnt via the application while they were using English orally or in written form (See Lu, 2009), which may be interpreted as an indication of the effectiveness of the application in terms of vocabulary learning.

The situated nature of learning is the sixth theme that emerged in the data. The findings emphasized participants' enjoyment of the situated nature of learning via Blippar as the employment of the application in informal learning environment raises context awareness and context sensitivity (Han, Hyun,and So, 2005; Ibanez, Diserio, Villaran and Kloos, 2014; Liu, 2009; Squire and Klopfer, 2007). They all reported enjoying the authentic vocabulary learning experience in the real world, as indicated by Dede (2009). The results also demonstrated that the situated learning opportunity via Blippar enabled the participants to attach importance to everday cognition, rendering their tacit knowledge explicit (Herrington et al., 2000). They also expressed their satisfaction with the learner agency that they enjoyed when engaged in learning new vocabulary in an informal environment. In fact, one participant emphasized the fun element in her comments in the following way: "I have a great time in my leisure time".

The provision of a game-based environment is the seventh theme in the study (Squire and Jan, 2007; Wu, et al., 2013). Some participants described the learning experience via Blippar as "like a game". The participants thought that learning new vocabulary by means of Blippar means combining education and entertainment, which is also referred to 'edutainment'. One female participant said that it was "not only beneficial for education but also it is enjoyable", echoed by another female participant, who described learning vocabulary via Blippar as "like social education", "not only education but also entertainment for us". Participants particularly emphasized that the use of Blippar also fostered learning by doing and thereby promoting learning for kinaesthetic learners (Hsiao, Chen, and Huang 2013), which the following quote expresess effectively: "We walked in the environment and we hunted the words."

The enhanced intrinsic motivation to learn is the final theme that emerged in the study, which was revealed in a study by Akçayır et al. (2016), demonstrating an increase in the interest in learning science and in understanding the scientific concepts. The participants in the current study remarked that the use of Blippar fuelled their motivation to learn vocabulary in the EFL context, which is in line with the previous literature (Chiang, et al., 2014; Şenel, 2016; Alizadeh, et al, 2017; Dunleavy, et al., 2009) but in contradiction with some others (Akçayır and Akçayır, 2017). The boost in participants' learning motivation may be attributed to the collaborative learning opportunity that Blippar provided, which the traditional learning environments do not tend to offer. The collaborative learning experience also promoted inquiry-based learning within a socioconstructivist perspective, as pointed out by Alizadeh et al. (2017) and Yusoff, et al. (2010). The vocabulary learning experience via Blippar also promoted collaborative learning as well, which is reflected in the following quote:

> It was so enjoyable. I can advise to all my friends. Discovering new words together was a great experience for me.

The participants remarked that the provision of a blended learning engagement and the establishment of a connection between the real and the virtual world, also contributed to their motivation to learn EFL vocabulary (Squire and Klopfer, 2007). In fact, the participants expressed their satisfaction with the

opportunity offered to blend real and virtual learning experiences via Blippar, which is also indicated by Klopfer and Sheldon (2010). In the mainstream tertiary Turkish education system prevalent in the tertiary level, the students do not tend to enjoy such motivating learning experiences. In this respect, the integration of Blippar into the regular course program served as an active, experiential learning opportunity. They expressed that it fostered autonomous, self-directed, vocabulary learning and the development of learner agency, which is also suggested by Munoz-Cristobal et al. (2015). The participants reported enjoying the multi-sensory learning opportunity in the study (Liu and Liu, 2015), which is the final theme in the study. The quote below is quite revealing in this respect:

> Blippar is one of the best ways to learn new words. When I started to use this, I learnt so many words… you can see all the words in front of you and also the meanings of them… realize something new around us that we hadn't heard until now.

The participants pointed out that as the application enabled the instant vision of materials or objects in a virtual platform (Hatırasu, 2013) based on the visual recognition technology, they could establish a connection between the physical and the digital world (Kuyucu, 2014). This facilitated their visualization of the object and the retention of the image in their mind while learning the new word, promoting meaningful learning. The following quote reveals the motivating feature of Blippar succintly:

Although a favourable attitude towards the use of AR-enhanced mobile application, Blippar, prevailed among the participants, they voiced some criticism related to its employment in EFL vocabulary learning. The learner resistance is the first theme related to the criticism targeted at the use of Blippar in the study. The findings indicated that there is likely to be some student resistance regarding the use of application as a vocabulary development tool at the beginning of the study. The participants in the study displayed a certain degree of reluctance to use the mobile application. In fact, one participant remarked the following: "In the beginning before I used it … I thought it would be unnecessary".

There was another reference to the contribution of Blippar to the EFL vocabulary learning and visual memory by another participant by another female participant in the following quote "While learning new words…both have a good time and take them to our permanent mind'.

The usability challenge is a further criticism voiced by the participants. One of the participants stated that she changed the language of the telephone to English, started to use it but could not understand the purpose of the application. She reports that some of the words provided by the application were not quite relevant. She remarked that once she remembered someone directing the phone to a bridge and then the application showed her the bridge's history and its materials. However, she reported that believing the application was to be useful, she was planning to continue using Blippar on objects that she was not familiar with. This difficulty one participant in the study expressed might be attributed to a need for further teacher guidance in relation to the proper use of the application. In fact, the aforementioned learner report indicated that the users needed to be provided with continuous scaffolding or training to meet this challenge, which is

in line with Chiang et al. (2014) and Gavish et al. (2015). The participant's comment above revealed the need to consider the students' cognitive load in the AR learning environment, as previously pointed out by Dunleavy et al. (2009) and warns the teacher educators and instructors regarding the cognitive challenge in this virtual environment due to the task complexity (Cheng and Tsai, 2013). Closely connected to the cognitive challenge theme, the participants expressed their concern regarding the effectiveness of the integration of AR-enhanced mobile applications such as Blippar at different proficiency leves. The participants expressed divided opinions in this respect. Some were in favour of the use of the application at low levels of proficiency as the following quotes revealed:

> It is a useful app for people of all ages but for beginners it is more useful.

> Words which are found by the app aren't advanced level; they are suitable for the elementary level. I open my camera and I directed it towards a hair spray. I found 'bottle', 'hair', 'cure' etc. They are so simple.

> …. More useful for primary or high school students because most of the students don't know the meaning of such English words.

Some participants even thought that the application was not at all useful for the English majors, who have a relatively high level of proficiency which is reflected in the following quote:

> Blippar is unnecessary for English language and literature students. It is only useful for teaching basic words.

As the aforementioned quote illustrates, the EFL majors seemed to have a misconception related to the applicability range of the AR-enhanced learning tool, Blippar. On the other hand, other participants foregrounded the cognitive affordances of the tool, which the following quote expresses effectively:

> Words in Blippar application are really quality and they are not simple. They are not the words which we know already. We can learn more words and these words will be on our mind for a long tiime. We can easily see the words. We can learn words with pictures. I am glad that our teacher taugt us this application.

The diverse opinions about Blippar that the participants suggest above indicated that the full potential of the application for vocabulary teaching in the EFL context is relatively unknown to EFL majors. This is a call for teacher educators to inform the EFL majors of the possible classroom applications of the mobile application and the potential challenges regarding the learner usability as well as how to handle these challenges. The findings also imply the necessity to embed into the training program a variety of classroom activities for diverse learner profiles who are new to such AR-enhanced learning environments.

In general, the findings revealed a favourable attitude among the EFL majors towards the integration into EFL vocabulary learning of Blippar, an AR-enhanced mobile application. Despite some application-related and instructional challenges, the opportunites the AR-enhanced mobile application provided for autonomous, collaborative and experiential vocabulary learning opportunities were indicated by the participants.

Conclusion

The participants' opinions suggested that the integration of the innovative AR-enhanced application Blippar into both formal and informal EFL learning environments can result in the development of English language skills, particularly concerning vocabulary. The integration into different learning environments is also likely to provide an opportunity to be engaged in an ongoing professional development opportunity for EFL majors in terms of developing their communicative competence. The mobile application was found to be not only beneficial for improving EFL vocabulary learning and teaching but also fun and easy to use. Particularly for the EFL learners with a low level of proficiency in English, the integration of the application into the English language learning process may have a favourable impact on their vocabulary learning process. The integration into informal and formal learning environments seems to offer promising results in terms of promoting ubiquitous learning, providing a "combination of virtual and real objects in a real setting" enhancing and sustaining the learners' intrinsic motivation to learn vocabulary (Akçayır and Akçayır, 2017). Motivating learners in general, the use of Blippar also has a potential benefit for kinaesthetic learners, who generally have difficulty with the pedagogical task engagement due to their concentration problems and the relatively short attention span. The findings emphasized cognitive and affective affordances of AR-enhanced learning environments within the framework of constructivist, situated, game-based and inquiry based learning. The integration of Blippar into educational settings is likely to reinforce learner-engagement, contextualization and authenticity. However, in order to ensure the successful integration of the AR-enhanced mobile applications such as Blippar, certain challenges such as instructional, institutional, learner-related and application-related ones, need to be carefully handled. Due to the gap between the traditonal teaching methods in classrooms and the learning systems in AR-enhanced learning environments, researchers need to explore the possibilities and challenges of integrating AR technologies into regular school curricula. In this respect, it is necessary to provide a considerable amount of technical and instructional support for teachers to tailor AR Technologies in line with the diverse learner profiles with different age and proficiency levels, design customized learning activities and gauge students' progress in AR environments (Wu et al., 2013). In order to raise the level of learner efficiency in using the application properly, it is highly-recommended to design a training program incorporating a variety of individual and collaborative in-class and outside class activities, taking into consideration the learners' digital literacy skills, the cognitive load in the AR learning environment, task complexity. It is crucial for course instructors and teacher educators to provide continuous scaffolding and guidance for learners to find their ways to accommodate to this new way of learning (Squire and Jan, 2017). The results of this case study do not allow broad generalizations due to the constraints related to the duration of the study and the size of the population. However, they are likely to highlight the potential benefits and challenges regarding the integration of AR-enhanced mobile applications such as Blippar into similar formal and informal learning environments in the EFL contexts.

Regarding the future research into AR-enhanced learning environments, longitudinal comparative studies with a quasi-experimental design concerning the impact of the integration of AR-enhanced mobile applications on the perceptions

of different learner profiles in different EFL contexts might be suggested. Follow-up studies might focus on the impact of Blippar on the long-term retention of the vocabulary learnt in the EFL context. Additionally, other research topics might include the instructional materials design for the AR-enhanced mobile applications, the development of holistic models and design principles for AR environments to resolve the pedagogical issues of AR, the use of AR applications to promote ubiquitous, collaborative and informal learning, and the investigation of how AR applications can effectively be used in formal and informal learning environments. Last but not least, it would be feasible to provide training for instructors in terms of task design in alignment with the AR-enhanced learning environments.

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CHAPTER 1

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CHAPTER 2

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1. *Lecturer at Dept. of English Language Teaching (Asst. Prof), (Sütçü İmam University), 2013-..*
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CHAPTER 3

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Işıl Günseli Kaçar is the vice-chair of the Department of Foreign Language Education at Middle East Technical University (METU) and the departmental coordinator of the practicum courses in Ankara, Turkey. She is interested in ELF (English as a Lingua Franca)-aware teacher education, the integration of information technologies into English as a Foreign Language (EFL) classes, mentoring and EFL pre-service teacher education. She has been involved in an international e-mentoring project called Myschoolsnetwork together with some Dutch partners from NHL Applied University in the Netherlands for the past two years. She worked as a tutor at the METU Academic Writing Center for several years. Among the courses that she teaches at the department are Audiovisual Aids in English Language Teaching (ELT), ELT methodology, School Experience and Practice Teaching at the undergraduate level, Approaches and Methods in ELT and Instructional Technology in ELT at the graduate level.

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Buğra Zengin has worked in the field of English language teaching for over twenty years. He holds his BA in English language and literature, his M.A. degree in English literature and his PhD degree in English language teaching. His research interests include applied linguistics with ELT focus in general, use of Google search engine and augmented reality and memory strategies in foreign language education in particular. He has a book of mnemonics for vocabulary learning of Turkish learners of English and a model for the English tense. He also generated mnemonics for Japanese.