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The Effect of the ARCS Motivation Model on Secondary School Students' Motivation and Academic Achievement towards Turkish Lesson*

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ABSTRACT

In this study, the effect of ARCS motivation model on the motivation of secondary school students for Turkish lessons and Turkish lesson achievement was examined. In accordance with the research purpose, intervention design was used from advanced mixed research designs where quantitative and qualitative data were collected together. The study group of the research consists of 102 seventh-grade students in four different branches of two different secondary schools in Aksaray city center in the 2020-2021 academic year. 2 experimental and 2 control groups were determined among the study group. In the lessons of the experimental groups, Turkish lesson plans prepared in accordance with the ARCS motivation model strategies were applied. In contrast, in the control groups, the processes required by the existing Turkish lesson curriculum were followed. The quantitative data of the study were collected with the "Turkish Lesson Success Test" developed by the researcher and the "Motivation Scale for Turkish Lesson" was used with permission. The qualitative data of the study were collected with the "Semi-Structured Interview Form" developed by the researcher. In the statistical analysis of quantitative data, a t-test for related samples and a two-way ANOVA test for mixed measures were used. The qualitative data of the study were evaluated by content analysis. According to the results of the research, it was seen that the ARCS motivation model strategies applied to the experimental group had a statistically significant effect on students' achievement in Turkish lesson and their motivation towards Turkish lessons.

Key Words: Turkish education, motivation, ARCS motivation model, motivation strategies, language skills.

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ARCS Motivasyon Modelinin Ortaokul Öğrencilerinin Türkçe Dersine Yönelik Motivasyonlarına ve Akademik Başarılarına Etkisi*

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ÖZET

Bu araştırmada ARCS motivasyon modelinin ortaokul öğrencilerinin Türkçe dersine yönelik motivasyonlarına ve Türkçe dersi başarısına etkisi incelenmiştir. Araştırma amacına uygun olarak nicel ve nitel verilerin bir arada toplandığı gelişmiş karma araştırma desenlerinden müdahale deseni kullanılmıştır. Araştırmanın çalışma grubunu, 2020-2021 eğitim öğretim yılı ikinci döneminde Aksaray il merkezinde bulunan Millî Eğitim Bakanlığına bağlı iki farklı ortaokulda öğrenim gören dört farklı şubedeki toplam 102 yedinci sınıf öğrencisi oluşturmaktadır. Çalışma grubu arasından 2 deney 2 kontrol grubu belirlenmiştir. Deney gruplarının derslerinde ARCS motivasyon modeli stratejilerine uygun olarak hazırlanan Türkçe ders planları uygulanırken kontrol gruplarında ise mevcut Türkçe dersi öğretim programının gerektirdiği süreçler takip edilmiştir. Araştırmanın nicel verileri, araştırmacı tarafından geliştirilen "Türkçe Dersi Başarı Testi" ve izin alınarak kullanılan "Türkçe Dersine Yönelik Motivasyon Ölçeği" ile toplanmıştır. Araştırmanın nitel verileri, araştırmacı tarafından geliştirilen "Yarı Yapılandırılmış Görüşme Formu" ile toplanmıştır. Elde edilen nicel verilerin istatistiksel analizinde ilişkili örneklemler için t-testi, karışık ölçümler için iki yönlü ANOVA testi yapılmıştır. Araştırmanın kesikli ve sürekli verilerinin betimlenmesinde tanımlayıcı istatistikler kullanılmıştır. Araştırmanın nitel verileri, içerik analizi ile değerlendirilmiştir. Araştırma sonuçlarına göre deney grubuna uygulanan ARCS motivasyon modeli stratejilerinin öğrencilerin Türkçe dersi başarılarını, Türkçe dersine yönelik motivasyonlarını istatistiksel olarak anlamlı ölçüde etkilediği görülmüştür. Deney grubundaki öğrencilerle yapılan görüşmelerde öğrenciler, uygulanan deneysel işlemin Türkçe dersine yönelik motivasyonlarını yükselttiğini, Türkçe dersi başarılarını arttırdığını belirtmişlerdir.

Anahtar Kelimeler: Türkçe eğitimi, motivasyon, ARCS motivasyon modeli, motivasyon stratejileri, dil becerileri.

MAKALE BİLGİSİ

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Introduction

Education is the process of gaining knowledge and skills that will positively change an individual's life. One of the most important elements of achieving the goals set in education is motivation. Unfortunately, motivation, which has a very important place in the education process, has not received enough attention in the Turkish education system. However, the realization of the desired goals is possible with the willingness of all educational stakeholders from students to teachers, from principals to parents, in other words, with high motivation. For this reason, ignoring the motivation factor in the field of education would be an invitation to failure.

Motivation is an important concept in an individual's behavior and plays a key role for educators in the learning process. Students learn better when motivation is included in the educational process (Pintrich, 2003). Motivation is closely related to students' learning success. Motivation is considered one of the main factors that enable students to learn. The most important variables identified as motivators for student effort are perceived importance, usefulness, and the value of being involved in a task (Paas et al., 2005). It has been observed that students' perceptions of their ability to accomplish the task, i.e. their self-efficacy, affect effort and achievement (Bandura, 1982; Salomon, 1983). High motivation of students in the learning process will also contribute to the acquisition of target behaviors. Especially considering that the information in the classroom environment is not perceived by students as important enough for them in real life, motivational strategies to be applied in the classroom environment will contribute greatly to the successful outcome of the process.

Turkish lesson is not a lesson of knowledge, but rather a lesson of gaining skills and habits. In order to acquire skills and form habits, the individual should be active in the process and apply what he/she has learned (Özdemir, 1983). Perceived improvement in skill acquisition and self-efficacy for continuous learning ensures the continuity of motivation and improve skill performance (Schunk, 2011). In this context, teachers' attention to the above-mentioned motivational factors in Turkish lessons will facilitate the acquisition of basic language skills by students.

Practices aimed at increasing student motivation in Turkish language teaching are very important in ensuring a successful teaching process. In order to achieve this success, teachers should be motivated both by the school administration and the parents of the students. Because the concept of motivation is a very general concept. In addition, students' self-efficacy perceptions are also important in the motivation process. Improving students' self-efficacy perceptions in basic language skills will increase their motivation towards Turkish lessons (Uçgun, 2013).

No matter how many methods and techniques are used in the process of teaching and learning Turkish, sometimes the desired goals cannot be achieved. One of the most important reasons for this is student reluctance in the education process, that is, low motivation. Considering the importance of motivation in the education and training process, it is necessary to make a plan in accordance with the principles of motivation in Turkish language education and training. Turkish lessons are pivotal lessons in which students gain listening, reading, speaking, and writing skills. Paying attention to the motivation factor in the process of teaching basic language skills to students will ensure a successful teaching process.

ARCS Motivation Model

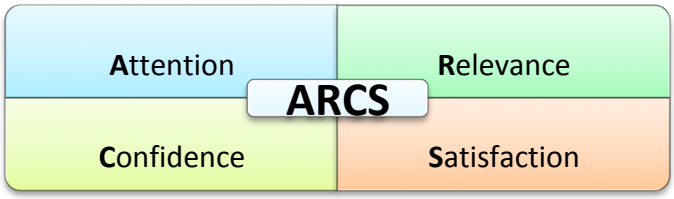
The most important question to be answered in any research on motivation is how to motivate students to learn (Weiner, 1990). A number of motivational designs have been proposed to answer this question and to organize existing resources and practices to elicit changes in people's motivation (Keller, 2010). The vast majority of these theories have tried to answer the questions of how to achieve motivation in the process or in general and what conditions or elements it depends on. This is a correct point of view, but the real question is how to achieve and maintain motivation (Cengiz & Aslan, 2012). The ARCS motivation model, which is a widely used motivational design model in different disciplines that can respond to these expectations, consists of four sub-steps: attention, relevance, confidence, and satisfaction. Each of these categories includes several subcategories that facilitate a more specific diagnosis of motivational difficulties (Keller, 1987a, 2000, 2010).

The ARCS motivational model is a problem-solving approach to designing motivational aspects of learning environments to promote and sustain students' motivation to learn (Keller, 1983, 1984, 1987a, 1999a, 2010). This model aims to improve motivation by increasing the attractiveness of instructional materials (Keller, 1987a). The main purpose of this model is to have a positive effect on the individual's motivation. The foundations of the ARCS motivation model first emerged with Keller's proposal of a macro model of motivation and performance (Keller, 1979). The sub-dimensions of the macro model are shown in detail in Figure 5. Keller published the preliminary dimensions of the ARCS motivation model in 1979, and in 1987, he created the ARCS motivation model, which is currently used with its sub-dimensions (Cobb, 2013; Dinçer, 2020; Keller, 2010; Kim & Keller, 2008).

Many motivation theories were analyzed by Jonh Keller during the creation of this model. Keller (1979) systematically linked the theories of Bandura's Social Cognitive Learning (Self-efficacy) (1977), Berlyne's Curiosity and Arousal (1965), Maslow's Hierarchy of Needs (1954), McCelland's Achievement Motivation (1976), Entertainer's Locus of Control (1975) and Seligman's Learned Helplessness (1975) to the core components of his theory (Shellnut, 1996, 4). Although many motivation theories were examined by Keller, the ARCS motivation model is based on the Expectancy-Value Theory (Bixler, 2006; Hodges, 2004; Kurt, 2012; Martin, 2001).

The ARCS motivation model has three features that distinguish it from other motivation models. The first of these is that the four conceptual categories it includes cover certain motivational concepts; the second is that it suggests motivational strategies to be used to increase motivation to the desired level; and the third is that it includes a systematic motivational design process (Keller, 1987a). A graphical view of the ARCS Motivation Model is shown in Figure 1.

Figure 1. *ARCS Motivation Model*



Reference: Keller, J. M. (2010)**.** *Motivational design for learning and performance: The ARCS model approach*. Springer.

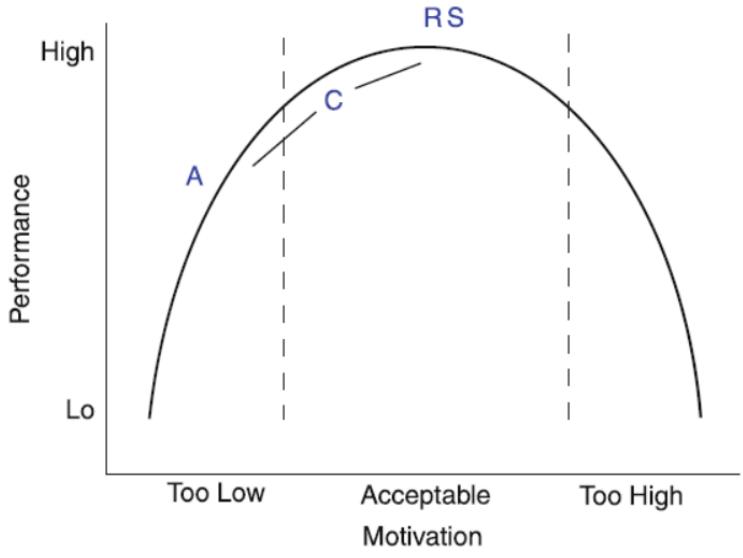
These categories of the model enable the individual to pay attention, the individual to relate to the intended goals of instruction and the learning process, the individual to build confidence in realistic expectations, and the individual to make instruction satisfying through individual responsibility or managing the individual's intrinsic and extrinsic characteristics (Keller, 2008).

Strategies of the ARCS motivation model

The ARCS model of motivation is divided into four main categories: attention, relationship (relevance/appropriateness), trust and satisfaction. These categories enable the creation of strategies to promote and sustain motivation in each of the four categories of the main components of human motivation, especially in the context of motivation (Keller, 1987a, 2010; Keller & Suziki, 2004).

Using strategies to increase students' motivation to the desired level contributes positively to students. Students' assets are a very important source of motivation. However, if students' desire and energy are low, this source will be weak. Students' motivation levels are directly proportional to their participation in the classroom. Motivation is a very important factor in students' active participation in the classroom, learning performance and lesson success (Rayn & Deci, 2000). The relationship between motivation level and student performance is shown in Figure 2 (Keller, 2010).

Figure 2. *The Relationship between Motivation and Performance*



In education and training, learning can be defined as an individual's achievement as a result of focus and determination. Learning affects the student's positive perception of the educational activity required of him/her. When expected learning is provided in accordance with students' interests and needs, students' perception of that lesson will improve. When this is the opposite, that is, when learning is below expectations, students' perceptions will be negatively affected (Viau, 2015, 56). In order to avoid these negativities, the learning environment should be tailored to students' interests and needs. In order to achieve this, motivational strategies prepared by taking into account students' readiness and affective processes should be integrated into the learning process. The main and sub-categories of the ARCS motivation model and the general strategies suggested by these categories are shown in Table 1.

Table 1. *ARCS Motivation Model Categories and Process Questions*

ARCS
Attention
Perceptual Arousal
What can I do to engage the student?
Inquiry Arousal
How can I encourage a research attitude?
Variability
How can I use various tactics to keep their attention?
Relevance
Goal Orientation
How can I best meet my student's needs? Do I know their needs?
Motive Matching
How and when can I provide my learners with appropriate choices, responsibilities and influences?
Familiarity
How can I relate/connect teaching to students' experiences?
Confidence
Learning Reuirements
How can I assist in building a positive expectation for success?
Success Opportunities
How will the learning experience support or enhance the students' beliefs in their competence?
Personal Control
How will the learners clearly know their success is based upon their efforts and abilities?
Satisfaction
Natural Consequences
How can I provide meaningful opportunities for learners to use their newly acquired knowledge/skill?
Positive Consequences
What will provide reinforcement to the learners' successes?
Equity
How can I assist the students in anchoring a positive feeling about their accomplishments

Reference: Keller, J. M. (2010)**.** *Motivational design for learning and performance: The ARCS model approach*. Springer.

Rationale for the Study

The ARCS motivation model has been applied on different age groups in different countries and its impact level has been tried to be determined. It has been observed that the motivational strategies proposed within the scope of the ARCS motivation model and the learning environments in which these strategies are applied generally show positive attitudes (Şimşek, 2014; Li & Keller, 2018). In many studies conducted in the field of education (Acar, 2009; Aşıksoy & Özdamlı, 2016; Balantekin, 2014; Ergin & Karataş, 2018; Önkuzu Gülcü, 2022), it was found that the ARCS motivation model increased academic achievement. In

addition, in the studies conducted in the literature, it was concluded that the ARCS motivation model positively affects students' attitude and motivation towards the lesson, increases the permanence of teaching, reduces anxiety and positively affects their self-efficacy perceptions (Ersoy, 2019; Karabatak & Polat, 2020; Karslı, 2015; Narmanlı, 2019; Önce, 2020; Yüncü Kurt & Keçik, 2017). In this context, it is thought that the use of the ARCS motivation model, which is accepted in the national and international literature in the active use of motivation in the learning environment, in Turkish lessons will contribute to the acquisition of basic language skills to students.

Raising motivation to the desired level in the educational process will support the development of the individual's self-efficacy perception (Schunk, 2011; Pintrich, 2003; Zimmerman, 2000). A positive development in students' self-efficacy perceptions in basic language skills will contribute to an increase in their motivation towards Turkish lessons (Uçgun, 2013). Turkish lessons are not a knowledge lesson, but a habit and skill lesson. Formation of habits and acquisition of skills require doing and practicing (Özdemir, 1983). In Turkish lessons, emphasizing students' interests in classroom activities and increasing their motivation will make the education and training process more efficient and may also affect retention.

In the field of Turkish language teaching and learning, there is no study on the ARCS motivation model, which is accepted in the literature. It is known that the inclusion of motivational strategies in the teaching process has a positive effect on many variables, especially students' interest in the lesson. It is thought that the ARCS motivation model, which envisages the use of these strategies within a plan, can also be applied in Turkish lessons. The inclusion of motivational strategies in Turkish lessons can first increase students' interest in the lesson. There may be an increase in the academic achievement and permanent learning level of students who are motivated towards the lesson. The motivational strategies suggested by the ARCS motivation model and the lesson plans to be prepared in line with the strategies obtained from the students can ensure that Turkish lessons are taught more efficiently. It is thought that conducting such a study will contribute to the literature in order to raise the motivation of students to the desired level in Turkish lessons and to raise awareness about motivational strategies in the field of Turkish education and teaching in this sense.

The main purpose of this study is to examine how the Turkish lessons designed in accordance with the ARCS motivation model strategies, which guide educational stakeholders on the Turkish lesson outcomes aiming to enable students to acquire basic language skills in secondary school Turkish lessons, the methods and techniques used during the teaching of Turkish lessons, the motivational strategies to be applied so that students can maintain their interest in Turkish lessons and actively participate in the lesson process, and the tools used in measuring and evaluating students' skills in Turkish lessons, have an impact on the motivation of secondary school 7th grade students towards Turkish lessons and their achievement in Turkish lessons. grade students' motivation towards Turkish lesson and their achievement in Turkish lesson. In short, it is to investigate how ARCS motivation model strategies have an effect on middle school 7th grade students' motivation towards Turkish lesson and their academic achievement. In the research, answers to the following sub-problems were sought:

1. Is there a significant difference between the pre-test and post-test scores of the students in the experimental groups where the intervention plan designed in

accordance with the ARCS motivation model strategies was implemented and the control groups where the existing Turkish lesson plan was implemented?

2. Is there a significant difference between the pre-test and post-test scores of the students in the experimental groups where the intervention plan designed in accordance with the ARCS motivation model strategies was applied and the control groups where the current Turkish lesson plan was applied?
3. What are the opinions of the students in the experimental group about the Turkish lessons in which the intervention plan designed in accordance with the ARCS motivation model strategies was implemented?

Methodology

In this study, the effect of Turkish lessons designed in accordance with ARCS motivation model strategies on seventh grade students' motivation towards Turkish lessons and their achievement in Turkish lesson was investigated. In accordance with the problem and purpose of the study, intervention design, one of the advanced mixed research designs, was used in this study. Creswell (2017b) states that the purpose of the intervention design is to study a study problem by adding qualitative data to the research process through conducting an experiment or intervention program. Mixed designs have a complex structure in essence. For this reason, it is necessary to create a study plan and process steps before starting the research. In this way, the research process can be managed better and the possibility of researchers making methodological errors is minimized. In order to better understand the mixed design used in the research, quantitative and qualitative processes were discussed separately.

Quantitative Process

The backbone of the mixed research process is the experimental process (intervention program). In the experimental process, a quasi-experimental design with pretest-posttest control group was utilized among quantitative research methods. The symbolic view of the pretest-posttest control group design used in the quantitative part of the research process (Büyüköztürk et al., 2018; Creswell, 2017a) is shown in Table 2.

Table 2. *Symbolic View of Quasi-Experimental Design with Pre-Test-Post-Test Control Group*

Student Groups	Identification of Groups	Groups	Pre-Test	Experimental Procedure	Post Test
G_1	M	D_1	O_1	X	O_5
G_2	M	D_2	O_2	X	O_6
G_3	M	K_1	O_3		O_7
G_4	M	K_2	O_4		O_8

G1, G2, G3, G4: Ready Student Groups; M: Matching Procedure; D1: Experiment 1 Group; D2: Experiment 2 Group; K1: Control 1 Group; K2: Control 2 Group; O1, O2, O3, O4: Turkish Lesson Achievement Test (Listening Achievement Test, Reading Achievement Test, Writing Achievement Test, Speaking Achievement Test), Motivation Scale Intended for Turkish Course.; X: Turkish Teaching Based on ARCS Motivation Model Strategies; O5, O6, O7, O8: Turkish Lesson Achievement Test (Listening Achievement Test, Reading Achievement Test, Writing Achievement Test, Speaking Achievement Test), Motivation Scale Intended for Turkish Course.

Qualitative Process

Qualitative research data were used in order to carry out the experimental process, which constitutes the main framework of the intervention mixed method design used in the research process, to analyze the participants better, and to explain the research results in more detail. In the intervention mixed method design used in the research, qualitative data support the quantitative process. Creswell (2017b) states that qualitative data can serve many purposes in this design and that researchers can add qualitative data to the experiment before, during or after the experiment, as well as to all three stages of the experiment according to the sources and goals of the experiment. In this context, qualitative data were added to all three phases of the experiment.

Participants

The study was conducted in the second semester of the 2020-2021 academic year with a total of 102 seventh-grade students in four different branches studying in two different secondary schools affiliated with the Ministry of National Education in Aksaray city center. Since the quasi-experimental design with a pre-test-post-test control group was utilized in the quantitative process of this study, the population sample was not selected, and the study group was formed instead. While determining the study group, seventh graders with similar Turkish grade point averages in two different schools located in a similar socio-economic environment were preferred.

After the necessary preparations were made before the research, data collection tools were prepared and determined, and the study plan was created, an application was made to the Yıldız Technical University Social and Human Sciences Research Ethics Committee for the necessary permissions. After the necessary examinations and evaluations, it was deemed appropriate to conduct the research with the decision of the board dated 31.08.2021 and meeting number 2021/06, with the opinion that the research did not find any findings contrary to ethics. The administrations and Turkish teachers of the institutions where the research was planned to be conducted were first informed about the research. The research permit application made through Yıldız Technical University Institute of Social Sciences was approved by Aksaray Governorship and Aksaray Provincial Directorate of National Education. After the official permissions were obtained, the school administrations and Turkish teachers were interviewed again and the research process was explained in detail. It was ensured that the socio-economic environment of the students in the study group, their achievement levels in Turkish lessons, and their motivation towards Turkish lessons were close to each other. In addition, Turkish teachers and students in the schools where the research would be conducted were included in the research on a voluntary basis. It was ensured that the Turkish lesson achievement averages of the first semester of the four seventh grade classes, which were determined as the study group of the research, were equal to each other (See Table 3).

Table 3. *First Semester Turkish Lesson Achievement Scores of the Students in the Study Group*

School	Groups	N	$\bar{X}$	Ss
X	A	24	71.7	14.59
	B	25	72.6	11.57
Y	C	26	75.7	8.98
	D	27	74.6	17.43

The results of the averages of the first semester Turkish lesson achievement scores of the students in the experimental and control groups are shown in Table 3. Accordingly, it is seen that the average of the first semester Turkish lesson achievement scores in X middle school is 71.7 points in A class and 72.6 points in B class; in Y middle school, the average of the first semester Turkish lesson achievement scores is 75.7 points in C class and 74.6 points in D class. According to these findings, it can be said that the mean Turkish lesson achievement scores of the students in the study group included in the research are similar to each other. In line with these results, among these groups matched in terms of Turkish lesson achievement scores, classes A and B in X secondary school were determined as the experimental groups,

and classes C and D in Y secondary school were determined as the control group. The gender characteristics of the students in the study group are given in Table 4.

Table 4. *Information on Gender Characteristics of Students*

Gender	Experiment 1		Experiment 1		Control 1		Control 2		Total	
	N	%	N	%	N	%	N	%	N	%
Girl	8	33.3	11	44.0	12	46.2	11	40.7	60	41.2
Boy	16	66.7	14	56.0	14	53.8	16	59.3	42	58.8
Total	24	100	25	100	26	100	27	100	102	100

When the data in Table 4 are analyzed, it is seen that 33.3% of the students in Experiment 1 group were female and 66.7% were male; 44% of the students in Experiment 2 group were female and 56% were male; 46.2% of the students in Control 1 group were female and 53.8% were male; 40.7% of the students in Control 2 group were female and 59.3% were male; and 41.2% of the students in the study group were female and 58.8% were male.

Data Collection and Evaluation Tools

Since mixed method was used in the study, data collection tools were handled in two groups. In the quantitative process, the research data were collected using the "Personal Information Form, Turkish Lesson Achievement Test (TLAT) [Listening Achievement Test, Reading Achievement Test (Taşkın & Sallabaş, 2022), Writing Achievement Test (Narrative Text Writing Test, Informative Text Writing Test), Speaking Achievement Test]" developed by the researchers, the data were collected with the "Motivation Scale Intended for Turkish Course (MSITC)" developed by Arslan and Taşgın (2019) and evaluations were made with the "Narrative Text Scoring Key (NTSK)" developed by Başkan (2018), the "Written Expression Analytical Rubric (WEAR)" developed by Bilican Demir and Yıldırım (2019), and the "Impromptu Speaking Achievement Rubric (ISAR)" developed by Yüceer (2014).

It was decided to collect the qualitative data in three stages depending on the nature of the intervention design, the sources and objectives of the experiment (Creswell, 2017b, 43). In this context, the qualitative data included in the study were collected using the "Semi-Structured Interview Form" developed by the researcher by taking into account the main and sub-categories of the ARCS motivation model.

Data Collection and Analysis

Collection and Analysis of Quantitative Data

The quantitative data of the study were collected with the MSITC and TLAT applied in the pre-test and post-test and the students' answers were evaluated with NTSK, WEAR, ISAR. The quantitative data obtained were analyzed through SPSS 22 and JASP package programs.

Two types of analysis tests are used in the analysis of quantitative data: parametric (normally distributed) and non-parametric (not normally distributed). In normality tests, Shapiro-Wilks test is used when the group size is less than 50 and Kolmogorov-Smirnov (K-S) test is used when the group size is larger. Since each of the study groups of the research was smaller than 50, the Shapiro-Willks test, skewness coefficient (SC) and kurtosis coefficient (KC) were examined to see whether they were normally distributed. Can (2020, 86) states that by looking

at the skewness and kurtosis coefficients of the data group whose normality is to be tested, an idea can be made about normality according to their proximity to zero. George and Mallery (2019, 114) state that the normality assumption of the data is acceptable if the skewness and kurtosis coefficient takes a value between -2 and +2.

The skewness and kurtosis coefficients of the Turkish Lesson Achievement Test (Listening Achievement Test, Reading Achievement Test, Writing Achievement Test, Speaking Achievement Test) and Motivation Scale Intended for Turkish Course pretest and posttest data are shown in Table 5.

Table 5. *Information on Skewness and Kurtosis Coefficients of Pre-Test and Post-Test Data*

Measurement Tool	Test	N	$\bar{X}$	Sd	SC	KC
Turkish Lesson Test	Pre-Test	102	88.47	18.83	.187	.004
	Post-Test	102	101.0	16.11	.017	.119
Listening Test	Pre-Test	102	9.97	2.72	-.202	-.554
	Post-Test	102	11.95	2.08	-.166	.436
Reading Test	Pre-Test	102	8.59	3.67	-.202	-.849
	Post-Test	102	10.80	2.98	-.662	.548
Speaking Test	Pre-Test	102	22.70	5.94	.555	.090
	Post-Test	102	24.94	5.75	.238	-.014
Writing Test	Pre-Test	102	47.19	11.12	.190	.142
	Post-Test	102	53.31	10.14	.043	-.179
Motivation Scale Intended for Turkish Course	Pre-Test	102	172.10	20.34	-.420	-.454
	Post-Test	102	185.97	19.60	-.617	.315

When the data in Table 5 are examined, it is seen that the skewness coefficients of the scores obtained by the study group from the data collection tools in the pre-test and post-test are between -2 and +2, which is the criterion value. When the skewness and kurtosis coefficient values obtained from the data and the criterion values are interpreted together, it can be said that the pre-test and post-test data of the students in the study group regarding the Turkish Lesson Achievement Test, Listening Achievement Test, Reading Achievement Test, Speaking Achievement Test, Writing Achievement Test, Motivation Scale Intended for Turkish Course show normal distribution. In this context, parametric tests were used in the analysis of the data since the research data showed normal distribution.

In order to determine whether there is a statistically significant difference between the pre-test and post-test scores of the Experimental 1, Experimental 2, Control 1, Control 2 groups determined within the scope of the research from TLAT (Listening Achievement Test, Reading Achievement Test, Speaking Achievement Test, Writing Achievement Test) and MSITC within each group, T-Test for Related Samples was conducted. In addition, in order to determine the difference between the mean scores of the students in the Experiment 1, Experiment 2, Control 1, Control 2 groups in the pre-test and post-test measurements of the measurement tools, Two-Way ANOVA analysis for mixed measures was performed. Descriptive statistical analyses of the discrete and continuous data (mean, standard error, standard deviation, percentile, median value, minimum-maximum number) has been used.

The answers given to the open-ended questions in the tests were scored with the help of a rubric. Krippendorff's Alpha Coefficient was used to determine the agreement between the raters for the open-ended questions.

Qualitative Data Collection and Analysis

The interviews conducted to collect the first qualitative data within the scope of the research were conducted after the pre-test data were collected and the upper-middle and lower group students were determined among the students in the experimental groups according to the scores of the Motivation Scale Intended for Turkish Course. Content analysis was used to analyze the data obtained qualitatively during the research process. In the analysis of qualitative data, a data analysis plan was made according to the research purpose, method and data status, and the data were analyzed in accordance with this plan.

Experimental Procedure

Pilot Experiment

Due to the fact that an experimental application was carried out within the scope of the research, a pilot application study was carried out on another group of students who were similar to the study group of the research in order to determine the malfunctioning and non-functioning aspects of the curriculum applications, to minimize the problems that may be encountered in the actual application, and to make the experimental process program ready for the actual application by making the necessary corrections. The study group selected for the pilot study was similar to the study group in the actual implementation in terms of socio-economic level, Turkish lesson achievement averages and general academic achievement averages. The study group of the pilot study consisted of 26 seventh grade students studying in a public secondary school in Manavgat district of Antalya province in the first semester of the 2021-2022 academic year. Turkish teachers and students were informed about the study before the pilot study and their questions about the study were answered. The selection of teachers and students was based on the principle of volunteerism. The pilot study was conducted in Turkish lessons (5+5 class hours) between 06.12.2022-20.12.2022.

Actual Experiment

The experimental implementation was carried out in the second semester of the 2021-2022 academic year between 07.02.2022-03.06.2022. The experimental implementation lasted for 12 weeks; pre-test and post-tests lasted for 4 weeks, totaling 16 weeks. Since there are 5 hours of Turkish lessons per week in the seventh grade of the middle school, the experimental application was completed in 60 class hours, pre-test and post-tests in 20 class hours, and experimental process applications in 80 class hours in total. The following points were taken into consideration during the experimental implementation process:

- In order to see the experimental implementation process of the research holistically, an Experimental Implementation Plan was prepared.
- Existing Turkish lesson plans were examined in detail and it was decided what kind of a lesson plan should be developed by paying attention to the general template of the lesson plans.
- The weekly Turkish lesson practices were re-planned and designed according to the ARCS motivation model strategies.

- The activities designed in accordance with the ARCS motivation model strategies for the development of the four basic language skills were made sure to be equal in duration for each skill.
- The school administration, teachers and students in the study group were informed about the research in detail. All questions about the research were answered. Thus, an open, transparent and clear research process was carried out.
- The prepared Turkish lesson plans and Turkish lesson practices were shared with the lesson teacher on a weekly basis. Any questions the implementing teacher had about the lesson plan were answered and utmost care was taken to ensure that the experimental process was carried out according to the plan.
- At least two days each week, the implementation school was visited, interviews were made with all the teachers, especially the Turkish teacher, who entered the classes of the study groups, and the students in the study groups were observed.
- In both experimental groups, it was ensured that the experimental process proceeded simultaneously, and the Turkish teacher was given the necessary support in this regard.
- Weekly meetings were held with the school counselor and opinions were exchanged about the general situation of the students in the study group classes.
- When necessary, the school administration was consulted and help was received from the school administration, especially in terms of tracking absenteeism.

Findings

Quantitative Findings

Findings Regarding the Effect of the Experimental Procedure on Turkish Lesson Achievement

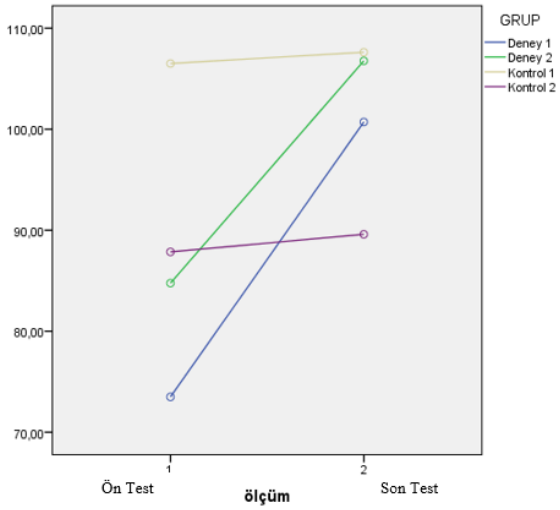
The first sub-problem of the study was stated as "Is there a significant difference between the pre-test and post-test scores of the students in the experimental groups where the intervention plan designed in accordance with the ARCS motivation model strategies was applied and the control groups where the existing Turkish lesson plan was applied?". In this context, the mean scores of the students in the experimental and control groups from the Turkish Lesson Achievement Test were compared within and between the groups. Descriptive statistics related to the pre-test and post-test scores of the students in the experimental and control groups from the Turkish Lesson Achievement Test are given in Table 6.

Table 6. *Descriptive Statistics Regarding TLAT Pre-Test and Post-Test Scores of Students in Experimental and Control Groups*

TLAT	Groups	N	$\bar{X}$	Sd
Pre-Test	Experiment 1	24	73.50	13.40
	Experiment 2	25	84.76	16.58
	Control 1	26	106.50	14.50
	Control 2	27	87.85	14.74
Post-Test	Experiment 1	24	100.70	14.30
	Experiment 2	25	106.76	17.94
	Control 1	26	107.61	10.99
	Control 2	27	89.59	14.24

When the data in Table 6 are examined, the mean Turkish lesson achievement score of the students in Experiment 1 group, in which the experimental process based on the ARCS motivation model was applied, was $\bar{X}$=73.5 in the pre-test, while this value increased to $\bar{X}$= 100.70 in the post-test after the experimental process. While the mean Turkish lesson achievement score of the students in the Experimental 2 group was $\bar{X}$=84.76 in the pre-test before the experimental procedure, this value increased to $\bar{X}$= 106.76 in the post-test after the experimental procedure. While the mean Turkish course achievement score of the students in the Control 1 group was $\bar{X}$= 106.50 in the pre-test, this value increased to $\bar{X}$= 107.61 in the post-test after the applications carried out in line with the Turkish Course Teaching Program. While the mean Turkish lesson achievement score of the students in the Control 2 group was $\bar{X}$=87.85 in the pre-test, this value increased to $\bar{X}$= 89.59 in the post-test after the practices carried out in line with the Turkish Curriculum. The graphical representation of the descriptive statistics of the pre-test and post-test scores of the students in the Experimental and Control groups is given in Figure 3.

Figure 3. *Line Graph of Students' TLAT Pre-Test and Post-Test Scores in Experimental and Control Groups*



When the data in Table 6 and Figure 3 are analyzed together, it can be said that the mean TLAT scores of the Experiment 1 and Experiment 2 groups increased more mathematically in the post-test compared to the Control 1 and Control 2 groups.

The pre-test and post-test mean scores of the students in the experimental and control groups from the Turkish Lesson Achievement Test were compared between the groups to see if there was a statistically significant difference. Since the data were normally distributed and met the other prerequisites, a two-way ANOVA test for mixed measures was conducted. Accordingly, the results of the two-way ANOVA for mixed measures regarding whether the difference between the pretest and posttest mean scores of the experimental and control groups regarding their achievement in Turkish lesson are statistically significant are shown in Table 7.

Table 7. *Two-Way ANOVA Results Regarding TLAT Pre-Test and Post-Test Scores of Students in Experimental and Control Groups*

Source of Variance	SS	sd	MS	F	p
Between subjects	53972.73	101			
Group	12695.971	3	4231.990	10.048	.000
Error	41276.759	98	421.191		

In-subjects	16703.423	102			
Measurement (Pre-test- Post-test)	8623.751	1	8623.751	762.820	.000
Group* Measurement	**6971.773**	**3**	**2323.924**	**205.564**	**.000**
Error	1107.899	98	11.305		
Total	70676.153	203			

SS: Sum of Squares, sd: Degrees of Freedom, MS: Mean of Squares, F: F-Ratio, p: Level of Significance

According to the data in Table 7, it can be said that the group effect on the Turkish lesson achievement (posttest-pre-test difference) of the students in the experimental and control groups is statistically significant [F(3-98)=205.564, $p < .05$]. These findings show that the students in the experimental groups in which the Turkish lesson practices based on ARCS motivation model strategies were carried out and the students in the control group in which the experimental process was not applied and the existing Turkish lesson practices were carried out had different effects on Turkish lesson achievement. In this context, it is understood that Turkish lesson practices based on ARCS motivation model strategies are more effective in increasing students' Turkish lesson achievement than the current Turkish lesson practices based on the Turkish Curriculum.

Findings Related to the Effect of the Experimental Procedure on Turkish Lesson Motivation

The second sub-problem of the study was expressed as "Is there a significant difference between the pre-test and post-test scores of the students in the experimental groups where the intervention plan designed in accordance with the ARCS motivation model strategies was applied and the control groups where the existing Turkish lesson plan was applied?". In line with this sub-problem, the averages of the pre-test and post-test scores of the students in the experimental and control groups on the Motivation Scale Intended for Turkish Course were compared within and between groups. Descriptive statistics of the pre-test and post-test scores of the students in the experimental and control groups on the Motivation Scale Intended for Turkish Course are given in Table 8.

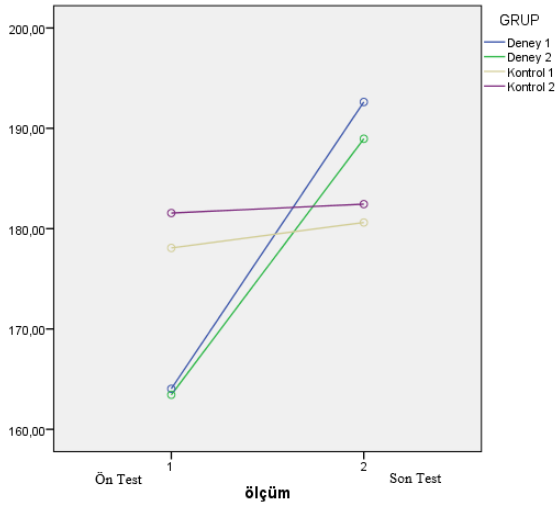
Table 8. *Descriptive Statistics of MSITC Pre-Test and Post-Test Scores of Students in Experimental and Control Groups*

MSITC	Groupd	N	$\bar{X}$	Sd
Pre-Test	Experiment 1	24	164.04	21.36
	Experiment 2	25	163.44	20.88
	Control 1	26	178.07	16.48
	Control 2	27	181.55	16.70
Post-Test	Experiment 1	25	192.62	18.73
	Experiment 2	25	188.96	20.31
	Control 1	26	180.61	19.19
	Control 2	27	182.44	18.89

When the data in Table 8 are examined, the mean MSITC score of the students in the Experiment 1 group, in which the experimental procedure based on the ARCS motivation model was applied, was $\bar{X}$=164.04 in the pre-test, while this value increased to $\bar{X}$=192.62 in the post-test after the experimental procedure. While the mean MSITC score of the students in Experimental 2 group was $\bar{X}$=163.44 in the pre-test before the experimental procedure, this value increased to $\bar{X}$=188.96 in the post-test after the experimental procedure.

While the mean MSITC score of the students in the Control 1 group was $\bar{X}$=178.07 in the pre-test, this value increased to $\bar{X}$= 180.61 in the post-test after the practices carried out in line with the Turkish Lesson Teaching Program. While the mean MSICT score of the students in the Control 2 group was 181.55 in the pre-test, this value increased to $\bar{X}$= 182.44 in the post-test after the practices carried out in line with the Turkish Language Teaching Program. The graphical representation of the descriptive statistics of the MSITC pre-test and post-test scores of the students in the Experimental and Control groups is shown in Figure 4.

Figure 4. *Line Graph of MSICT Pre-Test and Post-Test Scores of Students in Experimental and Control Groups*



When the data in Table 8 and Figure 4 are analyzed together, it can be said that the mean MSITC scores of Experiment 1 and Experiment 2 groups increased more mathematically in the post-test compared to the pre-test compared to the Control 1 and Control 2 groups.

The pre-test and post-test mean MSITC scores of the students in the experimental and control groups were compared between the groups to see if there was a statistically significant difference. Since the data were normally distributed and met the other prerequisites, a two-way ANOVA test for mixed measures was conducted. In this direction, the results of the two-way ANOVA for mixed measures regarding whether the difference between the pretest and posttest mean scores of the experimental and control groups regarding their motivation towards Turkish lesson is statistically significant are shown in Table 9.

Table 9. *Two-Way ANOVA Results for MSITC Pre-Test and Post-Test Scores of Students in Experimental and Control Groups*

Source of Variance	**SS**	**sd**	**MS**	**F**	**p**
Between subjects	57865.686	101			
Group	905.250	3	301.750	.519	.670
Error	56960.436	98	581.229		
In-subjects	33286.656	102			
Measurement (Pre-test- Post-test)	10529.617	1	10529.617	71.075	.000
Group* Measurement	**8238.438**	**3**	**2746.146**	**18.536**	**.000**
Error	14518.601	98	148.149		
Total	91152.342	203			

SS: Sum of Squares, sd: Degrees of Freedom, MS: Mean of Squares, F: F-Ratio, p: Level of Significance

According to the data in Table 9, it can be said that the group effect on the motivation of the students in the experimental and control groups towards Turkish lesson (posttest-pre-test difference) is statistically significant [F(3-98)=18.536, p < .05]. These findings show that the students in the experimental groups in which the Turkish lesson based on ARCS motivation model strategies were implemented and the students in the control group in which the experimental process was not applied and the existing Turkish lesson was implemented had different effects on speaking achievement. In this context, it is understood that Turkish lesson practices based on ARCS motivation model strategies are more effective in increasing students' success in speaking skills than the current Turkish lesson practices based on the Turkish Curriculum.

Qualitative Findings

Within the scope of the research, the motivational needs, readiness, expectations, wishes and desires of the students for the Turkish lesson were determined through the interview conducted before the application. Thanks to these interviews, which are the determination of the motivation sources of the students, the intervention program was ensured to be functional. During the implementation, the students' awareness of the experimental process, the positive and negative aspects of the experimental process, the positive and negative aspects of the experimental process, the liked and disliked aspects, their motivational wishes and expectations for the next process were determined and revisions were made so that the essence of the experimental process would not change.

Findings Related to the Interview Data Conducted After the Implementation

The third sub-problem of the study was stated as "What are the opinions of the students in the experimental group about the Turkish lessons in which the intervention plan designed in accordance with the ARCS motivation model strategies was implemented?". In line with this sub-problem, in order to determine the positive or negative opinions of the students after the application, interviews were conducted with the students determined among the upper group, middle group and lower groups in the experimental groups before the application by using the 12-item Post-Application Semi-Structured Interview Form developed by the researcher taking into account the ARCS motivation model categories after the completion of the experimental process and post-test applications. This post-implementation interview was conducted to determine how the experimental procedure affected the students cognitively and affective. As a result of the content analysis of the data obtained from the interviews, some themes and codes were reached.

Student Opinions on Experimental Practices Conducted for Attention Category

Based on the student responses to the Perceptual Arousal subcategory, the code "*Curiosity towards the lesson*" was reached. 94.44% of the students evaluated the practices for the Perceptual Arousal subcategory positively, while 5.56% evaluated them negatively. Sample student opinions regarding the "*Curiosity towards the Lesson*" code are as follows:

> *"Turkish lessons in the second semester were more remarkable. I was not bored because the lessons were more enjoyable."* E1. S1.

> *"Normally, I did not like the Turkish lesson very much before. I think the new practices of the teacher increased my interest and attention towards the Turkish lesson.*" E2. S3.

Based on the student responses to the Inquiry Rousal subcategory, the code "*Interest in the Subject*" was reached. All of the students evaluated the practices carried out for the Encouraging Inquiry subcategory positively. Sample student opinions regarding the "*Interest in the subject*" code are as follows:

> *"It had a positive effect. Different applications rather than always doing the activities in the book helped me to understand the subject better."* E1. S2.
> *"It had a positive effect. Compared to the first semester, the whole class likes Turkish lessons more. In the first semester, we did not want to attend Turkish lessons, but this semester it was the opposite.*" E2. S2.

Based on the student responses to the Variability subcategory, the code "*Continuity*" was reached. 94.44% of the students evaluated the practices for the Variability subcategory positively, while 5.56% evaluated them negatively. Sample student opinions regarding the "*Continuity*" code are as follows:

> *"Different applications in the lesson helped me understand the subject more. I would be very happy if our lessons are like this in the future."* E1. S2.
> *"It had a positive effect. Different applications in the lessons made me more active in the lessons. The teacher's joking during the lesson made us not bored in the lessons*." E2. S6.

Student Opinions Regarding the Experimental Practices Conducted for Relevance Category

Based on the student responses to the Goal Orientation subcategory, the code "*Establishing Goal-Needs Relationship*" was reached. 94.44% of the students evaluated the practices for the Goal Orientation subcategory positively, while 5.56% evaluated them negatively. Sample student opinions regarding the "*Establishing a Goal-Needs Relationship*" code are as follows:

> "*It had a positive effect. Because I am a curious person. When you told me what we were going to study, I prepared myself accordingly."* E2. S2.
> *"It affected me positively. It helped me prepare myself for that subject. Especially our teacher sometimes told us what to do in the next lesson. I came prepared for that subject.*" E2. S9.

Based on the student responses to the Motive Matching subcategory, the code "*Assigning Appropriate Tasks and Responsibilities*" was reached. 94.44% of the students evaluated the practices for the Motive Matching subcategory positively, while 5.56% evaluated them negatively. Sample student opinions regarding the "*Assigning Appropriate Tasks and Responsibilities*" code are as follows:

> *"These practices in the lessons increased my interest in Turkish lessons a lot. In this way, my desire to do something and my success increased."* E1. S4.

"*It had a positive effect. Doing the same things on the subject is a bit boring. Different applications in the lessons attracted my interest in the lesson more."* E2. S9.

Based on the student responses to the Familiarity subcategory, the code "*Establishing a Relationship with Student Life*" was reached. All of the students evaluated the practices for the Familiarity subcategory positively. Sample student opinions regarding the code "*Establishing a Relationship with Student Life*" are as follows:

"It had positive effects. What I learned in Turkish lessons was useful both in other lessons and in daily life. It had positive effects especially when listening and talking to other teachers." E2. S3.
"Yes, it was effective. Because we are constantly listening and talking in our daily lives. For example, I used to read the things I read two or three times before. Now I understand better when I read them once. In this sense, I have improved myself even more." E2. S6.

Student Opinions Regarding the Experimental Practices Conducted for the Confidence Category

Based on the student responses to the Learning Reuirements subcategory, the code "*Positive Expectation for the Need*" was reached. 83.33% of the students evaluated the practices for the Learning Reuirements subcategory positively, while 16.67% evaluated them negatively. Sample student opinions regarding the "*Positive Expectation for Needs*" code are as follows:

"Yes, my expectations were met. I wanted to be successful in Turkish. I can say that I was more successful than in the first semester. I was behind especially in reading. My reading has improved a lot." E1. S6.
"Yes, I think it does. I made a lot of progress compared to the first semester. Especially the increase in my focus on the lessons was very effective." E2. S2.

Based on the student responses to the Success Opportunities subcategory, the code "*Experiencing Success*" was reached. 94.44% of the students evaluated the practices for the Success Opportunities subcategory positively, while 5.56% evaluated them negatively. Sample student opinions regarding the "*Experiencing Success*" code are as follows:

"Yes, it was appropriate for my level. The games, tests, activities and applications we played were at my level. I did not have too much difficulty." E1. S4.
"*Yes, it was at my level. It went a bit from easy to difficult. I think this is also a situation that should be."* E2. S5.

Based on the student responses to the Personal Control subcategory, the code "*Ensuring Self-Confidence*" was reached. All of the students evaluated the practices for the Personal Responsibility subcategory positively. Sample student opinions regarding the "*Ensuring Self-Confidence*" code are as follows:

"Yes, it was included. I think I like writing more because I practiced writing on blank papers at home. This helped me to improve in writing." E2. S1.

> *"Yes, I realized it. I mostly came to the classes prepared, so I was able to answer the questions asked by our teacher immediately. I started to understand what I read faster."* E2. S9.

Student Opinions Regarding the Experimental Practices Conducted for the Satisfaction Category

Based on the student responses to the Natural Consequences subcategory, the code "*Using Knowledge and Skills*" was reached. All of the students evaluated the practices carried out for the Natural Consequences subcategory positively. Sample student opinions regarding the "*Using Knowledge and Skills*" code are as follows:

> *"Yes, it was done. The more I practiced, the better I understood the subject. We applied what we learned in our lessons by solving questions and playing games."* E1. S1.
> "*Yes, it was done and it had a positive effect. After explaining the subject, our teacher usually had us practice the subject either on the smart board or on the slides. I understood how to use what I learned."* E2. S8.

Based on the student responses to the Positive Consequences subcategory, the code "*Encouraging Success*" was reached. All of the students evaluated the practices for the Positive Consequences subcategory as positive. Sample student opinions regarding the "*Encouraging Success*" code are as follows:

> *"I think it was positive, especially the teacher used rewards like well done and good job a lot. This made me want to succeed again."* E1. S5.
> "*It had positive effects. Our teacher often used words of praise when we were successful. This made me happy. I started to participate more actively in class.*" E2. S9.

Based on the student responses to the Equity subcategory, the code "*Positive Emotion-Fair Learning Environment*" was reached. All of the students evaluated the practices carried out for the Equity-Fairness subcategory positively. Sample student opinions regarding the "*Positive Emotion-Fair Learning Environment*" code are as follows:

> *"Yes, I think he treats us equally, and he should. Otherwise we will get bored with that lesson. Our teacher treated everyone with the same tolerance*." E1. S3.
> *"Yes, I think she treats everyone equally. Our teacher gives everyone similar tasks and responsibilities. She asks equal questions to everyone.*" E2. S7.

Result and Discussion

In this study, it was aimed to determine the effect of Turkish lesson plans and practices prepared based on ARCS motivation model strategies on the motivation of seventh grade middle school students towards Turkish lesson and their achievement in Turkish lesson.

In line with the first sub-problem of the research, it was concluded that participating in Turkish lessons based on ARCS motivation model strategies or based on the processes

required by the current Turkish curriculum had different effects on increasing students' Turkish lesson achievement; Turkish lessons based on ARCS motivation model strategies were more effective in increasing students' Turkish lesson achievement than Turkish lessons based on the processes required by the current Turkish curriculum.

In the literature, there is no other study examining the effect of ARCS motivation model on Turkish course achievement. In this sense, it is thought that this study will make a new and original contribution to the literature. The results of the study show that ARCS motivation model strategies increase students' achievement in Turkish course. These results also coincide with the results of similar studies conducted in different disciplinary fields in the field of educational sciences. In his master's research, Ersoy (2019) examined the effect of lesson plans and activities developed based on the ARCS motivation model on the academic achievement, motivation towards the course, and learning retention of middle school fifth grade students towards social studies course. The control group of this study, which was conducted in accordance with the embedded design, one of the mixed research designs, consisted of 46 fifth grade students. As a result of the study, it was determined that the ARCS motivation model made a positive contribution to students' academic achievement and learning retention. Narmanlı (2019) conducted a study with 47 sixth grade students using a quasi-experimental design to determine the effect of ARCS motivation model on students' academic achievement and motivation towards social studies course and found that ARCS motivation model increased students' academic achievement. Önkuzu Gülcü (2022) conducted a study with a total of 48 sixth grade students from the second semester of the 2017-2018 academic year using a quasi-experimental design with a pretest-posttest control group to determine the effect of ARCS-V motivation model strategies on students' motivation, academic achievement and anxiety levels towards English lessons. As a result of the study, it was determined that the English course achievement of the students in the experimental group increased. In his master's study, Tandoğan (2019) investigated the effect of instructional materials designed according to the ARCS motivation model and enriched with augmented reality on students' vocabulary achievement and motivation in teaching English vocabulary for specific purposes in the field of engineering using a quantitative mixed design. As a result of the study, it was stated that the experimental group in which ARCS motivation model strategies were applied increased vocabulary learning achievement more than the control group.

Çetin and Mahiroğlu (2008) investigated the effects of teaching activities based on the design processes proposed by the ARCS motivation model and traditional teaching activities on student achievement and retention. As a result of their research, they stated that the teaching activities carried out with the educational software designed based on the ARCS motivation model increased the academic achievement of the students more than the laboratory work carried out with the traditional method.

Astleitner and Lintner (2004) concluded that students who learned the text with ARCS motivational model strategies showed better learning outcomes than students who learned the text without ARCS motivational model strategies. Kim and Keller (2008) investigated what kind of supportive information can be effective in improving the status of serious motivational difficulties. In this study, a motivational e-mail message was created based on Keller's ARCS model, Kuhl's action control theory, Gollwitzer's Rubicon model of motivation and volition, and Viesser, Keller's motivational message strategies. As a result of the study, it was determined that the average achievement of the students to whom personalized messages

were sent increased more than the students to whom personalized messages were not sent. In this framework, the results of the studies conducted in the literature in disciplinary fields other than verbal fields (Acar, 2009; Balantekin, 2014; Bulut, 2019; Dede, 2003; Filiz, 2021; Karabatak & Polat, 2020; Karslı, 2015; Kayak, 2005; Kurt, 2012; Kutlu, 2011; Özer, 2015; Polat, 2022; Soykan, 2018; Tezcan, 2022; Uçar, 2016; Yeşiltepe, 2019; Thaer A. & Thaer G., 2016; Yıldırım, 2017) also coincide with the results of this study and the studies discussed above.

In line with the second sub-problem of the study, it was concluded that participating in Turkish lessons based on ARCS motivation model strategies or based on the processes required by the current Turkish curriculum had different effects on increasing students' motivation towards Turkish lessons; Turkish lessons based on ARCS motivation model strategies were more effective in increasing students' motivation towards Turkish lessons than Turkish lessons based on the processes required by the current Turkish curriculum.

There is no other study in the literature that examines the effect of the ARCS motivation model on students' motivation in Turkish lessons. However, it can be said that these results obtained from the research are similar to the results of studies conducted in different disciplinary fields in the field of educational sciences. Narmanlı (2019) found that social studies teaching designed according to the ARCS motivation model had a positive effect on students' motivation. In a similar study, Ersoy (2019) stated that the ARCS motivation model had a positive effect on student motivation.

Önce (2020) reached similar results in his study to determine the effect of ARCS motivation model enriched with cooperative learning on university preparatory class students' motivation to learn English. This study, which was conducted with a total of 47 students, was conducted in a quantitative embedded mixed design. As a result of the study, it was determined that the ARCS motivation model increased students' motivation to learn English. Önkuzu Gülcü (2022) also concluded in his study that ARCS-V motivational strategies increase students' motivation towards English lesson. In his master's study, Zeybek Akayoğlu (2019) examined pre-service English teachers' interest in the "content knowledge, professional knowledge and general culture" courses offered in the program according to the ARCS motivation model. As a result of the study, it was stated that the interest levels of pre-service teachers towards the course were at or above the average score for each course category. In his study, Tandoğan (2019) found that teaching materials developed according to the ARCS motivation model and enriched with augmented reality increased students' motivation.

Kim and Keller (2008), in their experimental study based on four different motivation models, including the ARCS motivation model, concluded that practices using motivational strategies were effective in increasing students' motivation levels. Balaban-Salı (2002) stated in his study that the practices carried out in accordance with the ARCS motivation model positively affected students' motivation.

In studies conducted in different disciplines other than verbal fields in the literature (Acar, 2009; Balantekin, 2014; Bulut, 2019; Cengiz & Aslan, 2012; Çolakoğlu, 2009; Filiz, 2021; Gökcül, 2007; Karabatak & Polat, 2020; Karslı, 2015; Kutlu, 2011; Laçinbay, 2018; Özer, 2015; Polat, 2022; Soykan, 2018; Tezcan, 2022; Uçar, 2016; Thaer A. & Thaer G., 2016; Tlili, Essalmi, & Jemni, 2017; Yıldırım, 2017) concluded that ARCS motivation model strategies increase student motivation. When all these results are considered together, it can

be said that ARCS motivation model strategies increase student motivation if they are well designed.

In line with the third sub-problem of the study, after the experimental implementation process and post-test applications were completed, interviews were conducted with 18 students previously determined from the experimental groups. According to the findings obtained as a result of the analysis of the interview data, the students' opinions (positive-negative) about the experimental applications for the ARCS motivation model categories and subcategories were determined. Most of the students expressed positive opinions about the experimental applications carried out in Turkish lessons for the "perceptual arousal, variability" subcategories of *Attention* category; "goal orientation, motivation matching" subcategories of *Relevance* category; "learning reuirements, success opportunities" subcategories of *Confidence* category. All of the students expressed positive opinions about the experimental applications carried out in Turkish lessons for the subcategories of *Attention* category "inuiry arousal"; *Relevance* category "familiarity"; *Confidence* category "personal control"; *Satisfaction* category "all subcategories".

It can be said that these results are similar to the results of the studies in the literature in which students' opinions about the applications carried out in accordance with the ARCS motivation model were taken. Tandoğan (2019), in his mixed method study, looked at the effects of ARCS motivation model design and teaching materials enriched with augmented reality on students' vocabulary achievement and motivation. As a result of the interviews with the students after the quantitative process was completed, it was determined that the students' perceptions of the intervention process were quite positive and they were eager for further studies. Varol, Özer, and Türel (2014) took participant opinions on z-book applications developed by computer and instructional technologies based on ARCS motivation model categories and strategies. The research participants expressed positive and negative opinions about the z-book applications prepared according to the ARCS motivation model. It was determined that the positive opinions of the students towards the applications were more than the negative opinions.

In conclusion, when the results obtained from the quantitative and qualitative findings of the study and the results of similar studies in the literature are interpreted together, it can be said that ARCS motivation model strategies positively affect student achievement and motivation.

Recommendations

In this study, in which the effect of ARCS motivation model on middle school students' motivation towards Turkish lesson and their achievement in Turkish lesson was examined, some suggestions were made for researchers, teachers and other stakeholders in the field of education and training:

- There is no other research in the literature that investigates the effect of ARCS motivation model strategies on Turkish lesson achievement. Since the research is the first and only research in this sense, it can guide researchers who will work in this direction and can be a source for new research to be conducted.

- It is possible to talk about the effect of different variables on student motivation. As stated in the problem statement of the research, it is known that there is a positive relationship between student motivation and course success. As a result of the research, it was determined that ARCS motivation model strategies increased students' motivation towards Turkish lesson and their achievement in Turkish lesson. Accordingly, ARCS motivation model strategies can be used to increase student motivation and achievement in Turkish lessons.

- Within the scope of the research, the effect of ARCS motivation model on students' general motivation towards Turkish lesson was examined. The effect of ARCS motivation model on students' motivation towards basic language skills (listening, reading, speaking and writing) can be investigated separately.

- In this study, students' Turkish course achievement scores were obtained from the sum of listening, reading, speaking and writing achievement scores. Considering that Turkish course is a skills course, students' success in Turkish course should be determined according to their success in four basic language skills. In this context, Turkish lesson achievement tests suitable for different grade levels such as the Turkish Lesson Achievement Test developed within the scope of the research can also be developed.

- In the interviews with the students, they stated that they found the education and training practices based solely on textbooks boring. This situation inevitably affects students' motivation negatively. Students especially want Turkish lessons to be supported with auxiliary materials such as smart boards, web 2.0 tools and online applications. In this direction, the use of auxiliary materials (smart board applications, web 2.0 tools, online applications, etc.) in secondary school Turkish lessons can increase students' motivation towards Turkish lessons and their success in Turkish lessons.

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