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Educational Research and Reviews

Table of Contents: Volume 9 Number 11 10 June, 2014

ARTICLES

Research Articles

- Teacher and student thoughts on effectiveness of cooperative Learning in geography teaching** 312
Metin Kuş*, Erkan Filiz and Sertel Altun
- Investigation the relationship between goal orientation and Parenting styles among sample of Jordanian university students** 320
Ahmad M. Mahasneh
- Construct validity of success / failure attribution scale among turkish university students** 326
Sucuoglu Hale
- High school students' metaphorical perceptions of environment** 340
Osman Çimen

Full Length Research Paper

Teacher and student thoughts on effectiveness of cooperative learning in geography teaching

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The aim of this study was to determine teachers and students' opinions on the effectiveness of cooperative learning. This study conducted in İstanbul Lycee and it had a qualitative research design. The participant of the study assigned randomly among ninth grade students who were studying in İstanbul Lycee in the year of 2012 to 2013. Among 180 ninth grade students the researchers chose 15 male and 15 female students randomly (n=30). Thus, the sample of this study consisted of 30 randomly assigned students. The researchers then, chose 8 students randomly for the focus group interview and two geography teachers with 20 years of experience for the individual interview. The data collected by means of a questionnaire form which consist of two open ended and ten semi-structured questions. Ten hour lesson plan developed by using cooperative learning method in the ninth grade geography lesson and applied two week period. In this study qualitative data analysis which consisted of classification of data, determining major themes used. The findings demonstrated that cooperative learning method was effective and increase student's achievement.

Key words: Cooperative learning instructional design, geography teaching, cooperative learning.

INTRODUCTION

Since antiquity human being has solved their problems by sharing knowledge and experience and also cooperating with each other. The rise of human history, struggle for existence, and its evolution can be demonstrated as the best example of cooperation. Similarly, the history of science starting from the discovery of fire, the invention of wheel and ever growing until today can be attributed to the intense cooperation of human being. According to Şimşek (2005) in today's societies which based on scientific and technological development cooperation has become substantially important among groups and individuals, and day by day it has become impossible for societies to survive without cooperation.

In educational system student interaction and cooperation is neglected, most of the instructional period takes place between student and equipments and students and teachers. Cooperative learning (CL) enables students learn better, adopt positive attitude to each other, to school, to teacher and their self esteem improve. There are three basic ways students can interact with each other as they learn. They can compete to see who is "best"; they can work individualistically on their own toward a goal without paying attention to other students; or they can work cooperatively with a vested interest in each other's learning as well as their own (Johnson and Johnson, 1994).

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Cooperative learning is one of the most remarkable and fertile areas of theory, research, and practice in education. Cooperative learning exists when students work together to accomplish shared learning goals (Johnson and Johnson, 1999: p.1 to 5). Each student can then achieve his or her learning goal if and only if the other group members achieve theirs (Deutsch, 1962: cited, Johnson et al., 2000: p.2). CL is a method formed by clustering students as a group to achieve common goal and by this way students work collaboratively to enhance their learning (Kurt, 2001). In another definition Açıkgöz (2002: p.172) defined CL as a process that enable students working in a small group and trying to help each other's learning. Doymuş et al. (2004: p.103) defined CL as a learning approach in which students; help each other's learning by forming small groups to achieve common goals both in class and other places, boost self-confidence, develop their communication, problem solving, critical thinking skills and participate actively in teaching and learning process. Similarly, Saban (2005: p.182) emphasized that students explore, construct, and extend their own knowledge. Learning is not a process committed by someone else but committed by students themselves. Students do not receive knowledge passively from the teacher but they use knowledge to construct new structure, scheme, and balance in their mind. Application of CL requires certain principles and conditions. These are;

1. Positive interdependence: Every group member are interdependent. Every group member are mutually complementary.
2. Individual accountability: Group success depends on individual success and learning.
3. Face to face interaction: Group members accomplish by sharing thoughts and mutualization.
4. Social skills: In CL students are in a group for this reason they gain social skills better.
5. Group Processing: At the end of group work students come together to discuss about productivity and whether they achieve their goal or not (Johnson et al., 1994; cited, Saban, 2005: p.192-193).

The most important point which differentiate CL from other methods is that it has fertile conceptual underpinnings. In this context, three conceptual underpinnings of CL are mentioned. These are ; Social interdependence theory, cognitive development theory and behavioral learning theory (Johnson et al., 1994; cited, Saban, 2005: p.188).

According to social interdependence theory the way of constructing social interdependence is how individual interact and assume the result based on this interaction. Accordingly positive interdependence (cooperative approach) results in an interaction which encourage, support, develop group member's individual efforts. On the other hand negative interdependence (competitive approach) ends up antagonism which hinder students for

their individual efforts in class and discourage them. If there is no interdependence (individualistic approach) all individual work independently on their own, it is not possible to mention any interaction (Johnson and Johnson, 1992; cited Saban, 2005: p.188).

Cognitive development theory based heavily on scientific studies of Piaget and Vygotsk. According to Piaget when two or more people work together it is more likely that a socio-cognitive conflict occurs, creating what some call cognitive dissonance. This disequilibrium, in turn stimulates perspective taking among participants and leads to overall cognitive development. According to Vygotsky knowledge is social and it can be constructed by cooperative efforts in order to learn, understand, and solve problems (Johnson and Johnson, 1992; cited, Saban, 2005: p.189). Behavioral learning theory focuses on the effect of group reinforcements and rewards on learning. According to this theory rewarded behaviour can be repeated (Saban, 2005: p.189).

There are many techniques in CL, in the context of this study team-games- tournaments (TGT) and Jigsaw techniques were used. Jigsaw method was developed by Aranson. In this technique students are divided into 5 or 6 groups. Every member of each group studies his or her own responsible subject and students who are studying the same subject in different groups come together to form expertise groups. In expertise groups students discuss their subject thoroughly. After learning their responsible subject profoundly students in the expertise group return their groups to teach their responsible subject to his or her own group members (Slavin, 1988; cited Senemoğlu, 2012: p.486). TGT technique was developed by Slavin et al. In this technique, after the teacher presents his or her lesson, students are divided into heterogeneous groups. First of all students in the same team try to teach the subject each other after that they compete against other teams in a tournament (Slavin, 1990; cited Senemoğlu, 2012: p.494).

So far; definition, basic principles, theoretical underpinning and techniques of CL were explained. Thereafter definition, purposes and scope of geography, importance of geography teaching and research findings related to the effectiveness of CL in geography teaching will be explained. Küçükahmet (2011: p.2) alleged that the educational process of human being continues from cradle to grave and he defined instruction as a life long process partly taken place in class or school settings in a programmed manner.

Şahin (2003: p.1) defined geography as a science which examine and explain the result of natural features of environment in which human being lives, and human being's interaction with his natural environment and as a result of this interaction human being produce social and economic activities. Similarly, Doğanay (1993) explained geography as a science which explain natural, social and economic events of earth relating human being. In another definition Güngördü (2006: p.3) defined geography as a science which examine relationship between

natural events and human being, dispersion of these events and the cause of this dispersion.

The subjects of geography curriculum organized as a whole and spiral form and based on learning domain, gains, and instructional activities in order to give students geographical awareness. In geography curriculum much importance is given to the balance among knowledge, skill, value, attitude and in learning process students' daily life is taken into account. Geography curriculum covers not only classroom activities but also out door activities. This new geography curriculum approach comprise a new understanding in geography teaching with its learning-teaching process, measurement and evaluation methods, role of teacher- student in teaching and active class culture. By this understanding geography curriculum theoretically gives much importance to constructivism with its student centered approach and active learning methods (National Ministry of Education, 2005).

Geography is a science of scrutinizing the relationship between human being and earth, as a result of this relationship what has been done by human being. From this aspect geography aims to make people understand their relationship with their environment and try to help them suggest solutions to the economic and social problems of the world. For this reason, it is important to teach geography to the students in all grade level because geography gives them opportunity to comment about physical and social events of the world and their surroundings.

By this time, geography is misunderstood and mistold by the geographer and this leads to many problems. Because the science of geography is ; not a useless mass of knowledge, not encyclopaedic knowledge to memorize, not teaching or memorizing geographical knowledge of certain areas. By this way geography became charmless. In fact geography is a science of comment and synthesis. So as to reach its aim geography teaching must be given appropriate teaching methods. Otherwise geography is introduced as a science which is different from real, false, useless and unnecessary science-----cancel science (Şahin, 2003).

Teaching methods which are used in geography lesson is not qualified enough to teach students geographical subjects in Turkey. The most important reason of this is that in geography teaching teacher centered methods are used and students in the class are all or partly passive in Turkey. Instead of these teaching methods student centered, active methods must be used and the role of teacher must be guiding. One of the teaching methods in which students are active is CL. In CL students work for a common goal in a small group try to help each other's learning process. In this approach especially middle school students strive to learn and share what they learned, they improve ability to express themselves and all group members have equal chance to learn. The purpose of education is not only teaching knowledge but also improving students' social skills. In CL process

students are likely improve their problem solving, communication, decision making, time management skills.

When we investigated researches which analyze the effect of CL in geography teaching in Turkey we found that CL had a positive impact on students' geography achievement. The researches are as follows; (Sezer and Tokcan, 2003; Tarım, 2003; Aydın,2004; Coşkun, 2004; Temizbaş, 2005; Yüzer, 2005; Özbaş, 2006; Acar, 2006; Şimşek, 2007; Güngördü and Demirkaya, 2007; Aydın, 2009; Çapar, 2011; Şahin, 2011). When we investigated researches which analyze the effect of CL in geography teaching in abroad we found that CL had a positive impact on students' academic achievement and motivation. The researches are as follows; (Tan et al., 2007; Le Heron et al., 2006; Holliday 1995, 2000, 2002; Reed and Mitchel, 2001; Johnson et al., 2000; Johnson and Johnson, 1988).

The aim of teaching methods in education is to create settings which facilitate meaningful learning for the students. For this reason, students opinions must be taken about teaching methods and this helps to develop and control operability of teaching methods. Students' opinions are investigated about CL application in the following researches (Aydın, 2009; Tan et al., 2007; Şengören, 2006; Tanel, 2006; Tonbul, 2001). This study is important to contribute related literature by indicating how CL effects the opinions of teachers and students in geography teaching. Furthermore, this study is important ; to provide scientific data for selecting appropriate geography teaching method, to contribute developing functional and productive geographical teaching method, to guide teachers in geography teaching, to provide base data for qualitative analysis in the future.

The problem of this study is to determine opinions of teachers and students on effectiveness of team-games-tournaments and Jigsaw techniques of CL in climatology unit of ninth-grade geography lesson. With in the scope of this study following research questions were tested.

1. What are the opinion of students regarding the effectiveness of CL in climatology unit of ninth-grade geography lesson?
2. What are the opinion of teachers regarding the effectiveness of CL in climatology unit of ninth-grade geography lesson?
3. What are the opinion of students regarding the CL?
4. What are the opinion of teachers regarding the CL?

METHODOLOGY

Research model

In this study it is aimed to determine opinions of teachers and students on effectiveness of TGT and Jigsaw techniques of CL in climatology unit of ninth-grade geography lesson. Teachers and students opinions regarding the effectiveness of CL method were taken by questionnaire form which consist of two open ended and ten semi-structured questions and this study examined its research

questions by means of a qualitative data analysis and research model. According to Creswell (2007:p.129) qualitative research is an inquiry process of understanding based on distinct methodological tradition of inquiry that explore a social and human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants and conducts the study in a natural setting. The methods applied in this study were one to one interview for teachers and focus group interview for students. one to one interview is a process of collecting and recording data in which researcher ask questions to the participant and record his or her responses. focus group interview is a process of collecting data through group interview which consist of four to six people (Creswell, 2007:p.218).

Participants

The participants of this study consist of randomly assigned ninth grade students who were studying in İstanbul Lycee in the year of 2012 to 2013 and two geography teacher with 20 years experience. In the ninth grade class there were 180 students aged 16, 90 boys and 90 girls. The sample of this study consist of 30 randomly assigned students 15 male and 15 female (n=30) and two geography teachers with 20 years experience (n=2). The students who participated in this study were competitive and had a high academic achievement. They were all in the top % 1 of the national high schools entrance examination among more than 1.500.000 applicants (National Ministry of Education, 2012). The reason of choosing these participants was to see whether competitive students adopt cooperative ways. Among 30 students 8 students had chosen randomly for the focus group interview two geography teachers for one on one Interview. All parental consents were obtained from their parents to participate in this research. Consents were also obtained for the teachers who participated prior to the commencement of the research.

Data collection instrument

The data were collected by means of questionnaire form which consist of two open ended and ten semi-structured questions. After questions have been developed using principles of question construction, a researcher pilot tests the questions. This helps determine that the individuals in the sample are capable of completing the survey and that they can understand the questions. A pilot test of a questionnaire or interview survey is a procedure in which a researcher who complete and evaluate the instrument. The participants in the pilot test provide written comments directly on the survey, and the researcher modifies or changes the survey to reflect those concerns. Because the pilot group provides feedback on the questionnaire, you exclude them from the final sample for the study (Cresswell, 2007:p.390). As with the questionnaires, a relaxed and comfortable atmosphere was promoted throughout the interviewing process and the pupils were encouraged to talk openly about their ideas. It is acknowledged that the setting for the interview can impact on the interview itself (Hammersley and Atkinson, 2007:p.97). The interviews were semi-structured, allowing a degree of freedom during the interview process. Therefore, this type of interview was chosen as it best suited the purposes of this study. In a semi-structured interview, the interviewer is free to follow up areas of interest and the interviewer is able to find out more about the participant's interests and personal concerns (Yates 2004:p.155). This allowed some in-depth discussion during the interview, whilst still adhering to a structural process. Building a rapport between the interviewee and interviewer is fundamental to the success of the interview process (Hammersley and Atkinson, 2007:p.98). An interview schedule was organised in advance but in

keeping with the semi-structured style of the interview, this was intended merely for guidance purposes (Yates, 2004:p.156). The aim of the interview was to provide depth of discussion and having the schedule helped to ensure that the discussion did not digress from the issues in question. Drever (1995) suggests that formulating an interview schedule also helps to ensure that all interviews are conducted fairly and consistently, hence providing reliable research data.

Empiric procedure

1. In order to use CL in the unit of climatology in ninth grade geography lesson, firstly geography curriculum was analyzed and student gains was determined. After this life skills which were gained by students because of the nature of CL were identified.
2. In the identification of content stage climatology unit was analyzed and divided into five subsections. In the process of rendering the content of climatology unit ninth grade geography course book and additional resource of Gündener publications were used. In ninth grade geography course book the climatology unit was divided into five subsections and worksheets were prepared for the students. After that, in order to prepare worksheets and assessment questions for the expertise groups Gündener publications' additional resources were used. In the application of TGT technique prepared questions about the climatology unit were installed into the computer and by this way students found the chance to answer the questions visually. In this study CL techniques of jigsaw and TGT were used.
3. In the stage of determining learning experiences ten hour instructional design was developed. The first two hour of this instructional design consisted of written or visual introductory activities which aimed to introduce CL to students. In the developmental stage of instructional design two hours for the individual work, two hours for the expertise groups and two hours for the process of narrating to the group were given respectively.

Steps of empiric procedure

1. Ten hour instructional design which used CL in the unit of climatology in ninth grade geography lesson, was prepared.
2. CL groups were constituted heterogeneously according to their geography achievement grades.
3. Ten hour instructional design which based on CL was developed and it was applied in company with to teachers.
4. Two open ended questions and ten semi structured questions were developed about the effectiveness of CL in geography teaching and pilot study was carried out. After pilot study necessary changes were done to make questions ready for the application.
5. Individual interview was carried out with two teachers who participated to the study.
6. Eight students assigned randomly among the students who participated to the study and focus group interview was carried out to them.

Data analysis

In this study, focus group interview was carried out to eight randomly assigned students and individual interview was carried out to two teachers. In qualitative interview researcher ask focus group participants open ended and semi-structured questions record their answers. The researcher then transcribes and types the data into computer file for analysis. In this study, the process of qualitative data analysis consist of classification of data, determining major themes and frequency distribution tables. (Creswell, 2007:p.237).

Table 1. Students thoughts on the effectiveness of CL N:8

| According to Students Characteristics which make CL Effective | f |
|--|----------|
| 1. Sense of Responsibility | 6 |
| 2. Team Work | 6 |
| 3. Peer Learning | 6 |
| 4. Mastery Learning | 5 |
| 5. Productivity | 4 |
| 6. Time Saving | 3 |
| 7. Sharing | 2 |
| 8. Learning by dividing subject into small parts | 1 |

Table 2. Teachers' thoughts on the effectiveness of CL N:2

| According Teachers Characteristics which make CL Effective | f |
|---|----------|
| 1. CL requires course preparation from students | 2 |
| 2. CL requires course preparation from teachers | 2 |
| 3. Active Participation | 2 |
| 4. Decreases attention deficit in class | 2 |
| 5. Develops communication skills | 2 |
| 6. Develops sense of responsibility | 2 |
| 7. Teaches all subjects comprehensively | 2 |
| 8. Mastery Learning | 2 |

RESULTS

Results derived from focus group interview with students

In order to derive students' opinions on the effectiveness of CL in geography teaching focus group interviews and carried out. By classifying obtained data main headings determined. All eight students who participated to the study stated that geography lesson based on memorization and it is boring. They further stated that CL is effective in geography teaching. These statements were as follows;

"By this method I learned with joy and my opinions related to geography lesson changed." "I learned in a sincere setting with my friends this affected my opinions and my achievement positively." "I participated actively and learned more by this method". Students indicated that CL was effective because it needs short time, it is fruitful, it enables me to learn joyfully, it gives responsibility to the students, it creates comfortable learning environment among peers, it is different, it is attractive, it provides active participation. Students described CL as; highly fruitful, self access and transfer to the peers, specializing and sharing in a subject, mastery learning, interaction among peers, active participation. As can be seen from the statements students considered CL effective as shown in Table 1.

Results derived from individual interviews with teachers

In order to derive teachers' opinions on the effectiveness of CL in geography teaching individual interviews carried out. By classifying obtained data main headings determined. First teacher who participated to the study noted CL as a method of enabling students to be active, more fruitful and more successful. Second teacher noted CL as a method of enabling students to learn comprehensively and he had a positive opinion about CL. He further added that he decided to use CL in his lessons. Both teachers noted CL effective. Teachers defined CL as an effective method which provides active participation, decreases attention deficit in the class, increases students' satisfaction and achievement and provides social interaction opportunities to the students. Results indicated that teachers also considered CL effective as shown in Table 2.

Results about students' opinions on the effectiveness of CL in general

Students' opinions related to strengths and weaknesses of CL were taken and these were given under the main headings in Table 3.

Table 3. Students' thoughts about the strength and weaknesses of CL N:8

| According to Students Strength and Weaknesses of CL | | | |
|--|----------|--|----------|
| Strengths | f | Weaknesses | f |
| 1. Sense of responsibility | 6 | 1. Neglecton of individual responsibility | 6 |
| 2. Team work | 6 | 2. Among peer groups the lesson goes beside the point | 4 |
| 3. Active Participation | 6 | 3. Students do not have enough experience in teaching | 3 |
| 4. Peer Learning | 6 | 4. Difficulty in group discipline | 3 |
| 5. Entertaining and interesting | 5 | 5. Allocation of subjects among students is not same equal level of difficulty | 2 |
| 6. Mastery Learning | 5 | | |
| 7. Productivity | 4 | | |
| 8. Comfortable learning environment | 3 | | |
| 9. Time Saving | 3 | | |
| 10. Sharing | 2 | | |
| 11. Learning in a short time | 2 | | |

Table 4. Teachers' thoughts about the strength and weaknesses of CL N:2

| According to Students Strength and Weaknesses of CL | | | |
|--|----------|--|----------|
| Strengths | f | Weaknesses | f |
| 1. Sense of responsibility | 2 | 1. Noise in the class setting | 2 |
| 2. Active participation | 2 | 2. Neglecton of individual responsibility | 2 |
| 3. Provides lesson preparation | 2 | 3. Difficulty in using under heavy curriculum load | 2 |
| 4. Develops social skills | 2 | | |
| 5. Increases achievement | 2 | | |

Results about teachers' opinions on the effectiveness of CL in general

Teachers' opinions related to strengths and weaknesses of CL were taken and these were given under the main headings in Table 4.

Eight students and two teachers who participated to the study asserted that CL increased students' achievement. Half of the students suggested that CL should be applied in the school, the rest of the students did not suggest to apply CL in the school because of neglecton of individual responsibility, CL is not convenient for all subjects and difficulty in group discipline.

DISCUSSION

As a result of this study it has emerged that students and teachers considers CL effective in geography teaching and all participants have asserted that CL increases achievement. Findings obtained from this study are supported by the researches which are carried out in Turkey and abroad. These researches are as follows; Johnson et al. (2000), Le Heron et al. (2006), Tarım (2003), Yüzer (2005), Özbaş (2006), Acar (2006), Şimşek (2007), Güngördü and Demirkaya (2007), Aydın (2009),

Şahin (2011). According to research findings students consider effective characteristics of CL as follows; active participation, sense of responsibility, peer learning, team work, time saving, fruitful, sharing, learning by dividing subject into small parts. In terms of teachers, effective characteristics of CL as follows; active participation, sense of responsibility, lesson preparation and planning, decreasing attention deficit in class, developing communication skills, teaching all subjects comprehensively and mastery learning. When we examined findings we concluded that both teachers and students emphasized active participation and sense of responsibility. These findings have been supported by Aydın (2009).

According to research findings students conceive strengths and weaknesses of CL as follows; sense of responsibility, team work, time saving, sharing, learning in a short time, comfortable learning environment, productivity, mastery learning, active participation, peer learning, entertaining and interesting. As for weaknesses neglecton of individual responsibility, students do not have enough experience in teaching, allocation of subjects among students is not same equal level of difficulty, difficulty in group discipline and among peer groups the lesson goes beside the point. In terms of teachers strengths and weaknesses of CL as follows;

sense of responsibility, active participation, lesson preparation and planning, development of social skills and increasing achievement. As for weaknesses noise in the class setting, neglect of individual responsibility and difficulty in using under a heavy curriculum load. When we observe findings we conclude that both teachers and students highlight active participation and sense of responsibility as a strength. Similarly, when we observe weaknesses both teachers and students highlight neglect of individual responsibility. These findings are supported by Aydın (2009).

Students have pointed out that they have found CL interesting, entertaining, effective and they have thought that CL develops social skills. These findings are supported by Tan et al.(2007). According to both teachers and students the most distinguishing limitation of CL is the neglect of individual responsibility. In order to overcome this limitation all group members create an atmosphere which motivate, direct and control each group member working to fulfill common goal. In such an atmosphere each group member perceives himself or herself as an important part of the group, without completion of his or her responsibility the group can not reach its ultimate goals. Another common limitation of CL is noise in the class setting during the activities, to overcome this separate classes can be allocated for each group for discussions and teachers can facilitate students' interactions.

The participant of this study consisted of competitive and academically successful students, these students answered questions anxiously and hesitantly for fear of making mistakes during TGT technique. This situation can be defined as peer pressure or indignity. In TGT technique students answered 95% correctly. TGT technique created competitive setting among students and this contradicted main principles of CL. Despite the fact that all participants of this study are competitive and academically successful students, they all adopt cooperative ways by helping each other's learning enthusiastically.

Researches which investigate students' opinion about the effectiveness of CL are carried out by (Aydın, 2009; Tan et al., 2007; Şengören, 2006; Tanel, 2006; Tonbul, 2001). But when we analyze related literature we see that researches are mostly quantitative. Researches which used qualitative methods are rare. This study is important to present teachers' and students' opinions about the effectiveness of CL, in general strengths and weaknesses of CL in geography teaching. It is also important to show us the need for further studies in this field.

CONCLUSION

Research findings have indicated that CL is effective in geography teaching and participants have stated that CL increases students' achievement. These findings are supported by other research findings. In addition,

characteristics which make CL effective, strengths and weaknesses of CL are obtained through teachers' and students' opinions, these findings are also supported by other research findings. We can say that CL creates positive interdependence among individuals, supports individual responsibility, provides face to face interaction among students, develops social skills. Moreover CL is an effective teaching method and it has a rich theoretical foundation such as it relies on Social Interdependence Theory, Cognitive Development Theory and Behavioral Learning Theory. As a result of research findings and our experiences from this study we can suggest followings for the researchers.

According to the findings derived from participants of this study, CL increases students' achievement in geography teaching and CL enable students adopt cooperative ways. In order to generalize these results similar studies about CL should be done for different grade levels. For, the findings of this study are limited or can be generalized to İstanbul Lycee. We used Jigsaw and TGT techniques of CL in this study. Different techniques should be used to increase validity of CL.

Traditional teacher centered instruction decreases students active participation and presents self-expression of them for this reason, in geography lesson active participation methods can be used. In service training about CL can be organized to encourage geography teacher to use CL methods in class. This study is carried on students who are competitive and has high academic achievement. In order to generalize findings this study can be conducted for different school type. In Turkey, mostly traditional teaching methods have been used in geography lessons. This prevents knowledge gained from geography lesson to be permanent. From this point of view CL methods can be used effectively in geography lesson. It is a thought that CL could not provide same level of achievement in the long run application.

It is thought that application of CL in crowded classes is difficult because of noise and it is not productive. CL method should be used starting from primary school years. Consequently, CL is not a frequently used method in Turkish educational system. By encouraging further studies related CL, we can have benefits from its comprehensive application in our educational system.

Conflict of Interests

The author(s) have not declared any conflict of interests.

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Full Length Research Paper

Investigation the relationship between goal orientation and parenting styles among sample of Jordanian university students

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The primary purpose of this study is to examine the relationship between goal orientation and parenting styles. Participants of the study completed 650 goal orientation and parenting styles questionnaires. Means, standard deviations, regression and correlation analysis were used for data in establishing the dependence of the two variables. Results indicate that there is a significant positive correlation between learning goal orientation and authoritative, authoritarian and permissive parenting styles. Performance-prove orientation is positively related to authoritative, authoritarian and permissive parenting styles. And performance- avoid orientation is positively related to authoritative, authoritarian and permissive parenting styles.

Key words: Goal orientation, parenting styles, university students.

INTRODUCTION

Family members, especially parents have a role to play in the formation of their children's character. Parenting style is defined as a child's perceptions of his or her parents' or caretakers' behaviors in two dimensions: (1) parental demands. (2) Parental responsiveness (Baumrind, 1989). Parenting styles have been defined in different ways by different researchers. Authoritarian, authoritative and permissive types of parenting styles have been defined by Baumrind (1967).

Authoritarian parenting style

Parents with authoritarian parenting style are highly

demanding and caring. Authoritarian style is a pattern of power- assertive behaviors of the parents. Authoritarian parenting tends to fall at other end of the continuum. Parents characterized as authoritarian exhibit highly directive behaviors, high levels of restriction and rejection behaviors, and power-asserting behaviors. They have good child-parent communication. According to Gleitman et al. (2007), authoritative parents set rules of conduct for their children and enforce them, assign tedious tasks and accept mature behavior. Baumrind (1967) concluded that authoritative parents are sensitive to their children's needs; they do not use punitive discipline and reasons with the child in a loving and affectionate manner. They

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encourage independence and take care of children's point of view. These parents put less restriction on their own children when they become mature.

Authoritative parenting style

Authoritative parenting is characterized by high levels of nurturance, involvement, sensitivity, reasoning, and encouragement of autonomy. Parents who direct the activities and decisions for their children through reasoning and discipline would be described as authoritative. Parents possessing this style set strict standards for children about how they should and should not speak and act. They do not allow children to talk on the rules set by them. They think the children should obey them without asking any question because it is their order. These parents have low acceptance and high control. These parents are demanding and unresponsive. They use punitive and harsh punishment for the wrong doings of their children. Therefore, children's with authoritative parents tend to have good behaviors such as friendliness and cooperation (Lambon et al., 1991; Slicker, 1998).

Permissive parenting style

Permissive parenting style is characterized by making few demands, exhibiting non-controlling behaviors, and using minimal punishment. Permissive parents set some specific do's and don'ts for their children. They do not assert their authority on children. They do not set restrictions or schedule of activities for children. They rarely punish for any action. They make few demands. Baumrind (1967) reported permissive parents have low self-control and self-reliance. The children of these parents are described as anxious, immature (Karen, 1998) and show little initiative.

Goal orientation

Goal orientation is a concept of how individuals interpret and respond to position of achievement; it provides individual reasons and goals that are integrated in the achievement tasks (Ames, 1992). Pintrich and Schunk (1996) suggest that achievement goal theory is developed by scientists of developmental psychology and educational psychology to explain how children are learning in academic tasks. Achievement goal is defined as "integrated pattern of beliefs, attributions and effect that produce intentions of behavior; it is represented by different ways of approaching, engaging in, and responding to achievement-type activities" (Ames, 1992). The students use two contrasting achievement goals: performance and learning (Ames, 1992; Dweck, 1986; Dweck and Leggett, 1988; Ames and Archer, 1988; Archer, 1994; Elliott and Dweck, 1988). Achievement goals have four-factor model of goal orientation. The four factors are formed along two primary dimensions: (a) definition

of competence (mastery/performance) and (b) valence of competence (approach/avoid) (Elliott and McGregor, 2001).

The students respond to difficult situations with one of three goal orientation:

(1) **Mastery orientation:** students possessing a mastery goal orientation focus on the task rather than ability; they have a positive mind to engage in the activity and produce solution-oriented strategies which lead to improvement of their ability (Dweck and Leggett, 1988). Students who have a mastery goal orientation seem to be more willing to pursue challenging tasks and they have a positive attitude towards the learning situation and exhibit an adaptive attributional pattern (Ames and Archer, 1988; Dweck, 1988). When students pursue mastery goals they want to develop competence by acquiring new skills and knowledge. They value and are willing to undertake activities that allow them to improve their knowledge and they perceive effort as a positive and effective way to achieve their goals; they see mistakes as a normal step in the learning process (Bouffard and Couture, 2003). Mastery goal orientation has been linked with a number of positive outcomes such as superior academic achievement (Albaili, 1998; Tanaka and Ysmauchi, 2001), deep processing strategies (Albaili, 1998; Ames and Archer, 1988), preference for challenging tasks (Ames and Archer, 1988; Turner et al., 1998), attribution of success to effort (Ames and Archer, 1988), academic self-efficacy (Roeser et al., 1996), intrinsic interest in learning (Meece et al., 1988) and adaptive self-seeking behavior (Newman, 1998).

(2) **Helpless orientation:** students possessing a helpless goal orientation focus on their personal inadequacies, attribute their failure of performance to their lack of ability and they have a negative mind to engage in an activity (Dweck and Leggett, 1988).

(3) **Performance orientation:** students possessing performance orientation focus on their ability rather than the task and they concern about outcomes rather than improving their ability through the learning process (Dweck and Leggett, 1988). Students who have a performance goal orientation focus on performing a task for the purpose of demonstrating ability in comparison to others. The major focus would be to outperform or out-do others and they spend a great deal of time learning and trying to understand physics because they want to get an outstanding grade or outperform others their physics class (Dweck, 1986; Dweck and Elliott, 1983; Dweck and Leggett, 1988; Elliott and Dweck, 1988; Lepper, 1988).

The relationship between parenting styles and goal orientation

Parenting style is an important variable which influences

achievement goal orientation of students (Gonzalwz et al., 2001; Akin, 2006). For example, several researchers found that authoritarian, authoritarianism and permissive parenting styles are correlated with achievement goal orientation (Steinberg et al., 1989, 1994; Lamborn et al., 1991).

There are survey studies on the relationship between parenting styles and students achievement goal orientation. Duda and Hom (1993) found that Children's goal orientation was significantly related to their views concerning the goal orientation adopted by their parents. Wen Hsu (2001) found that authoritarianism is associated with performance goal orientation. Gonzalwz et al. (2001) found that maternal authoritativeness was significantly related to mastery goal orientation of students. Gonzalwz et al. (2002) found that maternal authoritativeness is associated with mastery goal orientation, and maternal authoritarianism and permissiveness are related to performance goal orientation. Gonzalez et al. (2005) found that there is a significant relationship between parental involvement and mastery goal orientation. Rivers (2006) found no significant correlations between parenting styles (responsiveness and demand) and goal orientation (mastery, performance-approach and performance-avoidances). Read (2010) found that supportive mothers influence their daughter's mastery goal orientation, which influences their academic success. Lerdpornkulrat et al. (2012) found that students who perceived their parents as empathic were more likely to have adopted mastery goals and empathic parenting had a particularly positive influence on females' career aspirations. Students who perceived that their parents have "domineering views" were more likely to have adopted performance avoidance goals. Students who perceived that their parents are "the regulators of family rules" were more likely to have adopted both mastery and performance goals.

Statement of the problem

There are a lot of variables which influence achievement goal orientations of students. One of these variables is parenting styles (Akin, 2006; Gonzalez et al., 2001). Therefore, it is educationally meaningful and necessary to test the generalized ability of the relationship between parenting styles and goal orientation among adolescents. Thus, in this study we examined the relationship between goal orientation and parenting styles among the students at Hashemite University.

Study purpose and questions

The purpose of this study was to examine the relationship between goal orientation and parenting styles among the students at Hashemite University in Jordan.

The specific study questions that guided this study were:

RQ1. What different goal orientations do students have?

RQ2. Is there a significant relationship between students' goal orientation and their parenting styles?.

Significance of the study

The purpose of the study is to determine the relationships between goal orientation and parenting styles.

In addition, this study is very important for many reasons:(1) The study will provide other researchers with insight on significant gaps in the literature concerning predictors of achievement outcomes, especially regarding the relationship between goal orientation and parenting style. (2) The study will benefit teachers in helping them to understand the importance of goal orientation as this factor relates to engaging students in academic tasks. (3) The study will aid parents in allowing them to realize the influences of the parenting environment and parenting styles as a contextual element in shaping achievement outcome.(4) This is the first study in Arab country which examines the relationship between goal orientation and parenting styles.

METHOD

Participants

The sample of this study consisted of 650 undergraduate students who were enrolled in the faculties of Hashemite University in the academic year 2013/2014. Of these participants, 295 were males (45%) and 355 were females (55%). The participants were primarily grade 1 (n=165, 25%), grade 2 (n=210, 32%), grade 3 (n= 130, 20%) and grade 4 (n= 145, 23%), who represent all levels of study at (HU). Participants' age ranged from 18 to 22 years.

Instruments

Participants completed measures of goal orientation and parenting styles questionnaire. Each is described as follows.

Goal Orientation Questionnaire (GOQ)

Goal orientation was measured with a scale adapted from Walle (1997). The wording of Vande Walle's work-specific scale was slightly modified in order to measure general goal orientation. The 13-item measure contains 3 subscales: (a) 4 items assessing performance-prove goal orientation, (b) 4 items assessing performance-avoid goal orientation, and (c) 5 items assessing learning goal orientation. Participants respond to each item on a 6-point Likert-type scale (1=strongly agree; 6=strongly disagree). Internal consistency estimates were .84 for the learning goal orientation scale, .78 for the performance-prove scale and .80 for the performance-avoid scale.

In this study, the reliability coefficient was calculated using test-retest and was found to be 0.83, 0.80, and 0.81 for challenge, independent learning goal orientation and performance-prove orientation and performance-avoid orientation subscales, respectively. In this study, to clarify the validity of the instrument, the researcher translated the items into Arabic language and then a specialist in educational psychology was asked to translate the Arabic items into English language to ensure acceptable validity

Table 1. Mean and standard deviations of students' goal orientation.

| Goal orientation | Mean | SD |
|-------------------------------|------|------|
| Learning goal orientation | 3.73 | 0.70 |
| Performance-prove orientation | 3.12 | 0.65 |
| Performance-avoid orientation | 3.09 | 0.61 |

indices and validated translation. The items were then given to another specialist who is proficient in both languages to compare the Arabic translation with the original.

Parental authority questionnaire (PAQ)

The Parental Authority Questionnaire by Buri (1991) was designed to determine the parents' disciplinary practices perceived by their adult children. The PAQ has three subscales which are permissive, authoritarian and authoritative. The PAQ has good construct validity and an internal consistency of .74 to .87 for the subscales. Test-retest reliabilities of the PAQ range from .77 to .92. A high score on the respective subscale indicates the parent's disposition towards that particular style of parenting. For example, a high score in authoritarian parenting indicates parents who use harsh disciplining for their children.

Procedures

The instruments were administered to the participants in their regular classrooms by the researcher. The researcher explained to the participants the purpose and the importance of their participation in this study. In addition, the researcher assured the participants of the confidentiality of their response and that their response would be used only for research purposes.

Then, the question booklets were distributed and instructions were given to the participants on how to answer them. The participants' responses were scored by the researcher and were entered into the computer for statistical analysis. The data were analyzed using the SPSS(V:17) package.

RESULTS

To facilitate the understanding of the results of this study, questions of this study are divided into two.

Results related to study question (1): What different goal orientations do students have?

To answer this question, the students' means and standard deviations are calculated and reported in Table 1.

Table 1 shows that the scores obtained from all subscales of the goal orientation inventory indicate a positive situation. The sub-scales represent higher level of learning goal orientation ($M=3.73$), performance-prove orientation ($M= 3.12$) and performance- avoid orientation (3.09).

Results related to study question (2): Is there a significant relationship between students' goal orientation and

their parenting styles?

To answer this question, the correlation coefficients between goal orientation and parenting styles are presented in Table 2.

Table 2 shows that learning goal orientation is positively related to authoritative, authoritarian and permissive parenting styles ($p=0.01$). The performance-prove orientation is positively related to the authoritative, authoritarian and permissive parenting styles ($p=0.01$). And the performance- avoid orientation is positively related to the authoritative, authoritarian and permissive parenting styles ($p=0.01, 0.05$).

Multiple regression analysis

Table 3 shows the results of multiple regression analysis using parenting styles as predicted in goal orientation. Results given in Table 3 show that the authoritative, authoritarian and permissive parenting styles is a significant predictor of learning goal orientation ($R^2= 0.038$, $F= 8.490$, $p=0.05$). This result was supported by the close moderate correlation between the third variable ($r= 0.195$). Approximately 3.8% of the variance of the student's learning goal orientation was accounted for by parenting styles. Authoritative, authoritarian and permissive parenting styles are a significant predictor of performance-prove orientation ($R^2= 0.191$, $F= 50.940$, $p=0.05$). This result was supported by the close moderate correlation between the third variable ($r= 0.437$). Approximately 19.1% of the variance of the students' performance-prove orientation was accounted for by parenting styles. Authoritative, authoritarian and permissive parenting styles are a significant predictor of performance-avoid orientation ($R^2= 0.250$, $F= 71.219$, $p=0.05$). This result was supported by the close moderate correlation between the third variable ($r= 0.500$). Approximately 25% of the variance of the students' performance-avoid orientation was accounted for by parenting styles.

DISCUSSION

Parenting characteristics such as supportiveness and warmth continue to play an important role in influencing a student's goal orientation even after entering college and parenting styles may indeed be mediated by individual factors that strengthen or contribute to its explanation of student's goal orientation. The primary purpose of this study was to examine the relationship between goal orientation and parenting styles of university students in the faculties at Hashemite University in Jordan. A sample of 650 students participated in the study by responding to the goal orientation questionnaire and parenting styles questionnaire. As indicated in the results section the learning goal orientation is positively related to the authoritative, authoritarian and permissive parenting

Table 2. Correlation between goal orientation and parenting styles.

| Goal orientation | Parenting styles | | |
|-------------------------------|------------------|---------------|------------|
| | Authoritative | Authoritarian | Permissive |
| Learning goal orientation | .15* | .08* | .15* |
| Performance-prove orientation | .42* | .12* | .17* |
| Performance-avoid orientation | .49* | .09** | .09** |

*($p < 0.01$); **($p < 0.05$).

Table 3. Results of regression analysis predicting scores of parenting styles of goal orientation.

| Goal orientation | Parenting styles | R | R ² | F | β | T |
|-------------------------------|------------------|------|----------------|--------|---------|--------|
| Learning goal orientation | Authoritative | | | | .115 | 2.854 |
| | Authoritarian | .195 | .038 | 8.490 | .064 | 1.562 |
| | Permissive | | | | .108 | 2.690 |
| Performance-prove orientation | Authoritative | | | | .404 | 10.934 |
| | Authoritarian | .437 | .191 | 50.940 | .095 | 2.683 |
| | Permissive | | | | .050 | 1.357 |
| Performance-avoid orientation | Authoritative | | | | .506 | 14.141 |
| | Authoritarian | .500 | .250 | 71.219 | .068 | 1.972 |
| | Permissive | | | | -.058 | -1.627 |

styles. The performance-prove orientation is positively related to the authoritative, authoritarian and permissive parenting styles. And the performance-avoid orientation is positively related to the authoritative, authoritarian and permissive parenting styles. This result means that parenting styles are important factor to consider when examining goal orientation for university students. Students are heavily influenced by their parents' attitudes, personality and behavior; they tend to adopt a performance avoidance orientation or performance in order to avoid feelings of ferocity of "dumbness".

The results of the present study demonstrate that parental styles influence plays an important role in university students' goal orientation. University students venture out on their own; previous experiences with their parents seem to continue to affect their success in college.

The results of this study and other researches of Steinberg et al. (1989), Lamborn et al. (1991), Steinberg et al. (1994), Duda and Hom (1993), Wen Hsu (2001), Gonzalwz et al. (2001), Gonzalwz et al. (2002); Gonzalez et al. (2005), Read (2010) and Lerdpornkulrat (2012) show that authoritarian, authoritarianism and permissive parenting styles are correlated with achievement goal orientation.

From the theoretical standpoint, the authoritarian parenthood advances students' learning and be more open in terms of innovations. Therefore, future studies should aim on how to change the current culture and to

embrace a more open communicative parental culture and the degree at which this type of western culture be implemented in teaching our next generation.

Conflict of Interests

The author(s) have not declared any conflict of interests.

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Full Length Research Paper

Construct validity of success / failure attribution scale among turkish university students

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The aims of this study is to examine the construct validity of the success / failure attribution scale by using exploratory and confirmatory factor analysis, to assess the internal reliability of the scales and to determine the sub-dimensions of the scales by performing structural equation modeling. In the study, success and failure attributions scale are discussed as two separate scales and analyzed separately. Findings from the exploratory factor analysis has revealed three-factor structure for both failure and success attributions. The results of the confirmatory factor analysis (CFA) provided evidence for the three-factor structure of both scales. Finally, It was found that university students tend to attribute their success or failure generally to factors within themselves

Key words: Success attributions, failure attributions, exploratory factor analysis, confirmatory factor analysis.

INTRODUCTION

Motivation which is one of the factors that determines the continuity and vitality of student participation in the course also provides the continuity of students' attention to the course. The absence of motivation leads to learning difficulties and deficiencies, and an increase in discipline problems in the classroom. For this reason, motivation comes first of the issues to be seriously considered.

As it is in the learning theories, the theories in order to explain what the motive is, are much and they varied. Attribution theory comes first among the theories frequently performed in motivation studies (Pintrich and Shunk, 2002, quoted by Schunk, 2011). The term attribution is related to the perception of the causes of an event or result by the individual. Attribution research focuses on the ways used by the individuals while

practicing their belief and reaching to causal explanations. Attribution theorists are concerned with the perceived causes of events (Gredler, 1992). Attribution theory explains how the people see the causes of both their own and the other people's behaviors (Weiner, 1985, 2010) and investigates how an individual's explanation type of his own success or failure effects motivations (Erden and Akman, 1997).

The most popular attribution theory today is the one developed by Weiner (Açıkgöz, 2012). In Weiner model, it is suggested that the individuals attribute their successes and failures to the causes within or outside themselves and when they encounter similar situations in the future, they think that they will again take the same result (Fidan, 1985). According to Weiner people attribute

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their success or failure to four causal factors and each reason has two dimensions.

Causal factors: In order to determine the causes of success and failure, Weiner suggested four typical attributions as skill, effort, difficulty level of the task and chance (Weiner, 2010). For example, if Ayşe gets five in social studies exam, she can attribute this result to her capability ("I'm good in social studies course"), effort ("I worked very hard for this exam"), the difficulty of the task ("the exam was not too difficult") or chance ("questions were the subjects that I studied"). Other attributions include the mood, illness, fatigue, physical appearance, personality and getting help from others (Gredler, 1992; Schunk, 2011). Talent and effort for success and failure are seen as the most dominant reasons. While success is attributed to working hard and / or ability, failure is attributed to the lack of effort / or talent (Gredler, 1992).

Causal dimensions: Weiner (2010) also suggested that there were the results of the causal attributions of the people to reflect their personal history, social norms and causal thinking rein the theory of people's causal attributions their personal history, social norms and causal thinking and investigated causal attributions classification for success and failure in three dimensions studied. These are causal focus that (internal-external) cause focuses inside or outside of the individual, determination (stable - unstable) cause remain the same over time or relatively changes or not, and the controllability (controllable - uncontrollable) that the individual can or cannot control (Açıkgöz, 2012, Gredler, 1992; Perry et al.,1993; Schunk, 2011; Stipek, 1998; Woolfolk, 2001).

Internality – externality dimension: The first dimension of Weiner's classification is internal-external or control source. It is the feature that internality X externality attributions are related to factors inside or outside of a person (Açıkgöz, 2012). If a student attributes the reason of his failure in the exam to the lack of effort, the reason will be classified internally because efforts will be seen as a reason inside the individual. If a student sees the cause of failure (task) as the difficulty of the questions, the cause will be classified as externally because the reason is outside the individuals. This dimensional can be handled together with the determination dimension.

Stability dimension: It is the dimension affecting the future goals and hopes of an individual (Grad of 1992) and it is seen to have a close relationship with future expectations (Woolfolk, 2001). It is a feature about whether the attributions in stability dimension changes or not over time. Some attributions may vary over time (Açıkgöz, 2012). For example, if a student is attributed with success or failure against a difficult exam, his future success or failure is expected in more difficult exams

(Woolfolk, 2001). Talent does not change relatively or intrinsically meanly, it is stable. Efforts are internal, but variable; if an individual wants, he can study willingly or unwillingly. The difficulty of the task is external, so it does not change relatively because the task's status does not vary from one moment to another; the chance is external and variable, while chance is smiling to a person on one hand, his chance may rotate the next moment (Schunk, 2011).

Controllability dimension: The third dimension of the attributions is controllability dimension. It is related to being significant or not of a result's cause as controllable (Woolfolk, 1993). Effort is a attribution that can be controlled. The cause of uncontrollable effort depends on the difficulty of the task since the student can not control how difficult an exam is which is made by the teacher. The ability attribution is classified as stable, internal and uncontrollable (Açıkgöz, 2012; Gradler, 1992; Graham, 1997; Peterson and Berger, 1983; Woolfolk, 2001). Even if the attributions are identical internality/externality or stability/instability, they may be different in terms of controllability. For example, while the attributions of "not feeling well" in math class is internal, stable and uncontrollable, the attribution of "not studying sufficiently" that can be thought as a failure cause again is an internal, stable and controllable attribution (Açıkgöz, 2012). Four typical attributions explaining success and failure and their explanations are shown in Table 1.

Attributions are the cognitive and affective consequences shaping the subsequent behavior of individuals and their future potential for success or failure (Weiner, 1985; 2010). Besides each of the attributions are the features that cause special effects. Causal focus is associated most with individual's self-confidence. Reasons will either enhance the sense of self-worth or vice versa. If the success is attributed to internal reasons, it leads to boasting, but the failure leads to condemnation, inability situations. If it is attributed to external factors, the success leads to thanks and gratitude emotions; failure leads to the resentment and anger (Fidan, 1996). The feature of controllability constitutes emotions in two ways. First of all, the attributions under the control of the individual lead to feelings of ability or guilt. The second one is reward, punishment and solidarity behaviors create delightfulness (Gredler, 1992). Cognitive and affective responses resulting in success and failure are as follows:

1. Regarding talent (internal and uncontrollable factors) A growing boast in success comes out. Failure may lead a growing sense of lack and self-condemnation.
2. Regarding the efforts (internal but controllable factor) It leads to an increasing learning in success and taking credit. If the student increases the efforts, he is thought to be even more successful. In the failure, the student disapproves and blames himself. The student is thought

Table 1. Different dimensions to explain success and failure in an examination (a student's causal attributions from the words of this student)

| | Internal | | External | |
|-----------------------|--|--|---|--|
| | Stable | Instable | Stable | Instable |
| Controllable | I always study hard. I study regularly. Effort | I could not prepare well. I could not allocate time. Effort | Teacher does not like me. My teacher does not adopt me. Getting help from the others. | I could not make without his help. Getting help from the others. |
| Uncontrollable | I'm good at this field. I rely on my talent. Talent | I was sick. I did not feel well. General condition | The subject was difficult. The exam was difficult. The difficulty of the task. | The things that I knew were asked. CHANCE |

Source. Stipek, 1983.

to get a different success in future.

3. Related to the topic difficulty (Uncontrollable external factor) It may reduce boast in success, the student may think he will get the same success in the future. In the failure, a decrease is seen in blaming and disapproving himself. The student thinks that he will get the same success in the future.

4. Related to the chance (uncontrollable external factor) It has a role that decreases boasting in success. The student thinks that he will get a different success in the future. Many students try to explain the reasons of their failures. When the successful students are unsuccessful, they make internal and controllable attributions. For example, they express that they misunderstood the instructions, did not studied hard or did not have sufficient knowledge.

The student aware of these attributes the failure to controllable reasons and focuses on new strategies in order to be successful in a short time. This leads the student to being successful, proud and feeling well (Woolfolk, 2001). The attributions of unsuccessful students are generally external and related to the attributions; one of the worst possibilities is being internal, determinant and uncontrollable. For example, if a student thinks that his failure results from disability, he does not make any effort for being successful. It is very hard to motive such type of students (Açıkgöz, 2012). If the students think that they do not make an important thing against the failure, they may develop learned helplessness (Woolfolk, 1993).

Learned helplessness generally emerges when the students who experience lots of failures realize that the result is not affected by their own behaviors and can not succeed when they fail. (Açıkgöz, 2012; Stipek, 1983; Woolfolk, 1993). The reason of the learned helplessness

is a student's giving up making an effort and directing to withdraw (Peterson and Berger, 1983). These students do not make an effort to learn and they easily give up when they encounter the difficulties (Stipek, 1983). The important one is to prevent students from experiencing learned helplessness. According to attribution theory, the motivation of the students who attribute the failure to internal and controllable variables are higher and they are more successful in their academic life (Erden and Akman, 1997). Therefore, determining the success or failure attribution of the students is very important to enable them being more successful and to prevent them from experiencing learned helplessness.

The researches on attribution and motivation focused on four attributions stated by Weiner (1985). Apart from these four attributions, it has been detected that motivation and success are affected by social factors such as parents and teachers (McClure et al., 2011; Wentzel, 1998). Various researchers suggest that social attributions as peer effect, teacher and parents are important in education (Boruchovitch, 2004; Fraser and Killen, 2003; Lebedina-Manzoni, 2004; Lightbody and Siann, 1996; McClure et al, 2011).

Looking at the researches related to the attributions in Turkey, it is observed that these researches focus on Weiner's four attribution dimensions (Baştürk, 2012; Gülveren, 1996; Gürtekin, 1993; Kızgın and Dalgın, 2012; Sipahi, 1995; Yıldız, 1997), and the relationship success and failure attributions with emotional response (Aydin and Berberoğlu, 1990; Baş, 1998). Also there are some researches that investigated success and failure attributions on courses such as English and music, (Besimoğlu et al.,2010, Özmenteş, 2012;). The scale that will help to detect the perceptions about the causes of success / failure especially of the university students and

Table 2. The distribution of students into sections and classes

| Department | Class | n | % |
|------------------------|-------|-----|-------|
| Preschool | 1 | 41 | 11.1 |
| | 4 | 45 | 12.2 |
| Primary Mathematics | 1 | 33 | 8.9 |
| | 4 | 32 | 8.7 |
| Primary Social Sci. | 1 | 32 | 8.7 |
| | 4 | 21 | 5.7 |
| Primary Science | 1 | 36 | 9.8 |
| | 4 | 33 | 8.9 |
| Primary School Teacher | 1 | 44 | 11.9 |
| | 4 | 52 | 14.1 |
| Total | | 369 | 100.0 |

also to identify social attributions is expected to contribute to further researches. The aims of this study were,

1. Failure Attribution Scale by using exploratory and confirmatory factor analysis
2. to assess the internal reliability of the scales
3. to determine the sub-dimensions of the scales by performing structural equation modeling

METHODOLOGY

The study group

The study group of the research includes first and last grade students primary school department of Dokuz Eylül University Buca Faculty of Education during spring term of 2010 to 2011 academic year. The subjects with extreme values who did not fill one of the scales or filled it missing or incorrectly were excluded from the scope of research. 559 students participated in the scale development part of the research for success attribution scale, 369 students participated for failure attribution. In the second aspect of the study, 369 students participated in both success and failure attribution scale. 67.2% (n = 250) of the students who participated in the study were female and 32.8% (n = 241) of them were male. The distribution of the students according to the departments and classes are included in Table 2.

Data collection tools

Success / failure attribution questionnaire

Scale was developed for the first time by Açıkgöz and Kasap in order to detect the success and failure causes of primary school and high school students elementary and high school students and used for Kasap (1996) and Sucuoğlu (2003)'s researches. The scale was developed and harmonized to university students. The scale is 5-point Likert-type and consists of two scales as Success Attributions and Failure Attributions.

Procedures

In order to obtain evidences about factor structure validity of

success/failure attribution scale a three-stage routes were followed. The total test scores were calculated for the data obtained from primarily success attributions scale with 559 people then failure attributions scale with 369 people and whether there are test scores with too low scores and having negative correlations ($r < .20$) or not was investigated and no negative item with negative or low test score was found in both success and failure attributions scale. In the second stage, in order to identify how many dimensional structures the failure attribution scale with 33-item success and 33-item failure attributions has, exploratory factor analysis was conducted. After receiving the results of factor analysis, reliability analysis was made separately for each dimension structure determined separately for each dimension by considering the factor structures determined (Şencan, 2005). Therefore, in order to determine the internal consistency in the scope of reliability studies, Cronbach's alpha coefficients were regarded. In the third stage, it was subjected to (confirmatory) factor analysis depending on the results of exploratory factor analysis and to prove the hypothesis that the relevant variables will take place mainly on the factors identified. Thus, the factorial validity of the scale has been tested with two factor analysis applications. Cronbach's Alpha coefficient and factor analysis studies of success/failure attributions scale was performed with statistical package for the social sciences (SPSS) software package. Confirmatory factor analysis was performed by using the software of linear structural relationships (LISREL) 8:53.

RESULTS

Exploratory factor analysis

The suitability of the data for factor analysis suitability was tested with Kaiser-Meyer-Olkin (KMO) coefficient and Barlett sphericity test and that KMO is higher than 60 and Barlett test is significant show the suitability of data for factor analysis (Büyükoztürk, 2005; Şencan, 2005). Accordingly, in the analysis on data, for factor analysis of 33-item success attributions scale, the Keiser-Meyer-Olkin's value was found to be 956 and for the failure attributions, it was found to be 933. Similarly, Bartlett test result was found for success attributions as $[\chi^2 =$

12885.930, $df = 528$, $p < .000$], and for failure attributions as [$\chi^2 = 6558.247$, $df = 528$, $p < .000$] respectively. With these results, the data was assumed to come from multivariate normal distribution. This result shows that it is suitable for factor analysis.

In order to determine the structure validity of the scale, factor analysis was conducted and to determine how many important factors or structures the scale measures, the factors with 1.00 or above 1.00 eigenvalues were taken. In conclusion of rotation process made with principal component factor analysis and Varimax technique, the items with the eigenvalue that is bigger than 1.00 and factor load which is greater than 0.30 were analyzed. In conclusion of factor analysis, five components whose eigenvalue is more than 1.00 were determined for 33-item achievement scale. The contribution of these components to the total variance is 64.44%. When these five components identified were evaluated in the light of their contribution to the total variance by examining both the total variance table, and slope - sediment graph (scree plot), it was seen that three components have important contribution to variance and after fourth component, they are both small and about the same. In the frame of all these information, it was decided to apply the analysis for three factors. When the line graph drawn based on the eigenvalues (scree plot) is examined, it is seen that the factor with high-acceleration and rapid declines show the number of important factors, and the breaking point occurred after the first factor. (As shown in Figure 1 and 2)

The same process was followed for 33-item success attributions scale it was detected that there were six components with eigenvalues above 1.00 and the contribution of these components to the total variance that six components and their contribution to the total variance of these components were found to be 61.05%. By investigating the six components identified, the total variance table described and slope-deposit graph (scree plot) it was decided to repeat the analysis for three factors. These decisions made for both success attributions scale and failure attributions scale are seen as significant in terms of being compatible with the theoretical structure identified during the development process of the tool.

In conclusion of the analysis repeated for both the scales, it was seen that the contribution of the factors to the total variance was 34.49% for the first factor, 14.07 % for the second factor and 8.73% for the third factor and the total contribution of these three factors identified to the variance was 57, 29%. In failure attribution scale, the contribution of the factors to the total variance was detected as 20.18% for the first factor, 19.59% for the second factor, and 10.30% for the third factor, and the total contribution was 50.07%.

In the exploratory factor analysis performed in order to reveal the factor pattern of success attribution scale, the acceptance level for factor loading value was determined

to be .32. In the success attributions scale, in the analysis performed for three factors, when the items were evaluated in terms of meeting the acceptance level of cyclicity and factor loading value, three items (24, 27 and 33) were seen as cyclical. By excluding these items from the analysis, factor analysis was repeated. In failure attribution scale, seven items were found to be cyclical (19, 14, 22, 10, 4, 29, 9). The factor pattern obtained in conclusion of being excluded of this item, factor loading value of the item and common factor variances are shown in Table 3.

In conclusion of the analysis, it was seen that the items described theoretically gathered under their own factors. When Table 2 is analyzed, the success attribution scale consists of three-factor structure. When examined sub-scales level, the factor attribution values for the subscale of "attribution to the teacher and the course" are between .470 and .849, the factor attribution values for the subscale of "family-oriented attribution are .696 and .829, and the factor attribution values for the subscale of "attribution to himself" range from .545 to .713.

The common factor variance takes a value between 0 and 1. For an item common factor variance approaching to 1 shows that the contribution of indication to variance is high, approaching to 0 shows its being low and common factor variance indicates the ratio described by the factors (Çokluk et al., 2010). Based on this information, when factor attribution values are examined in terms of size, it is possible to describe attribution values from "good" to "excellent" except for two items (three and six). The attribution values of these two substances can be considered as "inadequate".

Following the items repeated for three factors and excluded from the analysis, the contribution of factors to total variance was found to be

- 1) 35.076% for the first factor,
- 2) 15.009% for the second factor,
- 3) 8.705% for the third factor. The total contribution of these three factors to the variance is 58.790%.

When Table 4 is examined, it is seen that failure attribution scale consists of three-factor structure. These subscales are

- 1) Attribution to the family,
- 2) Attribution to teachers and the course, and
- 3) the attribution to himself.

When it is examined on the level of sub-scales for the "attribution to the family" that is the first sub-scale, factor attribution value is between .518 and .861, for the sub-scale of "attribution to teachers and courses" the factor attribution value is between .388 and .797 and for the sub-scale of "attribution to himself" is between .54 and .80. In line of information given before, when the failure

Scree Plot

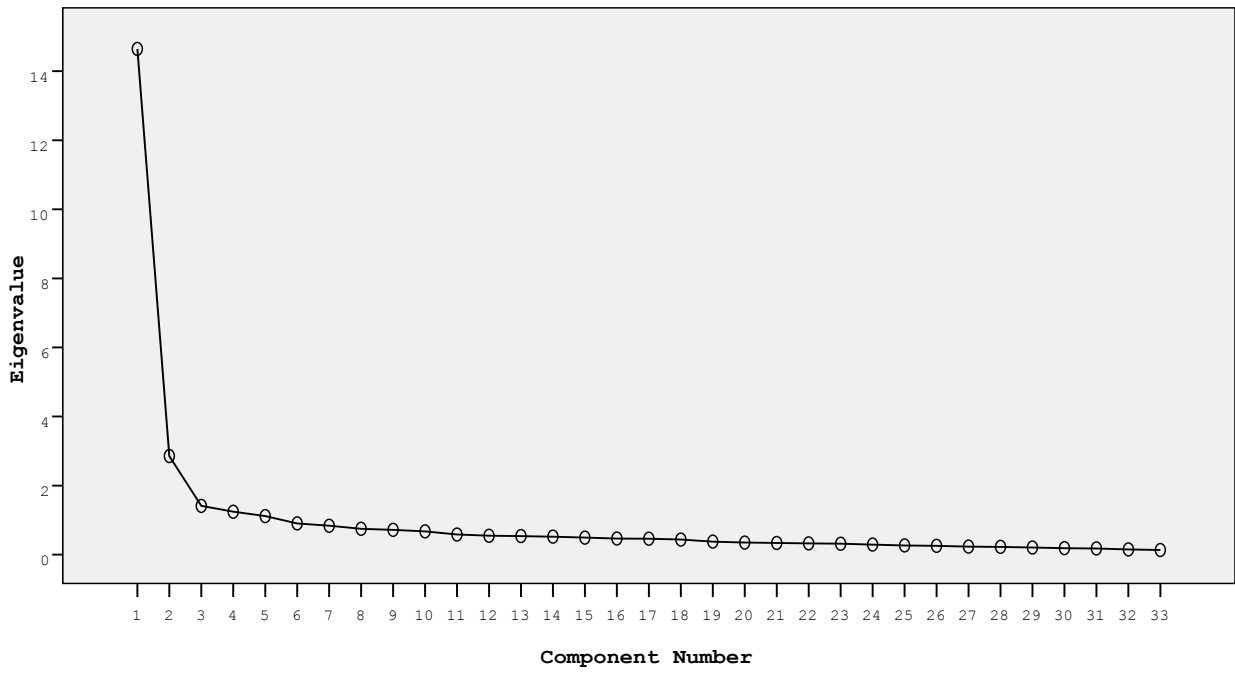


Figure 1. Eigenvalues line chart on success attributions scale.

Scree Plot

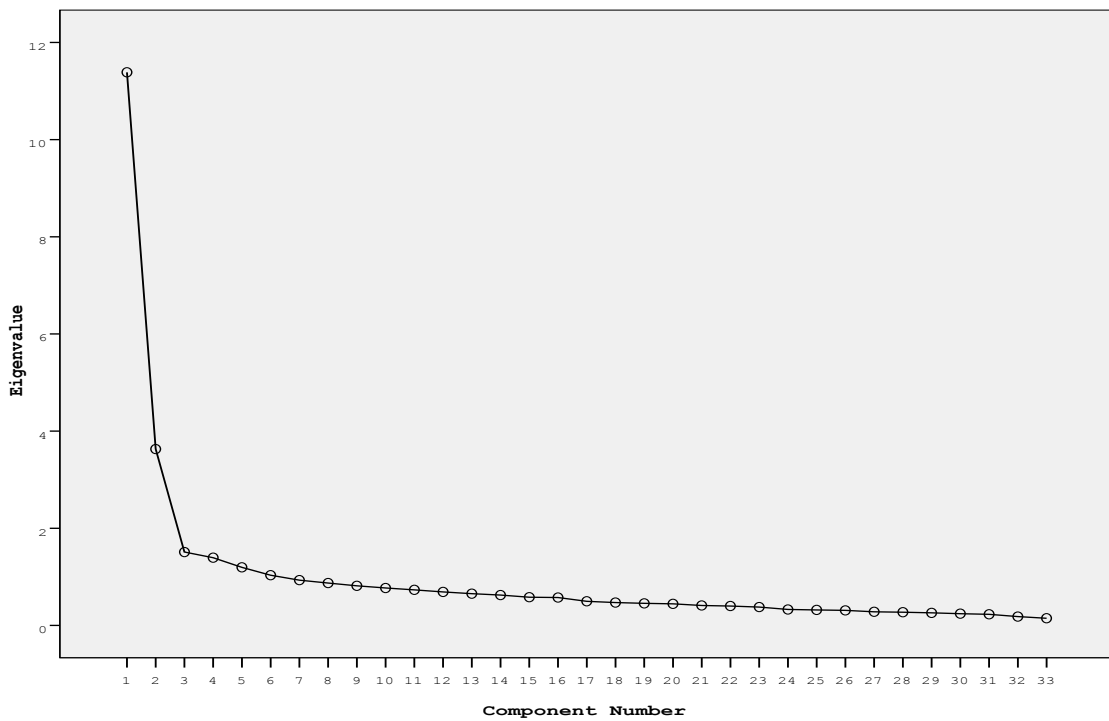


Figure 2. Eigenvalues line graph on failure attribution scale

Table 3. Factor analysis related to success attribution scale, item total scale correlations and t-test Results

| Items | Attribution to teacher and the course | Attribution to the family | Attribution to himself | Common factor variance (h^2) | Item-Scale r | T |
|----------------------|---------------------------------------|---------------------------|------------------------|----------------------------------|--------------|---------|
| b19 | .849 | .164 | .059 | .74 | .76 | -18.78* |
| b32 | .841 | .154 | .125 | .73 | .77 | -19.18* |
| b17 | .826 | .168 | .075 | .70 | .75 | -21.31* |
| b18 | .813 | .146 | .137 | .69 | .75 | -20.23* |
| b23 | .798 | .185 | .121 | .67 | .75 | -18.42* |
| b31 | .793 | .209 | .008 | .66 | .71 | -15.85* |
| b7 | .790 | .194 | .138 | .66 | .75 | -19.16* |
| b8 | .749 | .192 | .174 | .62 | .73 | -18.88* |
| b15 | .722 | .255 | .189 | .61 | .74 | -19.93* |
| b22 | .699 | .379 | .124 | .63 | .76 | -19.84* |
| b1 | .698 | .197 | .021 | .51 | .64 | -15.50* |
| b16 | .673 | .224 | .204 | .54 | .69 | -17.39* |
| b5 | .657 | .382 | .143 | .59 | .73 | -19.02* |
| b4 | .644 | .386 | .109 | .56 | .71 | -19.35* |
| b2 | .592 | .287 | .019 | .43 | .59 | -15.88* |
| b14 | .551 | .437 | .267 | .56 | .71 | -19.54* |
| b9 | .544 | .405 | .299 | .53 | .70 | -20.12* |
| b20 | .539 | .332 | .314 | .49 | .67 | -18.99* |
| b3 | .529 | .160 | .206 | .33 | .54 | -15.84* |
| b6 | .470 | .243 | .319 | .37 | .57 | -17.19* |
| b25 | .221 | .829 | .158 | .74 | .60 | -13.23* |
| b21 | .179 | .784 | .134 | .65 | .53 | -12.02* |
| b13 | .364 | .729 | .181 | .69 | .67 | -14.92* |
| b12 | .290 | .708 | .173 | .60 | .60 | -13.04* |
| b26 | .223 | .696 | .171 | .54 | .54 | -11.59* |
| b28 | -.021 | .098 | .713 | .50 | .23 | -5.47* |
| b10 | -.100 | .247 | .632 | .46 | .21 | -4.42* |
| b29 | .421 | -.037 | .579 | .50 | .48 | -11.20* |
| b30 | .401 | .197 | .548 | .49 | .57 | -13.03* |
| b11 | .260 | .315 | .545 | .44 | .51 | -11.56* |
| Eigenvalues | 13.849 | 2.389 | 1.399 | | | - |
| Described variance % | 35.076 | 15.009 | 8.705 | | | |

* p<.05

attributions scale factor attribution values are examined in terms of size, it is possible to describe the item attributions as from “good” to “excellent” except for six substances (33, 28, 11, 16, 2, and 3) are considered to be “inadequate”.

In conclusion of the analysis repeated for both the scales, it was seen that the contribution of the factors to the total variance was 34.49% for the first factor, 14.07% for the second factor and 8.73% for the third factor and the total contribution of these three factors identified to the variance was 57, 29%. In failure attribution scale, the contribution of the factors to the total variance was detected as 20.18% for the first factor, 19.59% for the second factor, and 10.30% for the third factor, and the

total contribution was 50.07%.

Following the items repeated for three factors and excluded from the analysis of the substances, it was seen that the contribution of the factors to the total variance was

- 1) 21.278% for the first factor,
- 2) 20.843 % for the second factor and
- 3) 11.009% for the third factor.

The total contribution of these three factors identified to the variance was 63.130%. In a multi-factorial design, the variance described is considered to be sufficient between 40% and 60%. (Çokluk et al., 2010; Tavşancıl, 2006). It

Table 4. Factor analysis related to Failure Attribution Scale, Item Total Scale Correlations and t Test Results

| Items | Attribution to the family | Attribution to teacher and the course | Attribution to himself | Common factor variance (h^2) | Item-Scale r | t |
|----------------------|---------------------------|---------------------------------------|------------------------|----------------------------------|--------------|---------|
| bs25 | .861 | .193 | .120 | .78 | .67 | -8.69* |
| bs21 | .838 | .112 | .164 | .73 | .62 | -8.74* |
| bs27 | .821 | 3.08E-005 | .059 | .67 | .50 | -6.20* |
| bs26 | .804 | .158 | .147 | .68 | .62 | -8.88* |
| bs13 | .743 | .322 | .112 | .66 | .67 | -7.88* |
| bs12 | .699 | .285 | .229 | .61 | .67 | -10.19* |
| bs24 | .605 | .435 | .117 | .55 | .66 | -8.22* |
| bs33 | .590 | -.031 | .216 | .38 | .40 | -5.71* |
| bs28 | .518 | -.063 | .274 | .33 | .36 | -6.52* |
| bs18 | .096 | .797 | .101 | .64 | .57 | -7.09* |
| bs17 | .013 | .789 | .108 | .63 | .51 | -6.17* |
| bs23 | .117 | .727 | .049 | .53 | .51 | -6.48* |
| bs32 | -.062 | .688 | .358 | .59 | .51 | -8.72* |
| bs1 | -.012 | .678 | .075 | .45 | .41 | -5.46* |
| bs7 | -.036 | .661 | .464 | .64 | .56 | -10.23* |
| bs30 | .415 | .547 | .079 | .46 | .59 | -7.22* |
| bs11 | .203 | .530 | .158 | .34 | .49 | -6.56* |
| bs5 | .246 | .528 | .275 | .40 | .56 | -8.22* |
| bs16 | .227 | .521 | .264 | .38 | .54 | -9.24* |
| bs2 | .280 | .448 | .176 | .30 | .50 | -6.30* |
| bs3 | .226 | .388 | .240 | .25 | .45 | -7.07* |
| bs8 | .157 | .106 | .804 | .67 | .47 | -17.97* |
| bs15 | .142 | .333 | .624 | .51 | .52 | -17.49* |
| bs6 | .319 | .139 | .573 | .43 | .50 | -16.18* |
| bs31 | .249 | .308 | .546 | .44 | .55 | -17.96* |
| bs20 | .229 | .304 | .542 | .43 | .52 | -13.36* |
| Eigenvalues | 9.085 | 3.324 | 1.405 | | | |
| Described variance % | 21.278 | 20.843 | 11.009 | | | |

* $p < .05$

is seen that the total contribution of described factors to the total variance is sufficient for both success attribution and failure attribution.

Confirmatory factor analysis (CFA)

In conclusion of exploratory factor analysis, three-factor structure was obtained for both success and failure attributions and in order to test the structural validity of these three factors, CFA was applied by using Lisrel 8.53 program. Confirmatory factor analysis is based on statistics of compliance. Compliance statistics is intended to elicit to what extent the predicted model overlaps with the observation data (Şencan, 2005). Compliance statistics are interpreted by using some kinds of limit values related to whether the model is regarded as acceptable or not. So the fit indexes produced in conclusion of the analysis

are required to be above or below certain values.

One of the most commonly used compliance chi-square (χ^2). It is calculated by dividing χ^2 by degree of freedom. χ^2 value and being two or more lower of this value shows being good of the model, being five or lowershows being acceptable competence of the model (Şimşek, 2007) However, for some researchers, this ratio is in excellent competence with ≤ 2 , and in bigger samples, it is in excellent competence with ≤ 3 and ≤ 5 is considered as a moderate level (Çokluk, Şekercioğlu and Büyüköztürk, 2010). When these values are examined, for success attribution scale $\chi^2 / df = 1232.6 / 389 = 3.16 \leq 5$ mid -level competence, and for failure attribution scale for $\chi^2 / df = 756.97/281 = 2.69 \leq 3$ is expressed as excellent competence since χ^2/sd rate is below 3.

The other goodness of fit index statistics produced and frequently used apart from this competence suitability

index (AGFI), controversial competence suitability index (CFI), mean square root of the predicted error (RMSEA), residual mean square root (RMR) and standardized fit index (NFI) (Şimşek, 2007). Being below .05 of RMSEA is expressed as excellent competence (Kline, 2005; Çokluk et al., 2010), and between .05 and .08 is as good competence (Browne and Cudeck, 1993; Sümer 2000) and between .05 and .100 is as acceptable competence (Weston ve Gore, 2006; Hair et al., 1998) and between .08 and .100 is medium level competence MacCallum et al. 1996, Quoted by: Byrne, 2001) and 100 and above is as poor competence (Browne ve Cudeck, 1993; Sümer 2000). Accordingly, when RMSEA is investigated, it can be said that (0,07) for success attribution scale and (0,06) for failure attribution scale are in good competence.

Being .90 and above of AGFI is accepted as the indicators of good fit (Hu and Bentler , 1995; Sümer, 2000; Hooper et al.,2008), .95 is a perfect fit (Sümer, 2000; Schumacker and Lomax, 2004; Hooper et al. 2008, multiplicity, Şekercioğlu and Büyüköztürk, 2010). Being bigger than .90 of GFI and CFI is accepted as the indicator of good fit, being bigger than .95 is an excellent fit value (Çokluk et al., 2010). Accordingly, for success attributions GFI = .82 , AGFI = .78, CFI = .87 were calculated. GFI, AGFI and CFI indexes were not found sufficient. However when the explanations above are taken into consideration, the model can be interpreted since the statistic show on acceptable fit.

Internal reliability

In order to investigate the reliability of the dimensions investigated with DFA, item total correlations were calculated with alpha internal consistency reliability coefficients. For this, the difference between item mean scores of sub-group with 27% and top groups with 27% that was made up of due to the total scores of the scale which were tested by using unbound t-test. That the observed differences between the groups in the desired direction were significant is evaluated as an indicator of internal consistency of the test. Analysis results indicate that to what extent the item differentiate the individuals in terms of measured behavior (Büyüköztürk, 2005). In this context, primarily for success attributions scale, it is identified as N = 559 total points based on 27% (n = 151) and bottom 27% (n = 151) parent group , the failure load for N = 369 for the total score compared to 27% (n = 100) and lower 27% (n = 100). The study is based on the statistical significance of .05 . The analysis results are shown in Table 3 and Table 4.

Accordingly, corrected item-total correlation values in success attribution scale are between .21 and .77, corrected item-total correlation values in failure attribution scale ranged from .36 to .67. The t-test results made between the scores of top group with 27% and sub-group

with 27% show there is a difference for total scores of all the items and sub-scale in both success attribution scale and failure attribution scale.

Looking at the internal consistency coefficient of success attribution scale that consist of 30 items and three sub factors, reliability predictions were obtained and the total internal consistency coefficient of the scale was found as .956. The internal consistency coefficient of the scale are as follows: for the sub-factor of "The attribution to the teacher and course" it was founded as .96, for the sub-factor of "the attribution to the family" as .88, for the sub-factor of "the attribution to himself" as .68. These values are seen as acceptable values for the reliability level of success attribution scale. The total internal consistency coefficient of failure attribution scale that consists of 26 items, founded to be .92. The internal consistency coefficient of sub-dimensions of the scale was founded as; for the sub-factor of "the attribution to the family" as .90, for the sub-factor of "The attribution to the teacher and course" as .88, and for the sub-factor of "the attribution to himself" as .75. These values are seen as acceptable values for the reliability level of failure attribution scale.

Second level conformatory factor analysis of success/failure attribution subscales

In order to identify what the students attribute their success and failures to, that is the third sub-problem of the research, structural equation modeling was performed. For this, Kolmogorov-Smirnov test was performed in order to prove the normal distribution of the scores first of all since it will be studied in a parametric pattern. In this test, p-value = 0.00 < α = .05 and none of the variables in both success and failure scale are normally distributed. Since the assumption of normality could not be maintained Maximum Likelihood method was used while making analysis in LISREL program. Therefore asymptotic covariance matrixes were used in the analysis. In order to make structural equation modeling, multiple linear scale test of success and failure attributions scale is required. In this case, multiple linear connection problem among data was eliminated by making factor analyzing to the data. The results of the factor analysis yielded following three factors for the Success Attributions Scale:

Factor 1: Attribution to the teacher and the course
Factor 2: Attribution to the family
Factor 3: Attribution to himself.

The results of the factor analysis yielded following three factors for the failure attribution scale

Factor 1: Attribution to the family

Factor 2: Attribution to the teacher and the course
 Factor 3: Attribution to himself.

Variable comparison between the variances

The size of the difference between the variances of all the variables were controlled, but since the number of variables is too much, and the binary combinations are more, F-test and Levene test results were given due to the way of example in terms of b1 and b2 variables variance comparison. According to this result, F-test (p-value = .838) and Levene's test (p-value = .47) were calculated for success attributions, and F-test (p-value = .838) and Levene's test (p-value = .47) were calculated for failure attributions. No significant evidence was found about being unequal of the both variables variance for both success and failure attributions scales. Considering the combination of all the variables, the same results were obtained.

The second level confirmative factor analysis

The attribution to teachers and course, the attribution to family and the attribution to himself are the different components of success attribution variable that is a higher level structure. Figure 3 gives a path diagram for the three factors of the success attribution scale. The findings obtained as a result of second level confirmatory factor analysis are given in Table 6. When Figure 3 and Table 6 are examined, the success attribution seems to be associated mostly with the attribution to himself. Variability is described mostly the attribution to himself (.99), at least for the attribution to family (.33). In this case, it can be expressed that the success attributions to the family has weak relationships with success attributions variables. Failure attributions variable is a structure at a higher level having the components of family-oriented attribution, attribution to the teacher and the course and the attribution to himself. Figure 4 gives a path diagram for the three factors of the failure attribution scale. The findings obtained as a result of Second Level Confirmatory factor analysis are given in Table 7. When Figure 4 and Table 7 are examined, the success attribution seems to be associated mostly with the attribution to himself. Variability is described mostly to the attribution to himself (.75), at least for the attribution to family (.41). As a result, when students fail, they tend to attribute this failure to themselves first, then to the teacher and the course and finally to their family.

DISCUSSION AND SUGGESTIONS

The aim of this study is to determine the distribution of

the expressions to sub-dimensions in success / failure Attribution scale that helps to detect the perception of the students related to success / failure reasons and at what level it explains success and failure attribution of the sub-dimensions by using exploratory and confirmatory factor. In the study, success and failure attributions scale was discussed as two separate scales and analyzed separately. EFA performed in the scope of validity studies of the scale has revealed three-factor structure that explain 58,79 % of the total variance for success attributions scale and three-factor structure that explain 53,13 % of the total variance for failure attributions scale. In order to test the three-factor structure obtained as a result of EFA, CFA was applied and for success attributions, it was calculated as GFI = .82; AGFI = .78; CFI = .87 ve RMSEA = .077. These results are in acceptable compliance for success attributions. As for the failure attributions, it was calculated as GFI = .86, AGFI = .83, CFI = .90 and RMSEA = .068. Since it is $CFI \geq .90$, model is compatible to be accepted. The internal consistency reliability coefficient of success attributions scale was found to be .95 and for failure attribution scale, it was .92. These values are said to be acceptable values for the reliability of the scales.

CONCLUSION

In the study, it was also revealed what results the sub-dimensions of success attribution and failure attribution predicted in success / failure attributions scale as a result of the analysis comes out. Variability is described mostly the attribution to himself (.99), at least for the attribution to family (.33). In this case, it can be expressed that the success attributions to the family has weak relationship with success attributions variables. In the same way, when we look at the failure attributions, the variability was observed for the attribution the himself at most (.75) and at least for family attribution (.41) in the variable. It can be said that the the relationship between attribution variable and failure attribution top variable is strong and its relationship with the attribution variable is at moderate level.

According to these results, it can be stated that students hold firstly themselves responsible for both success and failure cases. The students tend to attribute their success to chance ("My chance is going well") and to getting help from others ("There is the one who can help my lessons"). The students attribute their failures to incompetency, not being sociable, bad background, not studying hard and to believing to be unsuccessful. These results are consistent with the classification of Weiner. If a person thinks the reason of his failure as a lack of effort (not studying hard), the reason will be seen as intrinsic. The attributions such as lack of ability, believing to be unsuccessful are

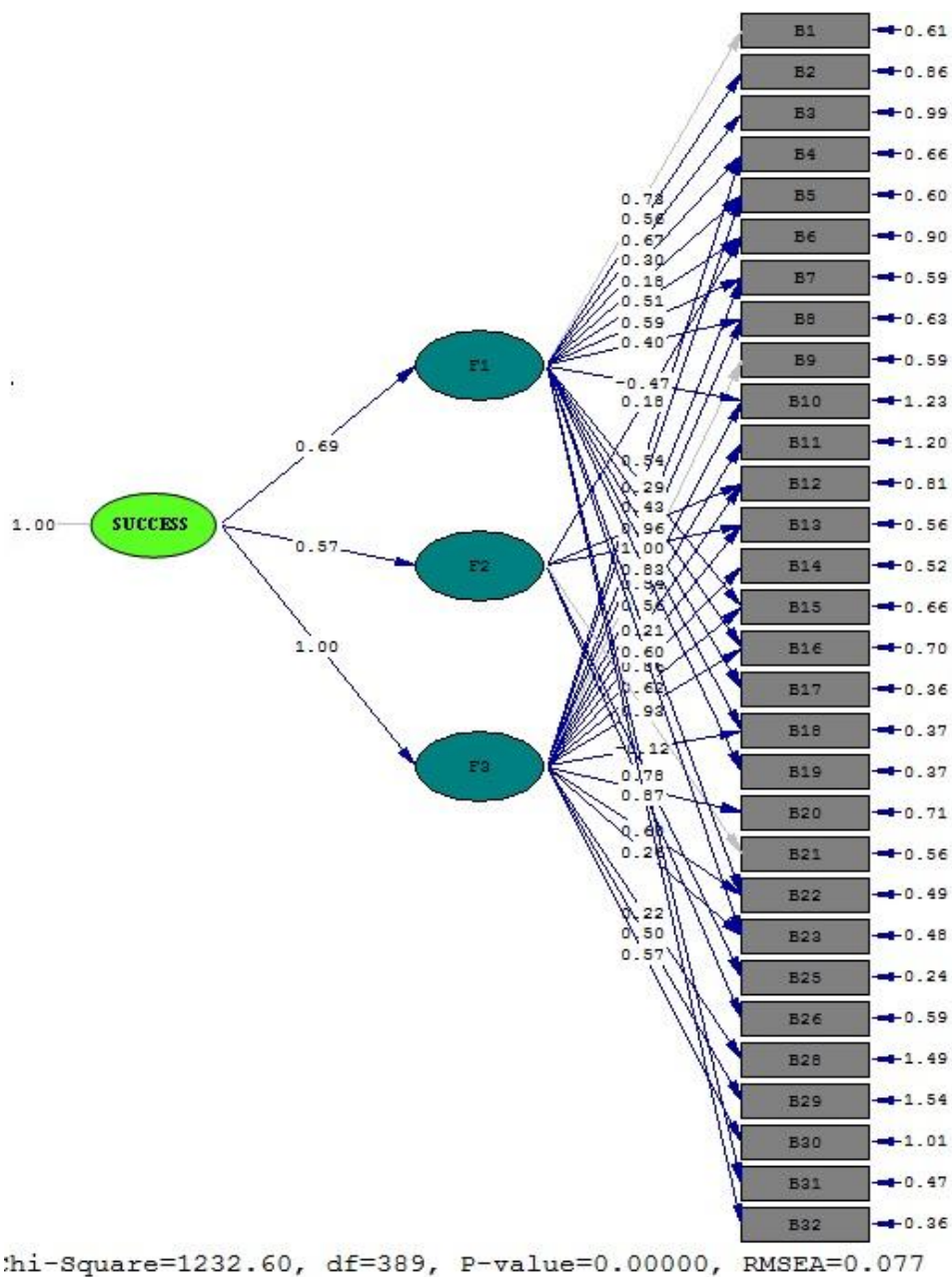
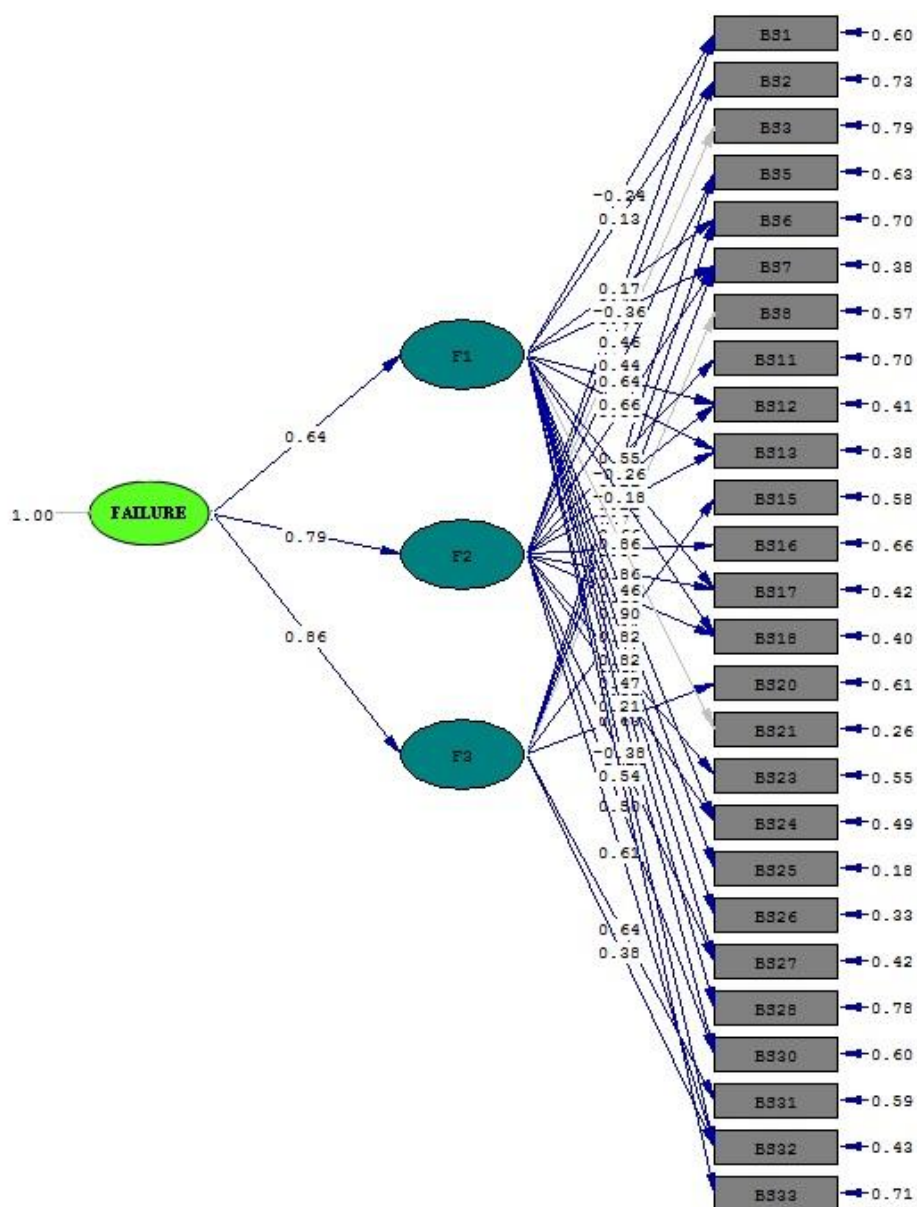


Figure 3. Path diagram related to second level confirmatory factor analysis of success attribution

Table 6. Second level factor analysis results about success attributions

| Variables | Standardized attributions | t-value | R ² |
|---|---------------------------|---------|----------------|
| Success → Attribution to teacher and course | | | |
| B1 F1 | .69 | 9.84 | .48 |
| Success → Attribution to the family | | | |
| B1 F2 | .57 | 9.07 | .33 |
| Success → Attribution to himself | | | |
| B1 F3 | 1.00 | 12.26 | .99 |



chi-square=756.97, df=281, P-value=0.00000, RMSEA=0.068

Figure 4. Path diagram related to second level confirmatory factor analysis of failure attribution

Table 7. Second level factor analysis results about failure attributions

| Variables | Standardized attributions | t-value | R ² |
|---|---------------------------|---------|----------------|
| Failure → Attribution to the family | | | |
| BS1 F1 | .64 | 10.42 | .41 |
| Failure → Attribution to teacher and course | | | |
| BS1 F2 | .79 | 7.58 | .63 |
| Failure → Attribution to himself | | | |
| BS1 F3 | .86 | 10.24 | .75 |

related to the individual himself, mainly they are intrinsic (Schunk, 2011; Slavin, 2012). The results attributed to stable and uncontrollable reasons such as ability weaken the motivation and lead to learned helplessness at extreme situations (Abramson et al., 1989; Abramson et al., 1978; Gibb and Alloy, 2006, Quoted by: McClure et al. 2011). For this reason, it is required to investigate whether these students experience learned helplessness or not and whether they internalize their failure or not. In the new researches to be done, the cognitive and emotional responses that come out in success or failure should be determined.

It is revealed that the students attribute their success and failure to teacher and the course after themselves and their tendency to attribute them to their parents comes last. The reason of their attribution to their parents last can be connected to the fact that the students are the university students and live apart from their parents. These results are consistent with previous studies. In studies with younger age groups (Painsi and Parncutt, 2004) it was found that in general children attributed their musical success to their teachers more than their families. It was found that the students attributed their success to primarily effort, chance and work force and their failure to the lack of ability and to their parents or teachers.

Özmenteş (2012) also got the similar results in his study. Students attribute their success in the courses to studying exams, their affection to music and music courses, teacher features and their attitudes towards music courses, their skill and effort. They attribute their failure to the lack of ability, the negative behavior of their classmates, not having affection to the songs in the lessons and not studying for music courses.

It was found that McClure et al. (2011) attributed good marks (the success) of the students to their chance, family and friends in their study. While the students see effort as a strong indicator of their success, they attribute their low marks to the teacher. On the other hand, in their study, Turk and Bry (2005) investigated the attribution of the adolescent children and their parents and it was found that the attribution style of the parents had passed to their children. Thus, to make the investigation about if there is an effect of parents and teachers' attribution on the success and failure of the children is recommended.

Conflict of Interests

The author(s) have not declared any conflict of interests.

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Full Length Research Paper

High school students' metaphorical perceptions of environment

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This study examines high school students' metaphorical perceptions in relation to the concept of environment. The study employs the phenomenological research design. The participants were 112 students studying at two different high schools in Ankara. As the data gathering tool, a survey form developed by the researcher was used in the study. The form contains two sections. The first section is a personal information form, and the second is related to forming metaphors. In the data analysis, content analysis technique was used. As a result of the content analysis, common categories were formed considering the common characteristics between the topic and the source of metaphors, and the metaphors were presented with frequency and percentage information. The study revealed that the high school students produced 29 valid metaphors which were in the categories of place of living, liveliness, natural life, cleanness and emotional connection. After examining the metaphors produced by the students, most metaphors were in the place of living category and the most stated metaphor was one's home.

Key words: High school students, metaphor, environment.

INTRODUCTION

The word 'environment' being commonly used in daily language of societies dates back to early 1970s. Although the concept of environment seems to be clear and lean at first, it happens to be more complex when examined (Erol, 2005). This multidimensional structure of environment makes people perceive it in different senses.

As for its definition, environment is the setting of living in which living organisms live while affecting or being affected by it in different ways. The environment of a living organism is the place where any kind of biological, cultural and economical activities are conducted; nutrition, reproduction and housing needs are met. In other words,

environment includes all living and non-living organisms, and all the physical, chemical and biological factors that would affect them (Yıldız et al., 2005).

Based on these definitions, environment seems to contain many other concepts such as living environment and non-living environment. How people evaluate this multidimensional structure of environment, how they see the environment, and the meanings that they have for environment reflect their perception with regard to the environment. Considering that environmental problems are among the most important ones of the period (Deniş and Genç, 2007) and that the human factor is the source

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of these problems, the meaning of environment for people, or in other words, their perceptions of environment need to be revealed so that such problems can be solved. One of the ways that can be used to reflect people's perceptions towards environment is metaphor. Korfiatis (2004) reported that metaphors were effective in students' reflecting the relationship between nature and human.

Metaphors facilitate the expression of ideas with less words and more emphasis. While directing individuals to creative thinking, imagining, and meaning-making in their lives, metaphors take them to a deeper surface of language (Tompkins and Lawley, 2002). When individuals' ideas and the way they express them are examined, it is observed that they try to make explanations by relating abstract concepts and known ones. Individuals act based on their knowledge, skills and attitudes form metaphorical structures by establishing relationships between abstract concepts and known, concrete things (Saban, 2004)

Through metaphors, students relate new information to their prior knowledge by passing it into their existing schema. Consequently, metaphors increase the quality of the learning process by making tight connections between prior knowledge, individual experiences and new information, and creating vivid images (Arslan and Bayrakçı, 2006). In addition, Botha (2009) states that metaphors can be used as a discovery tool in education, and with their creative, novelistic and interactive role, would present the similarities between students' prior learning and the unknown subject.

Studies show that metaphor analyses are used in many fields. These studies include that of Winter (2003) on justice reasoning, Hester (2001) on the field of medicine and health, Werhane (1999) on the field of economy, Fesmire (2003) on environment, psychology and management, which are related to metaphor analysis.

Literature on the use of metaphors in the field of education shows that they are used in two different ways. These include metaphors that are used as a tool in teaching a subject (Botha, 2009; Solmon and Garn, 2014); emotional metaphors (Slepian and Ambady, 2014), electronic learning (Pitcher, 2013); for reflection; metaphors about technology (Hacıfazlıoğlu et al., 2010); metaphors related to mathematics (Font et al., 2010).

However, studies on environment with respect to metaphors are limited. In their study, Ateş and Karatepe (2013) examined university students' metaphorical perceptions of the concept of global warming. In another study, Pickett and Cadenasso (2002) analysed different dimensions of the concept of ecosystem through metaphors. In other study, Christopher et al. (2013) explored human environment relations with metaphors. Perceptions of environment are tools revealing how people see the environment. In order to conduct an effective environmental education, there is a need for reflecting students' perceptions of environment at every stage of education. Therefore, this study aims to reveal high school students' metaphorical perceptions of environment. In line with this

Table 1. Descriptive information related to the participants.

| Variable | F | % |
|------------|----|----|
| Gender | | |
| Female | 58 | 52 |
| Male | 54 | 48 |
| Grade | | |
| 9th Grade | 34 | 30 |
| 10th Grade | 35 | 31 |
| 11th Grade | 33 | 29 |

aim, the research questions of the study are as follows:

1. What are the metaphors that high school students form with regard to the concept of environment?
2. Which conceptual categories do the metaphors formed by high school students about the concept of environment fall in?

METHOD

Research design

The study was conducted based on qualitative research design. In qualitative research methods, studies are carried out by focusing on phenomena, events or behaviours in natural settings. For that reason, in studies based on qualitative research methods, elaborate information regarding phenomena, events or behaviours can be obtained (Yıldırım and Şimşek, 2006). This study employed "phenomenology" as its research design. Phenomenology design focuses on phenomena that we are aware of, but do not have deep and detailed understanding (Rosenblatt, 2000). Phenomenology is suitable for studies aiming to examine phenomena that we do not comprehend completely, but we are not exactly unfamiliar with (Yıldırım and Şimşek, 2006).

Participants

The participants of the study were 112 students studying at two different high schools in Ankara in the fall term of 2013-2014 school year; however, 10 students were then excluded because they left the survey empty. Table 1 presents descriptive information related to the participants.

As can be seen in Table 1, 52% of the participants were females, 48% were males; 30% were at 9th grade, 31% were at 10th grade and 29% were at 11th grade.

Data Gathering

A survey form developed by the researcher was used to identify the high school students' metaphorical perceptions of the concept of "environment". The form contained two sections. The first section was a personal information form including items to identify the students' personal characteristics. In the second section, the students were asked to complete the sentence, "Environment is like because" The word "like" in the sentence refers to establishing a relationship between "the source

Table 2. Sample coding of the students' responses.

| Code No. | Metaphor | Explanation | Category |
|----------|----------|---|-----------------|
| S12 | Home | Environment is like one's home in which he spends his whole life. | Place of living |

Table 3. Frequency and percentage distribution of the metaphors developed by the high school students based on categories.

| Categories | f (Total number of participants producing metaphor) | f (No of metaphors) | % |
|----------------------|---|---------------------|------------|
| Place of living | 34 | 5 | 30 |
| Liveliness | 25 | 6 | 22 |
| Emotional connection | 22 | 8 | 20 |
| Natural life | 17 | 5 | 15 |
| Cleanness | 14 | 5 | 13 |
| Total | 112 | 29 | 100 |

of metaphor" and "the topic of metaphor"; and the word "because" reveals the reasons for the metaphor (Saban, 2004). The survey form was revised based on the opinions of two field experts and administered to the students.

Data analysis

Content analysis technique was used in analysing the metaphors developed by the students with respect to the concept of environment. The primary aim of content analysis is to reach conceptions and relationship that would describe the gathered data. The summarized and interpreted data in descriptive analysis are exposed to a deeper exploration in content analysis, and concepts and themes that cannot be noticed with a descriptive approach can be discovered. The main process in content analysis includes combining similar data based on concepts and themes, and interpreting them by organizing in a way that readers can understand (Yıldırım and Şimşek, 2006:27). In content analysis, the researcher firstly develops categories related to the research topic. Words, sentences or images falling into the categories are then counted in the data set examined (Silverman, 2001). There are two approaches in content analysis: "closed approach" and "open approach". While prior categories in the research topic are used in closed approach, categories are formed as a result of the content analysis in open approach. In brief, while the content analysis has a deductive structure in closed approach, it has an inductive characteristic in open approach (Bilgin, 2000: 10-11). Open approach was employed in this study. Saban (2004) points out certain steps to be followed in content analysis: These steps are as follows: 1. Identification step, 2. Categorization step (elimination and refinement), 3. Category development step, 4. Validity and reliability step, and 5. Transferring the data to computer environment.

1. Identification step: In this step, the metaphors produced by the high school students were listed. How they related the metaphors with the concept of environment, and whether they asserted metaphors were checked.

2. Categorization step: In this step, the students' metaphors were examined one by one, and these metaphors were evaluated in terms of the topic and the source of the metaphors, and the relationship between the topic and the source of the metaphors. Consequently, 10 papers were excluded since they did not include any metaphors.

3. Category development step: In this step, the students' metaphors were categorized based on the source and the topic. Metaphors having similar characteristics and explanations were included in this category. In this sense, categories related to the concept of environment were formed considering the explanations of the metaphors developed by the students.

4. Validity and reliability step: The categories, themes, metaphors and the explanations related to these metaphors were presented to two experts in the field in order to validate the categories. The experts faculty members were asked to match the metaphors with the categories. After obtaining the experts' opinion, the non-overlapping metaphors were discussed. Then, the categories, themes and the subsequent metaphors were finalized. As a result, the final categories are as follows: statements about the place of living, liveliness, natural life, emotional connection and cleanness were identified as being related to environment.

5. Transferring the data to the computer environment: In this step, the data on metaphors, three different themes and four different categories were transferred to the computer environment. After this process, the number of students stating each metaphor (f) and its percentage (%) were calculated. Table 2 presents a sample coding on how the metaphors were coded.

A sample analysis of the students' responses is given above. When the response of S12 is examined, the metaphor is home, and the category is place of living.

FINDINGS

As a result of the analysis, the high school students were identified to produce metaphors in 5 categories. These categories and related frequency and percentage information are presented in Table 3.

As seen in Table 3, the high school students mostly produced metaphors that were in the category of place of living (f=34, 30%). Other categories that the participants' metaphors fell in are as follows: "liveliness" (f=25, 22%), "emotional connection" (f=22, %20), "natural life" (f=17, %15) and "cleanness" (f=14, 13%).

Table 4 shows that the metaphors produced by the high school students mostly fell in the category of place

Table 4. Metaphors within the category of place of living.

| Category | Metaphor | F | % |
|-----------------|--------------|-----------|-----------|
| Place of living | One's home | 16 | 14 |
| | Setting | 8 | 7 |
| | Living area | 4 | 4 |
| | Home | 3 | 3 |
| | World | 3 | 3 |
| | Total | 34 | 30 |

Table 5. Metaphors within the category of liveliness.

| Category | Metaphor | F | % |
|--------------|-----------------|-----------|-----------|
| Liveliness | Human | 14 | 13 |
| | Flowers | 3 | 3 |
| | Living organism | 3 | 3 |
| | Cell | 2 | 2 |
| | Human body | 2 | 2 |
| | Brain | 1 | 1 |
| Total | | 25 | 22 |

of living (f=34). 16 of the students expressed the concept of environment with respect to one's home while 8 of them related it to setting and 4 to living area. Sample quotations related to the students' metaphors within this category are presented as follows:

S12: "Environment is like one's home *because we spend our lives here.*" S21: "Environment is like life because there is no life without environment." S23: "Environment is like one's home because we get oxygen and food from the environment."

In Table 5, it can be seen that 25 students produced 6 different metaphors in the category of liveliness. In this category, 14 students produced metaphors of human, 3 of flowers and other 3 of living organisms. Sample quotations related to the students' metaphors within this category are presented as follows:

S32: "Environment is like human. *As humans have their needs, environment has also its needs.*" S34: "Environment is like flowers. It is also lively like flowers." S39: "Environment is like a living organism, it lives and dies."

Table 6 presents the metaphors within the category of natural life. As is seen, with regard to the category of natural life, 17 students produced 5 different metaphors. 8 students used the metaphor of nature, and 4 students developed the metaphor of tweet. Sample quotations

Table 6. Metaphors within the category of natural life.

| Category | Metaphor | F | % |
|--------------|----------|-----------|-----------|
| Natural life | Nature | 8 | 7 |
| | Tweet | 4 | 4 |
| | Air | 2 | 2 |
| | Water | 2 | 2 |
| | Soil | 1 | 1 |
| Total | | 17 | 16 |

Table 7. Metaphors within the category of emotional connection.

| Category | Metaphor | F | % |
|----------------------|----------|-----------|-----------|
| Emotional connection | Family | 5 | 5 |
| | Friend | 3 | 3 |
| | Fellow | 3 | 3 |
| | Sibling | 3 | 3 |
| | Child | 3 | 2 |
| | Love | 2 | 2 |
| | Heart | 2 | 2 |
| | Peace | 1 | 1 |
| Total | | 22 | 22 |

related to the students' metaphors within this category are provided as follows.

S41: "Environment is like nature. It is nature." S52: "Environment is like tweet. *It is the natural life of living things.*"

Table 7 presents the metaphors falling in the category of emotional connection. Within this category, 22 students formed 8 different metaphors. Related to emotional connection, the metaphor of family was produced by 5 students while each of the metaphor of friend, fellow, sibling and child was developed by three students.

Sample quotations regarding the students' responses in this category are presented as follows:

S28: "Environment is like one's family. It protects and loves him." S34: "Environment is like one's friend. He spends his time in the environment." S47: "Environment is like one's fellow. He always needs the environment."

Table 8 shows that in the cleanness category, 12 students produced 5 different metaphors. These metaphors were stated as lungs by 4 students, dustbin by 2 students and clean sheet by 2 students. Sample quotations related to this category are provided as follows.

S41: "Environment is like lungs; it cleans dirty air." S25:

Table 8. Metaphors of cleanness related to the concept of environment.

| Category | Metaphor | F | % |
|--------------|--------------|----|----|
| Cleanness | Lungs | 4 | 4 |
| | Dustbin | 2 | 2 |
| | Clean sheet | 2 | 2 |
| | Garbage dump | 1 | 1 |
| | Hospital | 1 | 1 |
| Total | | 12 | 12 |

"Environment is like a dustbin. All the dirt of our world is stored in it." S29: "Environment is like a hospital. All the dirt is healed there."

DISCUSSION AND CONCLUSION

In environmental education, metaphors are key tools for the comprehension of relationships between human and environment, and revealing the values related to the environment (Christopher et al., 2013; De Groot et al., 2010). As a result of this study, it was found that the high school students produced metaphors such as "one's home", "living organism", "human" and "natural life" about the concept of environment. Bell (2006) emphasizes that humans develop their metaphors of environment based on certain rules. For example, he explained the metaphor of natural life produced for the concept of nature with the rule that humans should leave nature to itself.

The study revealed 29 valid metaphors produced by the high school students with regard to the concept of environment. Considering the source and the topic of these metaphors, 5 categories were formed for the students' metaphors. These categories were identified as "place of living", "liveliness", "cleanness", "natural life" and "emotional connection". In other words, the high school students' common perception of environment can be expressed as place of living, liveliness, cleanness, natural life and emotional connection. Aydın (2013) determined 92 valid metaphors for the concept of environment produced by the university students in their study. Philippon (2004) reported that about the concept of nature, individuals' metaphors such as garden, park and natural life were related to their interaction with nature and their values about the environment.

Examining the metaphors produced by the students, most of the metaphors fell in the category of place of living within the concept of environment. This finding shows that most of the students perceived the environment as a place of living. The metaphors within this category were mostly of one's home and place of living. Bell (2006) states that the garden metaphor for the concept of nature is related to the desire to manage. In another study, Ratner (2004) states that people produce home metaphor for the concept of ecosystem due to their

interest in protecting the environment. Kaya et al. (2010) point out that one of the categories that they gathered metaphors related to the concept of environment is the place of living.

One of the striking findings in the study is that a considerable number of high school students' metaphors were related to liveliness. From this point, the students can be said to attribute the value of liveliness to the environment. Within the same category, metaphors such as human and flowers were among the mostly stated environment metaphors. Considering the multi-dimensional structure of environment, one of these environments is composed of lively elements (Kemp, 2004). The students' metaphors within this category can be argued to refer to this dimension of environment. Pickett and Cadenasso (2002) identified that the organism metaphor was among the mostly stated metaphors related to the concept of ecosystem.

With respect to the findings on the emotional connection, it was seen that the students had an emotional relationship with the environment, and mostly saw it as a member of their family. This finding shows that the students established an emotional connection with the environment and embraced it. The featured metaphors within this category were family, friend and fellow. Christopher et al (2013) point out that the metaphors developed for the concept of ecosystem also included the metaphor of mother.

One of the findings revealed as a result of the study is that some of the high school students saw the environment as natural life. This finding shows that the students made a connection between the environment and natural life. In this sense, nature and tweet are important metaphors. Paine (2010) states that the reason for the metaphor of place of living is because people perceive ecosystem as the living area of living organisms.

The environment being clean is one of the aims that should be reached by the environment volunteers. Considering the students' metaphors of environment, it was revealed that some of the students established a connection between the environment and cleanness. Lungs and dustbin are among the metaphors featured in this category.

As a result, the students' perception of environment is composed of them seeing the environment as a place of living, perceiving it as lively, seeing it as a member of their family, and establishing a connection between environment and cleanness.

Conflict of Interests

The author(s) have not declared any conflict of interests.

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