



The Effect Of Animated Films On The Epistemological Development Of Child*

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Abstract

This study aimed to explore the effects of information types in animated films on 6th-grade middle school students' learning skills. The study was carried out with 70 volunteer students who attended a public middle school in a village in Oğuzeli district of Gaziantep in the 2019-2020 academic year. The participant 6th-graders were from low socio-economic families. The study was designed in an embedded pattern, which was one of the mixed-method approaches. There were 24 students in the experimental group in which animated movies were watched, 23 students in the placebo group where children's films were watched, and 23 in the control group where Turkish lessons were taught without films. The qualitative data about student and researcher experiences were included in the experimental process. The quantitative data were analyzed using a pre-test, post-test, and follow-up test and case study methodologies. The study adopted a 3x3 quasi-experimental design, including experimental, control, and placebo groups. The quantitative data were collected with an Information Types Assessment Tool (ITAT), developed by the researcher and verified by expert opinion. The qualitative data were collected with The Assessment Form for the Information Types (AFIT), a semi-structured interview form, and student and researcher diary. The experimental process lasted for 12 weeks, including the pre-test and post-tests. The follow-up test was conducted at the end of the experimental process and six weeks after the post-test. The research results indicated a significant difference in post-test scores of those who watched the animated movie. There was also a statistically significant difference in favor of the experimental group in the post-tests. It was concluded that animated films had a meaningful and permanent effect on students' learning information types. Besides, following the data related to student diaries and interviews revealed that the experimental group students could permanently learn the types of information through animated films and enjoyed such lessons

Keywords: Native language education, animated films, epistemology, information types, technology-supported learning

Animasyon Filmlerinin Çocuğun Epistemolojik Gelişimine Etkisi

Öz

Bu araştırmanın amacı; animasyon filmlerinde geçen bilgi türlerinin ortaokul 6. sınıf öğrencilerinin bilgi türlerini öğrenme becerilerine etkisini incelemektir. Bu doğrultuda 2019-2020 eğitim-öğretim yılında Gaziantep'in Oğuzeli ilçesine bağlı bir köyde, düşük sosyo-ekonomik düzeyde olan, çalışmaya gönüllü katılmayı kabul eden ve tam gün eğitim veren bir devlet ortaokulunun 6. sınıfında öğrenim gören 70 öğrenciyle yapılan araştırma karma yöntem yaklaşımlarından iç içe gömülü desene göre modellenmiştir. Araştırmaya katılan öğrencilerin 24'ü animasyon filmlerinin

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izletildiği deney grubunda, 23'ü çocuk filmlerinin izletildiği plasebo grubunda, 23'ü ise Türkçe derslerinin müdahalesiz işlendiği kontrol grubunda bulunmaktadır. Bu araştırmada deneysel müdahale sürecine öğrenci ve araştırmacı deneyimlerine ilişkin nitel veriler dâhil edilmiştir. Çalışmanın nicel boyutu ön test, son test, kalıcılık; deney, kontrol ve plasebo gruplu 3x3'lük yarı deneysel desene göre; nitel boyutu ise durum çalışmasına göre desenlemiştir. Araştırmanın nicel verileri, araştırmacı tarafından geliştirilen ve uzman görüşü alınarak geçerliği sınanmış Bilgi Türleri Ölçme Aracı ile nitel verileri ise Bilgi Cümlelerini Bilgi Türlerine Göre Değerlendirme Formu, Yarı Yapılandırılmış Görüşme Formu, Öğrenci ve Araştırmacı Günlüğü ile toplanmıştır. Deneysel işlem süreci ön test ve son testlerin uygulanmasıyla birlikte 12 hafta sürmüştür. Araştırmada deneysel işlemin bitimi ile son test uygulamasını takip eden 6. Haftada kalıcılık testi uygulanmış ve ölçümleri alınmıştır. Araştırma sonuçlarına göre, animasyon filmi izleyen öğrencilerin ön test ve son test puanları arasında son test lehine anlamlı bir farklılık görülmüştür. Deney, kontrol ve plasebo gruplarının son testlerinde deney grubu lehine anlamlı bir fark olduğu tespit edilmiştir. İstatistiksel açıdan animasyon filmlerinin 6. sınıf öğrencilerinin bilgi türlerini öğrenmeleri konusunda anlamlı ve kalıcı bir etkisinin olduğu saptanmıştır. Ayrıca deney grubundaki öğrencilerden uygulama sırasında öğrenci günlükleri ve sonrasında da görüşmeler yoluyla toplanan verilerden animasyon filmlerinin bilgi türlerini eğlenceli ve kalıcı bir şekilde öğretebildiği sonucuna ulaşılmıştır.

Anahtar Kelimeler: Ana dil eğitimi, animasyon filmleri, epistemoloji, bilgi türleri, teknoloji destekli öğrenme

Introduction

Information is a prerequisite for human beings to survive and shape their thoughts. As Aristotle said, "All men by nature desire to know." The statement once again emphasizes the vital importance of knowledge (Arslan, 2002, p.54). Information emerges from the communication between subject and object, and it is divided into several types by its nature, source, usage, quality, characteristic, and acquisition method. According to the epistemological approach, based on the quality and acquisition way, there are six types of information: everyday information, religious information, aesthetic information, technical information, scientific information, and philosophical information (Bolay, 2010; Cevizci, 2010; Çuçen, 2009). Everyday information refers to practical information that people use in everyday life. It is likely to include concrete anything in human life (Cevizci, 2010, p.49). Religious information is a dogmatic and noncritical information type that cannot be verified or falsified by experiments and observations. The acquisition of religious information is also different from other information types. The essence of religion is the knowledge obtained through revelation (Çuçen, 2009, p.19). Human beings attempt to improve living conditions by using technical information and manipulating the objects in nature. There are two categories of technical information: manual skills and mental skills (Tunalı, 2009, p.17). Technical information facilitates daily life. For example, we all appreciate the difficulties of drinking soup without a spoon, reading without glasses, and traveling without a vehicle (Sagona & Zimansky, 2015). Aesthetic information appears in revealing the beauty. An artwork appeals to people's feelings of pleasure, admiration, and enjoyment. All artworks aim to arouse an aesthetic appreciation and excitement, display the existing beauties, and excite people (Cevizci, 2010; Tunalı, 2009). Scientific information refers to methodical, systematic, consistent, valid, provable, testable, and objective information type (Çuçen, 2017, p.21). In this sense, scientific information is universal and progressively increases. Philosophical knowledge can be defined as "information of knowledge" or a reflexive thinking activity (Arslan, 2002, p.23). It attempts to reveal the meaning of human life and the universe by asking various questions (Tunalı, 2009, p.18).

Children who need to know and understand the world seek more information than adults. Therefore, they ask about the things they are curious about and strive to know the objects and events around them. An education system's duties involve providing children with an interactional environment, satisfying their curiosity, and offering new information that makes life easy. In short, educational systems aim to raise competent children who can catch up with age.

In the rapidly changing global world, information needs have shown remarkable differences and have been reshaped due to the digital transformations. The 21st century has led to the

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emergence of new paradigms and competencies not available in the previous centuries. In the 21st century, individuals are expected not to collect and store information but to select, analyze, evaluate, share and transform creatively and use it in daily lives effectively. These expectations are the reflections of skills and standards determined by the International Society for Technology in Education (ISTE). The education systems in the 21st century are concentrated on providing information and skills to meet individuals and societies' needs. Hence, it is aimed to raise children who can functionally use the information, solve problems, think critically, undertake enterprises, communicate effectively, empathize, and contribute to culture and society (MNE, 2019).

Today, students' lives become intertwined with technology, and it is unlikely to acquire the 21st-century skills through traditional teaching methods in classrooms where learning is only limited to school (LaFee, 2013, p.14). Teacher-centered classroom settings and direct instruction techniques have to be replaced with student-centered and demonstration-oriented learning environments. There is a need for educational environments where students are encouraged to participate in learning actively and searching, be innovative, and use information and communication technologies (Findlay-Thompson & Mombourquette, 2014, p.65).

The integration of technology into education is of vital importance for every grade level and discipline. The Turkish Curriculum of the Turkish Ministry of Education (MNE) (2019) has been restructured to adapt to the developed countries and promote student-centered learning by encouraging students to take part in information acquisition actively. Such an attempt leads to significant curriculum changes, classroom practices, and teachers' professional and educational knowledge (Hu & McGrath, 2011, P.42).

Currently, technology affects all children from different social backgrounds through mass media and offers many exciting opportunities for playing, exploring, and learning. Similarly, children grow and socialize with the mass media in Turkey. The most fabulous entertainment of today's children, Generation Z, is digital devices that spend most of their time in daily life (Suhail & Bargees, 2006, p.297). Today, the world is a source of vision for many primary and secondary school students. Thanks to current technology and culture, there are more visual students than before (Oblinger & Oblinger 2005, p.35). According to Turkey Statistical Institute (TSI), reports in 2017, the average age children start using computers is 8, and the internet is 9, and mobile phones are 10. The computer, internet, and mobile phone usage rates of 6-to-15-year-old children were 60.5%, 50.8%, and 24.3%, respectively (TSI, 2017). Although mass media have a substantial impact on children, animated films are the most commonly followed shows, and their impact was also notable. Animated films draw children' attention and appreciation especially since it appeals to visual and auditory senses and offers a rich visual background (Barak, Ashkar, & Dori, 2011, p.845).

Animated films are not only an entertainment tool for children but also an essential learning instrument. Children learn through fun, which is the principal basis of education and training with animated films. Children watch animated films mostly between 5-11 years old, and the knowledge and learning material of this period affect many factors such as lifelong learning, creativity, personality development, academic success, and career choices (Özer, 2015). Besides, they are entertaining, which increases participation in the education and training, makes learning easy and permanent, enhances creativity by reducing repetition, and provides motivation for learning through concretization (Yaman, 2010). Therefore, animated films can be considered a rich and crucial technological material in presenting information, developing skills, learning concepts, transferring information, and maximizing teaching permanence.

As visual literacy skills play a valuable role in teaching, animations are essential materials that enrich teaching environments. Children can watch the same animated films many times. Thus, it is suggested that using animated films for mother tongue and foreign language teaching also contribute to improving their listening/watching, reading, speaking, and writing skills and vocabulary by stimulating their knowledge and potential.

It is emphasized that animated films are critical technological materials in presenting information, developing skills, and transferring information by providing effective permanence today (Tversky, Morrison, & Betrancourt, 2002). The use of animated film in accordance with educational

goals arouses students' curiosity for information acquisition and motivates them to construct the newly learned information mentally.

It is suggested that a teaching process, supported by well-shot and well-structured films, encourages students to gain knowledge, positively affects their learning interests, and allows them to present and share information effectively. In this sense, it would be advantageous to use animated films as primary teaching materials since they equally appeal to learners' visual and auditory senses. Today, education systems seek ways to make learning quality, easy, entertaining, and permanent, so it is recommended to take advantage of students' enthusiasm for animated films.

In this sense, it would be wiser to understand how animated films shape and affect children's knowledge. The current research aimed to examine the effects of information types in the animated films released between 2009 and 2018 on children's comprehension capacity. It also aimed to prove that animated films significantly supported the epistemological development of children. It is hypothesized that the information transfer through high quality animated films will support epistemological development, offer new and original perspectives to mother tongue education, and contribute to the learning and teaching process. The study findings are thought to guide researchers and practitioners for future studies. Besides, it is hoped that the study will present a new approach to meet the expectations of the 21st century, in addition to the reasons stated above.

The study's main concern was to determine the contributions of information types in animated films to students' epistemological development. Depending on this primary goal, the sub-problems are as follows:

1. Is there a significant difference between all students' pre-test, post-test, and follow-up test scores by epistemological development?
2. Is there a significant difference between the pre-test, post-test, and follow-up test scores by the experimental group students' epistemological development?
3. Is there a significant difference between the pre-test, post-test, and follow-up test scores by the placebo group students' epistemological development?
4. Is there a significant difference between the pre-test, post-test, and follow-up test scores by the control group students' epistemological development?
5. Does the epistemological development of students in the experimental, control, and placebo groups differ by the experimental process and time?
6. What are the post-experimental opinions of the students in the experimental group regarding the use of animated films?

Methods

Research Model

The study, which was carried out to examine the effects of information types in animated films on 6th-grade middle school students' learning skills, was designed in an embedded pattern, one of the mixed-method approaches. Embedded pattern refers to a mixed technique including both quantitative and qualitative data. A quantitative technique, such as an experimental study, is added into a qualitative model such as a case study. This second technique is used to develop the general pattern (Creswell and Plano Clark, 2017, p.80). It was believed that collecting both and quantitative qualitative data would provide a detailed analysis and broad perspective. Therefore, the researcher adopted an experimental design, one of the mixed research methods. The design addresses the research problem by adding qualitative data through an experimental or different intervention program (Creswell, 2017, p.43). In this study, qualitative data were included in the experimental intervention process of the pre-test, post-test, and follow-up test. The qualitative data were used as secondary data to support quantitative findings (Creswell, 2012, p.43). Thus, the researcher carried out a thorough analysis with a broad perspective by collecting qualitative and quantitative data.

The study's quantitative dimension included a pre-test, post-test, follow-up test, and the qualitative dimension is a 3x3 quasi-experimental design, including experimental, control, and placebo groups. A case study provides in-depth information from a different source, and the cause-

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effect relationships between variables are described in detail by using a specific section rather than generalizing (Creswell, 2017, p.96-97).

Quantitative Dimension of the Study

The quantitative dimension was designed using a 3x3 quasi-experimental pattern with experimental, control, and placebo groups, and a pre-test, post-test, and follow-up test. Quasi-experimental studies are preferred for non-random groups, and specific groups are matched with certain variables (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz, & Demirel, 2017, p.216). In this study, the researcher did not use random sampling for the experimental, control, and placebo groups. The experimental pattern is shown in Table 1 below.

Table 1.

The Quasi-Experimental Model with Pretest, Posttest, and Control Group

Groups	Pre-Test	Process	Post Test	Follow-up Test
E	S1	Teaching Information Types through Animated Films	S2	S3
P	S4	Watching Children's Films	S5	S6
C	S7	Teaching by The Turkish Curriculum of MNE	S8	S9

(E: Experimental Group; P: Placebo Group; C: Control Group; S1: Pre-test scores of the experimental group; S2: Post-test scores of the experimental group; S3: Follow-up test scores of the experimental group; S4: Pre-test scores of the placebo group; S5: Post-test scores of the placebo group; S6: Follow-up test scores of the placebo group; S7: Pre-test scores of the control group; S8: Post-test scores of the control group; S9: Follow-up test scores of the control group)

The experimental group students attended Turkish lessons supported with animated films rich in information, the placebo group students watched children's films, and the control group students followed the 6th-grade Turkish lesson curriculum. In all groups, pre-test and post-test measurements were carried out using the Information Types Assessment Tool (ITAT). After the experimental procedure, a follow-up test was administered for all groups.

Qualitative Dimension of the Study

The study was designed as a holistic single-case study. A holistic single-case study is used to confirm or falsify a theory based on a single analysis (Yıldırım & Şimşek, 2018, p.290). In this study, interviews were supported with animated films and the data obtained from the student and researcher diary, and it focused on animated films' effects on Turkish lessons. The holistic single-case pattern is shown in Table 2 below.

Table 2.

The Holistic Single-Case Pattern of the Study

Groups	Process	Qualitative Data
Experiment	Turkish Lessons Supported by Animated Films Qualitative Data: Reflective Student and Research Diary	Last Interview

Study Sample

The sample consisted of 70 6th-grade students at a full-time public school in a village in Oğuzeli district of Gaziantep in the 2019-2020 academic year. This school was chosen there were two multi-purpose halls with technological equipment, and students had similar academic achievement levels. Besides, the teachers and administrators were very cooperative and helpful. There were 24 students in the experimental group in which animated movies were watched, 23 students in the placebo group where children's films were watched, and 23 in the control group where Turkish lessons were taught without films. The groups were formed equally following the analysis of students

by gender, number, and readiness. There were 12 girls and 12 boys in the experimental group, ten girls and 13 boys in the placebo group, and 11 girls and 12 boys in the control group. Students were not informed about whether they were in any group. The groups also received similar technological support in learning environments. Pre-test scores were compared to determine whether the groups were equal by students' readiness. The experimental process began following that the statistical procedures revealed that the groups were identical.

Data Collection Tools

The quantitative data were collected using the "Information Types Assessment Tool (ITAT)," and the qualitative data were collected using the "Assessment Form of Information Types (AFIT)," a "Personal Information Form," "Semi-Structured Interview Form," "Research Diary," and "Reflective Student Diary." Detailed information is given below.

The Assessment Form of Information Types (AFIT)

The researcher developed the form to determine the information sentences in the given animated films. Firstly, the literature review on the information types indicated six information types: everyday information, religious information, aesthetic information, technical information, scientific information, and philosophical information. The opinions of an assessment and evaluation expert, a child development specialist, a Turkish language and literature expert, and a cartoon and animated film expert were consulted to ensure the form's validity. The frequency and minute of the information sentences in the animated films were recorded in the form.

Animated Films

One of the essential data collection tools included 20 animated films released in Turkey between 2009 and 2018. Those films were chosen as they were 80-120 minutes long; they appealed to the general audience; the Internet Movie Database (IMDb) scores were five and above; according to Boxoffice, they were the top animated films in Turkey and entirely produced using animation techniques. Before the experimental process, the researcher watched each movie three times to determine the information types in the animated films, and then specified the time intervals and the distribution of the information types using the assessment form. Table 3 shows the distribution of the information sentences by the information types in the animated films.

Table 3.

The Distribution of the Information Sentences by the Information Types in the Animated Films

Animated Films	Information Types						f	%
	Everyday Information	Scientific Information	Technical Information	Aesthetic Information	Philosophical Information	Religious Information		
Rafadan Tayfa Dehliz Adventure	23	15	14	3	1	2	58	7.87
Coco	11	1	4	21	7	10	54	7.33
Incredible Family 2	25	10	9	3	6	0	53	7.19
Inside Out	22	13	4	2	2	0	43	5.83
Big Hero 6	8	18	15	1	1	0	43	5.83
Smurfs: The Lost Village	21	6	9	1	3	2	42	5.70
Finding Dori	10	21	2	0	3	4	40	5.43

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Cars 2	8	4	20	1	6	1	40	5.43
The Boss Baby	20	8	1	3	5	2	39	5.29
The Lego Movie	14	2	12	5	5	0	38	5.16
Airplanes	1	13	16	1	2	3	36	4.88
Angry Birds	12	9	6	3	4	1	35	4.75
Minions	8	12	3	5	5	1	34	4.61
Ice Age 4: Continental Drift	19	6	1	2	2	3	33	4.48
Toy Story 3	13	1	5	6	1	5	31	4.21
Look Up	10	7	5	1	0	2	25	3.39
Hotel Transylvania 3: Summer Vacation	12	6	2	1	1	2	24	3.26
Madagascar 3: Europe's Most Wanted	8	6	5	2	2	1	24	3.26
Despicable Me 2	9	5	7	2	0	0	23	3.12
Rio	4	12	1	2	1	2	22	2.98
Total	258	175	141	65	57	41	737	100

As seen in the table, the researcher determined 737 information sentences in the given animated films. According to the information sentences distribution, it was determined that the most used type was the everyday information (258) and at least was religious information (41).

Information Types Assessment Tool (ITAT)

The researcher developed the tool to measure 6th-grade students' academic success in the information sentences. The tool was developed following an extensive literature review on information types, and six information types were determined: everyday information, religious information, aesthetic information, technical information, scientific information, and philosophical information. Based on the mentioned information types, the researcher created a 52-item pool and examined the content validity.

Content validity is widely used in the evaluation of achievement tests. Büyüköztürk (2018) stated that one of the practical ways to test content validity is to seek an expert opinion. Therefore, the opinions of three Turkish education experts, three assessment and evaluation experts, and three Turkish teachers were taken in terms of clarity, the appropriateness to class-level, item quality to measure the target behaviors, spelling rules, item order, content accuracy, and technical features. The minimum significance is set at .75 for content validity when nine experts are consulted in a study (McKenzie, Wood, Kotecki, Clark & Brey, 1999). In the current study, it was measured between .80 and .90, which indicated high validity. Some items were improved or removed due to clarity problems and inconsistency between the items and information types. There were 45 items in the final version of the tool. A similar study was carried out to check the tool's clarity with 50 6th grade middle school students in a public school in Şahinbey district of Gaziantep at the beginning of the 2019-2020 academic year. The school had similar socio-economic features with the experimental school. After a similar study, ten questions were removed, and the final version included 40 multiple-choice items.

Semi-Structured Interview Form

The researcher interviewed 12 students in the experimental group before and after the application to determine the students' views on lessons supported by animated films using a semi-structured interview form. Expert opinions were taken to prepare the form (three Turkish education experts, two assessment and evaluation experts, one child development expert, one Turkish language and literature expert). The form was used after checking its suitability for research sub-goals, student development needs, and language. There were ten open-ended items in the form. Some of the items are as follows: What do you think about the animated films you watched in Turkish lessons? Would you like to watch the animated films in other lessons? What did you learn from those animated films?

Research Diary

The research diary was also another important data collection tool in the study. The researcher carried out the application for ten weeks, observed the process and students, and took notes about their observations and experiences. At the end of every film, the researcher recorded observations, feelings, and thoughts in their diary. These notes were used as a source of data in the case study, with direct quotations.

Reflective Student Diaries

Those diaries were one of the qualitative data collection tools. The experimental group students noted their perceptions, opinions, feelings, and thoughts of the animated films they watched during ten weeks in the reflective diaries. The reflective diaries included ten semi-structured questions. They were delivered to students at the beginning of the process and collected from them after the weekly application. The researcher informed students on how to complete the diaries.

The Application Process

The application process was carried out in a village public middle school in the fall semester of 2019-2020 after the necessary consents and permissions were obtained from the ethics committee and Gaziantep city governorship. The availability of technological equipment and multi-purpose halls to watch animated films was an essential criterion for the school selection. First of all, the researcher conducted interviews with school principals, teachers, control, experimental, and placebo group students and gave preliminary information about the process. Since the students in the experimental and placebo groups were in different classes and the application might lead to students fall behind, a standard day and time (between 10:00 and 12:00 on Mondays) were determined with the school administration. The experimental process was carried out for 12 weeks in two multi-purpose halls (Picture 1-2).



Picture 1. Experiment Group (Multi-Purpose Hall)



Picture 2. Placebo Group (Multi-purpose Hall)

The experimental group students watched ten animated films by the researcher, and ten children's movies were shown to the students in the placebo group by the classroom teacher. Table 4 shows the weekly distribution of the experimental procedures.

Table 4.

Weekly Distribution of the Experimental Procedures

Week / Date	Experimental Group	Placebo Group
1 st week/ 09.09.2019	The pre-application of the <i>Information Types Assessment Tool (ITAT)</i> in all groups	Preliminary interviews for the pre-application of the <i>Information Types Assessment Tool (ITAT)</i>
2 nd week/	Watching the animated film "Smurfs: The	Watching the film "Pete and his

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07.10.2019	Lost Village"; Keeping research and student diaries	Dragon."
3 rd week/ 21.10.2019	Watching the animated film "Coco"; Keeping research and student diaries	Watching the film "Gulliver's Travels."
4 th week/ 28.10.2019	Watching the animated film "Incredible Family 2"; Keeping research and student diaries	Watching the film "A Monster Calls."
5 th week/ 04.11.2019	Watching the animated film "Big Hero 6"; Keeping research and student diaries	Watching the film "The First Grader."
6 th week/ 11.11.2019	Watching the animated film "Inside Out"; Keeping research and student diaries	Watching the film "Ghostbusters."
7 th week/ 25.11.2019	Watching the animated film "Rafadan Tayfa Dehliz Adventure"; Keeping research and student diaries	Watching the film "Monsieur Lazhar."
8 th week/ 02.12.2019	Watching the animated film "Ice Age 4: Continental Drift"; Keeping research and student diaries	Watching the film "Gifted."
9 th week/ 09.12.2019	Watching the animated film "Toy Story 3"; Keeping research and student diaries	Watching the film "Jungle Boy."
10 th week/ 16.12.2019	Watching the animated movie "Angry Birds"; Keeping research and student diaries	Watching the film "Alice in Wonderland."
11 th week/ 23.12.2019	Watching the animated movie "Finding Dory"; Keeping research and student diaries	Watching the film "My Sweet Orange Tree."
12 th week/ 30.12.2019	The last application of the <i>Information Types Assessment Tool (ITAT)</i> in all groups; The interviews with 12 students in the experimental group	The last application of the <i>Information Types Assessment Tool (ITAT)</i> and final interviews.

As shown in Table 4, the process was completed in 12 weeks. The applications in the experimental group started with the pre-tests, choosing the students, and pre-interviews. Then, for ten weeks, the students in the experimental and placebo groups were watched animated films and children's films determined by the researcher. The films were projected on the walls of the multi-purpose halls by a projector. Immediately after each film, reflective student diaries were distributed to evaluate the information types in animated films, aiming to improve self-assessment skills and permanent learning. The students were asked to answer the questions in the diary and participate in the activities. The researcher also kept a weekly research diary. The control group students followed the standard curriculum with the Turkish lesson teacher. No intervention was made to the students in the control group for ten weeks, except for pre-test and post-test. In the 12th week, the experimental process was completed by applying the data collection tools to the experimental, control, and placebo groups. Then, 240 student diaries were collected from 24 students in the experimental group and subjected to content analysis. Student answers were divided into themes, and essential quotations were included in the study. During the whole process, the researcher also observed students' behaviors. In this sense, the students were excited, curious, and enthusiastic before watching the animated movie every week, and they actively participated by commenting on everyday life and information types depending on the film's content. The related quotations in the students' diaries as follows:

"After I watched the movie Toy Story, I realized that we should care more about human values, sharing and brotherhood." (9th Week, the Reflective Diary of S8, Toy Story 3 Animated Film)

"If we trust ourselves, we can overcome everything. Just like Miguel..." (3rd Week, the Reflective Diary of S4, Coco Animated Film)

"When I went home, I made a rocket with magnets. First, I fastened all the magnets together. Then I designed a very different body. " (5th Week, the Reflective Diary of S11, Six Superhero Animated Film)

According to the researcher's observation, after each animated film they watched, they gave positive reactions and got motivated for the next animated film. There also seemed to be an effective teaching environment. The researcher noted in her diary as follows:

"When I came to the multi-purpose hall to watch the " Incredible Family 2 "animated film in the third week of the process, I found the students ready in the hall as in the previous two weeks. I witnessed them looking at me with very curious eyes, and when I asked why, they said that they were curious about today's animated film. It really surprised and made me happy. All the students in the experimental group were there to watch the film in the third week. The full participation showed their willingness. Moreover, it was pleasing that they were curious about the film. After watching the film, I realized that many students learned new things and added new information to their existing knowledge (3rd Week, Research Diary, Coco Animated Film)

"In the last week, we watched the film 'Finding Dory.' As a researcher, I was happy to see that students were willing to watch even in the last weeks. I observed that by this film, students especially learned many concrete and abstract scientific concepts. At the end of the film, the student with code S9, "My teacher, I did not know the word "whirlpool," but I learned it in the movie 'Finding Dory. It rotates in the sea like a hurricane. I also learned in this movie that sea lions are natural predators. In the science test, I answered the questions about sea creatures correctly thanks to this film, " which reinforced my faith in this application." (10th Week, Research Diary, Finding Dory Animated Film)

A follow-up test was administered at the end of the experimental process and six weeks after the post-test.

Data Analysis

The students' scores from the Information Types Assessment Tool (ITAT) were analyzed using descriptive statistics such as arithmetic mean, standard deviation, kurtosis, and skewness values. The appropriate statistical technique was selected to measure the significance between students' pre-test and post-test scores. There were no missing values in the data sets. A normality test was applied to determine whether pre-test, post-test, and follow-up test scores had a normal distribution. A paired-samples t-test was performed to compare the same group's mean scores and one-way ANOVA to evaluate the pre-test, post-test, and follow-up test scores separately. Two-way ANOVA) was applied to evaluate pre-test, post-test, and follow-up test scores of all the participant students. Eta squared was reported as the estimate of the effect size.

The qualitative data were analyzed with content analysis. The researchers determined the codes by using selective coding, and themes and sub-themes were created accordingly. The opinions in the interviews, student reflective diaries and research diary were directly quoted in the study, and the students were coded as S1, S2, S3 S24.

Validity and Reliability

It is indicated that since mixed-method studies allow multiple data collection procedures, many researchers prefer them, and data triangulation eliminates the ambiguity between qualitative and quantitative data collection strategies (Teddlie & Tashakkori, 2015). In the current study, the validity was ensured using quantitative and qualitative data collection tools such as assessment test, interview form, student reflective diaries, and research diary, and the research topic was explored in depth.

Although the ITAT was prepared by considering the mentioned animated films, a pilot study could not be carried out to check the tool's validity and reliability due to economic and time limitations. Therefore, only content validity was checked.

Experts were consulted for the content validity, clarity, and suitability of the diaries and interview questions. A minimum of .75 significance can be sought for content validity when opinions

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from 9 field experts are taken (McKenzie, Wood, Kotecki, Clark & Brey, 1999). This study determined that the field expert opinions had high validity values between .80 and .90.

Research Ethics

Before starting the research, permissions were granted from the relevant institutions and authorities. The consent of participant teachers, parents, and students were also obtained. The researcher bought legal CDs of the mentioned animated films and children's movies. The students were not informed about being in an experimental, control, or placebo group. The students in the control and placebo groups were also not affected by the experimental process.

Ethical Procedures

Ethics committee approval of the study was obtained from Marmara University Scientific Research and Publication Ethics Committee on 29.05.2020 (Board Approval No: 804.01-E.2005290003).

Findings

Findings Regarding the First Sub-Problem: Is there a significant difference between all students' pre-test, post-test, and follow-up test scores by epistemological development?

Before the data analysis, Kolmogorov-Smirnov and Shapiro-Wilk normality tests were performed to determine whether the pre-test, post-test, and follow-up test scores showed a significant distribution. Kolmogorov-Smirnov is preferred when the group size is greater than 50, and Shapiro-Wilk is used when the group size is less than 50 (Büyüköztürk, 2014). If the p-value is more significant than $\alpha = .05$, it indicates a normal distribution. Since it was less than 50, the Shapiro-Wilk normality test was performed. The test results are demonstrated in Table 5.

Table 5.

Shapiro-Wilk normality results of the pre-test, post-test, and follow-up tests

Groups	Pre-test			Post-test			Follow-up test		
	Stat.	df	Sig.	Stat.	Df	Sig.	Stat.	Df	Sig.
Experimental	.967	24	.601	.965	24	.536	.965	24	.540
Control	.955	23	.373	.950	23	.295	.965	23	.563
Placebo	.960	23	.473	.950	23	.292	.955	23	.377

As seen in the table above, the pre-test, post-test, and follow-up test scores of the experimental, control, and placebo group students showed a normal distribution ($p > 0.05$), so parametric tests were used. One-Way ANOVA was performed to determine whether there was a significant difference between the pre-test, post-test, and follow-up test scores. Table 6 shows the descriptive statistics related to the pre-test, post-test, and follow-up test scores of the ITAT. Table 7 presents the ANOVA results of the pre-test scores, and table 8 shows the ANOVA results of the post-test scores. Lastly, the ANOVA results of the follow-up test scores are shown in table 9.

Table 6.

Descriptive Statistics of Pre-Test, Post Test, and Follow-up Test scores by Groups

Groups	Pre-test			Post-test			Follow-up Test		
	N	\bar{X}	S	N	\bar{X}	S	N	\bar{X}	S
Experimental	24	41.146	14.521	24	67.813	9.677	24	67.292	9.806
Control	23	40.109	14.684	23	41.630	13.602	23	39.130	13.871
Placebo	23	41.304	15.628	23	45.870	15.768	23	42.609	15.567

As shown in Table 6 above, the experimental group pre-test average score was =41.15, and the post-test mean score was =67.81.

Table 7.
ANOVA Results of the Pre-Test Scores by Groups

	Sum of Squares	Sd	Mean Square	F	p
Intergroups	19.484	2	9.742	.044	.957
Intragroup	14966.587	67	223.382		
Total	14986.071	69			

Table 7 presents no significant difference in the experimental, control, and placebo groups' pre-test mean scores, $F(2, 67) = 0.04$, $p > .01$.

Table 8.
ANOVA Results of the Post-Test Scores by Groups

	Sum of Squares	sd	Mean Square	F	P	η^2	Significance
Intergroups	9338.376	2	4669.188	26.752	.000	.44	Experimental- Control, Experimental- Placebo
Intragroup	11694.124	67	174.539				
Total	21032.500	69					

As seen in Table 8, there is a significant difference between the post-test mean scores of the experiment, control, and placebo groups, $F(2, 67) = 26.75$, $p < .01$.

Table 9.
ANOVA Results of the Follow-up Test Scores by Groups

	Sum of Squares	Sd	Mean Square	F	p	η^2	Significance
Intergroups	11337.156	2	5668.578	34.442	.000	.51	Experimental- Control, Experimental- Placebo
Intragroup	11027.219	67	164.585				
Total	22364.375	69					

There is a significant difference between the follow-up test mean scores of the experiment, control, and placebo groups, $F(2, 67) = 34.44$, $p < .01$.

Findings Regarding the Second Sub-Problem: Is there a significant difference between the pre-test, post-test, and follow-up test scores by epistemological development of students in the experimental group?

One-factor ANOVA was performed to determine a significant difference between the pre-test, post-test, and follow-up test scores of the experimental group students. In the one-way variance analysis for repeated measures, when the number of repeated measurements is three or more, the variances of differences between any two measurements should be equal, tested using Mauchly's Test of Sphericity. It assumes that "There is no difference between the variances of differences between measurements." If Sphericity's significance value is $p > .05$, the difference variances will be equal, and the condition is provided (Can, 2019). otherwise, the ANOVA will not give accurate results. In this case, there are several methods to apply, one of which uses ANOVA F values that were corrected considering the Epsilon values in Mauchly's Test of Sphericity table. If the Epsilon value is less than 0.75, the use of Greenhouse-Geisser epsilon value is preferred, and if it is more significant than 0.75, then the use of the Huynh-Feldt epsilon value gives more accurate results (Leech, Barrett & Morgan, 2005). Mauchly's test results revealed that the value was significant (Sphericity $W(2) = .000$, $p < .05$). Since the condition was not met, the Epsilon value was checked. Table 10 was created using the Greenhouse-Geisser values since the Epsilon value was less than 0.75.

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Table 10.

Comparison of the Experimental Group's Pre-Test, Post Test, and Follow-up Test Scores from ITAT

Source of Variance	Sum of Squares	Sd	Mean Square	F	P	η_p^2	Significance
Intergroups	2350.000	23	102.171				
Process	11159.896	1.011	11037.390	118.552	.000	.838	Pretest-posttest
Error	2165.104	23.255	93.102				Pretest-follow-up test
Total	15675.000	47.266					

As shown above, there is a significant difference between the pre-test, post-test, and follow-up test scores of the experimental group students, $F(1.01, 23.26) = 118.55$, $p < .01$. The Bonferroni test, a multiple comparison test, was applied to determine the difference between the measurements. Although there was a significant difference between the pre-test-post-test, pre-test-follow-up test scores of the students in the experimental group, there was no significant difference between the post-test-follow-up test scores. Besides, partial eta squared (effect size) is calculated in one-way variance analysis for repeated measures (Can, 2019). Eta squared range from 0 and 1, which indicates a large effect size. Accordingly, the effect size ($\eta_p^2 = .84$) of the experimental group was considerable, and the difference was 84%.

Findings Regarding the Third Sub-Problem: Is there a significant difference between the pre-test, post-test, and follow-up test scores by the epistemological development of students in the placebo group?

A single-factor ANOVA was performed to determine a significant difference between the pre-test, post-test, and follow-up test scores of the control group students. Since Mauchly's Test of Sphericity's significance value was $p < .05$, the Epsilon value was checked. Table 11 was created using Greenhouse-Geisser values since the Epsilon value was less than 0.75.

Table 11.

Comparison of the Control Group's Pre-Test, Post Test, and Follow-up Test Scores from ITAT

Source of Variance	Sum of Squares	sd	Mean Squares	F	P
Intergroups	3950.845	22	179.584		
Process	73.007	1.054	69.244	1.702	.206
Error	943.659	23.196	40.682		
Total	4967.511	46.25			

When the table is examined, it is seen that there is no significant difference between the pre-test, post-test, and follow-up test scores of the control group students, $F(1.05, 23.20) = 1.70$, $p > .01$.

Findings Regarding the Fourth Sub-Problem: Is there a significant difference between the pre-test, post-test, and follow-up test scores by the epistemological development of students in the control group?

A single-factor ANOVA was performed to determine whether there was a significant difference between the pre-test, post-test, and follow-up test scores of the students in the placebo group. Since Mauchly's Test of Sphericity's significance value was $p < .05$, the Epsilon value was checked. Table 12 was created using Greenhouse-Geisser values because the Epsilon value was less than 0.75.

Table 12.

Comparison of the Placebo Group's Pre-Test, Post Test, and Follow-up Test Scores from ITAT

Source of Variance	Sum of Squares	sd	Mean Squares	F	P
Intergroups	4211.715	22	191.442		
Process	275.181	1.040	264.663	1.990	.172
Error	3041.486	22.874	132.965		
Total	7528.382	45.914			

Table 12 shows no significant difference between the pre-test, post-test, and follow-up test scores of the control group students, $F(1.04, 22.87) = 1.99, p > .01$.

Fifth Sub-Problem Results: Does the epistemological development of students in the experimental, control, and placebo groups differ by the experimental process and time?

Two procedures were followed for the repeated measurements in the experimental, control, and placebo groups. Firstly, the experimental, control, and placebo groups measurements were compared for the unrelated samples and then the related samples. As can be understood, there were two processes: measuring different groups and measuring the same groups consecutively. Therefore, it is called the Two-factor Analysis of Variance for mixed measurements (Can, 2019). Two-factor ANOVA was carried out to determine whether the pre-test, post-test, and follow-up test results differed significantly. Since Mauchly's Test of Sphericity's significance value was $p < .05$, the Epsilon value was checked. Table 13 shows the Greenhouse-Geisser values because the Epsilon value was less than 0.75.

Table 13.

ANOVA Results of Pre-Test, Post-Test, and Follow-up Test Scores from ITAT

Source of variance	KT	Sd	KO	F	p	η_p^2
Intergroup	45585.149	69				
Group (Individual/Group)	14047.468	2	7023.734	14.922	.000	.308
Error	31537.681	67	470.712			
Intragroup	17440.991	72.281				
(Pretest-posttest-follow-up test)	4643.193	1.033	4496.656	50.582	.000	.430
Group*process	6647.549	2.065	3218.877	36.209	.000	.519
Error	6150.249	69.183	88.898			
Total	63026.14	141.281				

As seen in Table 13, there is a significant difference in the total scores between the experimental, control, and placebo group students [$F(2.67) = 14.92, p < .01$]. Cohen eta-squared is used to determine the effect size invariance analysis for multiple groups (0.10-0.24 is small, 0.25-0.39 is medium, and 0.40 and above is great) (Cohen, 1988). It was measured $\eta_p^2 = .31$, which means a medium effect size. When the experiment, control, and placebo groups were considered as a whole group, a significant difference was observed between the pre-test, post-test, and follow-up test mean scores of this large group (70 students) [$F(1.03, 141.28) = 50.58, p < .01$]. The effect size of the difference was $\eta_p^2 = .43$, which indicated that the effect size was large. There was also a significant difference between students' success scores in learning information types [$F(2.07, 141.28) = 36.21, p < .01$]. As seen in the table, the effect size was $\eta_p^2 = .52$, which indicated a wide effect size. The differences between the pre-test, post-test, and follow-up test scores are shown in Figure 1.

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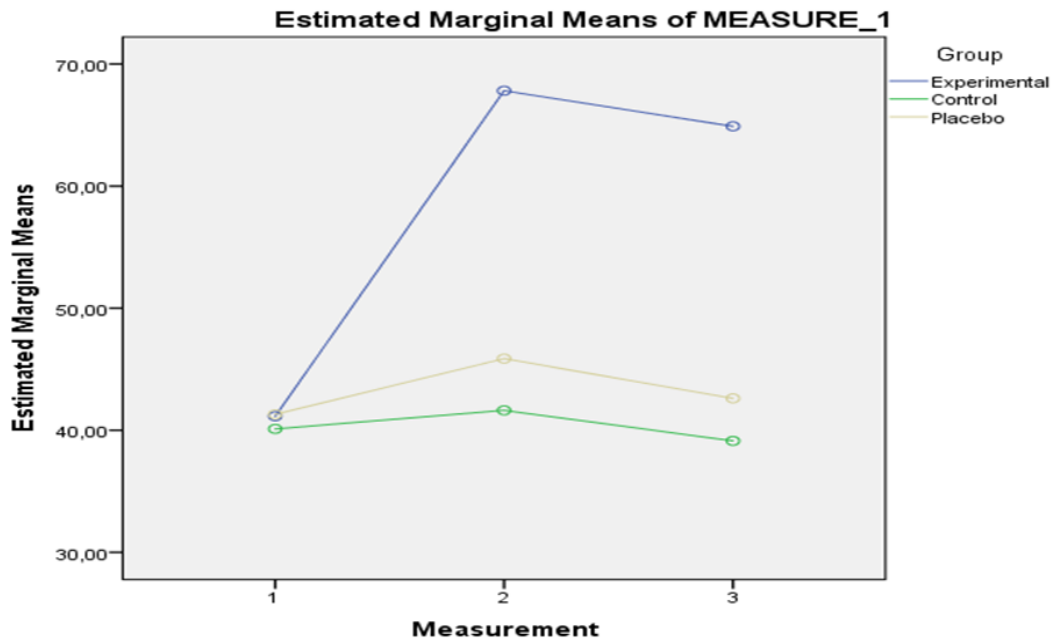


Figure 1. The Differences in the Pre-test, Post-test, and Follow-up Test Mean Scores

As shown in the graph, the groups' mean scores were similar in the first measurement but differed in favor of the experimental group in the second measurement. In the third measurement, the experimental group's mean scores almost did not change, but other groups' scores decreased. It proves that learning is permanent.

Findings Regarding the Sixth Sub-Problem: What are the experimental group students' post-experimental opinions regarding the use of animated films?

In an attempt to answer the sixth sub-problem, 12 experimental group students' post-experimental opinions were analyzed using the content analysis method. Among those, four students had high, four had moderate, and four had low academic achievement. The analysis results are presented in Table 14 below.

The students were first asked about their opinions about the animated films they watched in Turkish lessons. The content analysis results regarding students' responses and specific quotations were given below. The students' opinions about the animated films are shown in Table 14.

Table 14.

Students' Opinions about the Animated Films

Category	Theme	Sub Theme	f
Information Types	Everyday Information	Enriching vocabulary	7
		Improving social relationships	5
		Promoting family unity	2
	Scientific information	Access to scientific information	5
		Providing information about different cultures	2
	Philosophical Information	Tolerance	4
Development and Learning	Technical Information	Designing toys	3
		Making the teaching process entertaining and fun	6
		Making the learning process attractive and engaging	4
		Visualization and concretization of abstract concepts	4
		Learning-teaching Process	

Awareness of Personal Characteristics	Gaining self-confidence	2
	Awareness of skills and abilities	2
	Developing imagination	2
	Making a decision	1

Information types and development and learning categories were created based on the students' opinions about the animated films: everyday information, scientific information, technical information, philosophical information, learning-teaching process, and personal characteristics. Student quotations are given below:

S9: "... I did not know the word "whirlpool" in the film *Finding Dory*, and I learned that a whirlpool rotates in the sea like a hurricane."

S3: "... For example, I had a gift rag doll. Like in the *Toy Story* film, a small part was torn; I sewed it. I designed a different doll and started to become more careful about my toys. I put them in different places so that no one would find them; I started playing more. "

S20: "... I learned in the film that the octopus has three hearts and seven arms. I learned about the creatures under the sea. I learned a lot."

In light of the quotations above, it can be suggested that animated films positively affected students' attitudes towards Turkish lessons, improved the learning process's quality, and contributed to students' learning of information types.

Secondly, the students were asked about their thoughts about watching animated films in other courses. Students' opinions are presented in Table 15.

Table 15.

Students' Opinions on Watching Animated Films in Other Lessons

Category	Theme	Sub Theme	f
Learning-Teaching Process	The Delivery of the Lesson	A fun and entertaining learning process	8
		An Interesting and engaging learning experience	2
		Appealing to different learning styles	1
	Impact on Learning	Increased motivation	6
		Permanent learning	4
		Learning New information	3

The delivery of the lesson (11) and *the impact on learning* (13) themes was created considering the students' opinions about watching animated films in other lessons. Some student's quotations are presented below:

S6: "... Since the day we watched the animated films, I have become much interested in Turkish lessons. I wish we would watch animated films in other lessons. Then, I would be more eager to learn."

S23: "... They were very entertaining because there were both images and sound in the animated films. Therefore, I learned very complicated things quickly. "

The quotations from the student and research diary are as follows:

"... in the film *Coco*, a kid wanted to engage in music, but his family did not so. That boy made a decision and chose music. I also made a decision just like him: I will play the guitar, and I am bound and determined. " (2nd Week, the Reflective Diary of S13)

"As part of the experimental plan, I had the students watch the animated film, *Coco*, in the second week. I felt so happy for the students curious about the movie. After watching, I noticed that the students were trying to empathize with Miguel's character in the film, trying to understand the boy's thoughts and feelings. I also saw that they tried to memorize the songs in the film. " (2nd Week, Research Diary, *Coco* Animated Film)

The third interview question was about what they learned from those animated films. Students' responses are given in Table 16.

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Table 16.

Students Opinions' about what they learned from the films

Category	Theme	Sub Theme	f
Information Types	Scientific information	New ways of learning information	8
		Daily life skills	2
	Everyday Information	Effective communication skills	2
		Philosophical Information	Teaching values
	Personal development	Awareness of Personal Characteristics	Teaching questioning
Developing imagination			3
Personal Characteristics		Teaching emotion management skills	2
		Raising awareness of individual differences	1
		Encouragement	1

The *information type* and *personal development* categories and four sub-themes (*scientific information, everyday information, philosophical information, and awareness of personal characteristics*) were created accordingly. Some student quotations are presented below:

S15: "When I watched *Rafadan Tayfa*, I learned that when we get lost, we could find the way with the help of a map and compass. So, I started to examine the maps. "

S9: "... The films were great, they expanded our imagination, and we came across unfamiliar words, but we learned them."

S6: "I learned how bad telling lies in the films "*Big Hero 6*" and "*Smurfs*," and it separates us from our friends."

The fourth question was about whether the students would like to watch animated films in future Turkish lessons. The students' opinions about the matter are given in Table 17.

Table 17.

Students' Opinions about Watching Animated Films in the Future Turkish Lessons

Category	Theme	Sub Theme	f
Learning-Teaching Process	Teaching Material	Using as teaching material	5
		Differentiation of teaching methods	4
		Having visual and audio content	3
	Grammar Teaching	Teaching adjectives	2
		Teaching vocabulary	3
	The Delivery of the Lesson	Being fun and engaging	4
		Promoting permanent learning	2

The *learning-teaching process* category and the themes of *teaching material, grammar teaching, and the lesson delivery* were created based on students' responses to the fourth question. As seen in the table, all students expressed positive opinions about watching animated films in the future. Some student quotations are presented below:

S11: "... I think our teachers should let us watch these films more often. Because they are entertaining and help us socialize. "

S13: "... I think these films help us understand better what is taught in lessons. I want to watch films instead of listening to the teacher".

The fifth question was: "How can students use the recently learned information in their daily lives?". Students' opinions on using what they have learned in animated films in their daily lives are given in Table 18.

Table 18.
Students' Opinions on How to Use the New Information in Daily Life

Category	Theme	Sub Theme	f
Information Types	Everyday Information	Teaching family communication	6
		Teaching social rules	3
		Teaching vocabulary	2
	Technical information	Teaching how to make toys	5
		Scientific information	Teaching historical places
	Philosophical Information	Contributing to moral development	3
		Teaching values	2
		Improving self-confidence	1
	Development	Awareness of Personal Characteristics	Demonstrating abilities
Developing psychomotor skills			1

The categories of *information types* and *development*; the themes of *everyday information*, *scientific information*, *technical information*, *philosophical information*, and *awareness of personal characteristics* were created based on the students' responses. Some student views are presented below:

S6: "Teacher, we saw the historical places in Istanbul in *Rafadan Tayfa*. When I go to Istanbul this summer, I will visit those places. I will check who built those buildings. "

The following quotations from the student and research diary also support the current findings.

S3: "... in the film *Coco*, a kid wanted to engage in music, but his family did not so. That boy made a decision and chose music. I also made a decision just like him: I will play the guitar, and I am bound and determined. "

The quotations from the student and research diary regarding the finding above are as follows:

"... For example, after watching *The Finding Dory* movie, I tried to make a toy octopus. Since I learned in the movie that he has three hearts, I made all three hearts inside while sewing the octopus." (2nd week, *Reflective Diary of the S9*)

"In the last week, we watched the film '*Finding Dory*.' As a researcher, I was happy to see that students were willing to watch even in the last weeks. I observed that by this film, students especially learned many concrete and abstract scientific concepts. At the end of the film, the student with code S9, "My teacher, I did not know the word "whirlpool," but I learned it in the movie '*Finding Dory*. It rotates in the sea like a hurricane. I also learned in this movie that sea lions are natural predators. In the science test, I answered the questions about sea creatures correctly thanks to this film, " which reinforced my faith in this application." (10th Week, *Research Diary, Finding Dory Animated Film*)

According to the quantitative data findings, the animated films significantly contributed to students' learning information types, which is also supported by the qualitative data.

Results and Discussion

This study aimed to investigate the effects of watching animated films in Turkish lessons on middle school sixth-grade students' comprehension of information types. It was concluded that teaching the information types by using animated films led to effective and permanent learning. It was also determined that the teaching of information types supported by animated films increased the students' academic success. In this sense, the experimental group students' academic success was significantly higher than the placebo and control group students. The current findings overlap with many research results in the literature. Similar studies proved that entertaining and exciting animated films suitable for children's development could be a ready, fast and effective teaching material (Al-Balushi, Al Musawi, Ambusaidi and Al-Hajri 2017; Altaş, 2016; Hamzat, Bello, and Abimbola. 2017; Dalacosta, Kamariotaki-Paparrigopoulou, Palyvos, and Spyrellis, 2009; Demirkan, 2017; Bircan, 2013; Kahraman, 2013; Putri & Adnan, 2019; Sancak, 2011; Singer, 2019).

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Animated films also offer several cognitive and affective benefits, such as providing various contents on information types (Bayır & Günşen, 2017), improving vocabulary (Aydoğdu, 2019), supporting cognitive skills by stimulating logical thoughts (Arslan, 2018), teaching values (Kılıç, 2020; Nainggolan, 2020) and concepts (Köroğlu, 2016; Kurt, 2018), and giving motivation (Putri & Adnan, 2019). The study's quantitative data was supported by animated films supported, and it was revealed that there was a quite significant difference in favor of the experimental group. Thus, it is suggested to use animated films as visual and audio materials in teaching information sentences and types, which is thought to contribute to student success.

The study analysis was performed on the data from reflective student diaries and interview forms, and it was found that all students responded very positively about the use of animated films in education.

Students found the use of animated films to teach information types entertaining, remarkable, imaginative, motivating, and intriguing. They stated that they experienced a positive learning process in all aspects. They also admitted that they learned most of the information from those animated films, which was also revealed by many studies in the literature (e.g., Handayani, Haryono & Ahmadi, 2020; Kaushal & Panda, 2019; Martia, Muslem & Fitriani, 2020; Kılıç, 2020; Putri & Adnan, 2019). Therefore, it can be said that the use of animated films in the teaching of information types is essential for permanent learning and student success. During the interviews, the students emphasized that it would be beneficial to use animated films in other lessons, mainly teaching new and different information, making learning easier and permanent, and motivating individual learning. In this regard, it can be concluded that animated films can be useful auditory and visual teaching materials in other lessons by considering target goals and educational contents. Çelik and Gündoğdu (2020) similarly stressed that animated films encouraged an interactive and fun learning environment and individual learning.

The experimental group students expressed that they could use the newly learned words and concepts to obey social rules, communicate in the family, solve problems in daily life, and dream. Similarly, Özer (2015) concluded that the knowledge, information, and learning experiences from the animated films affect students' lifelong learning, creativity, success, personality, and career choices.

In conclusion, animated films as auditory and visual teaching materials are beneficial, and they enrich children's knowledge repertoire and promote permanent learning.

Recommendations

The following suggestions are made considering the study findings:

- The study was limited to the 6th-grade students in a public middle school in Oguzeli, Gaziantep. Future studies can carry out a cross-school study that compares different middle schools.
- Animated films can be used for different disciplines and lessons.
- Future studies can examine the effects of animated films on students' listening/watching and comprehension skills.
- It is a mixed study. Future studies can be designed in different research methods/patterns.
- The effects of animated films on different variables (e.g., attitude, motivation) can be studied.
- The study included only the animated films that have been released in the last ten years. However, future studies can cover the domestic and foreign animated films released long before.
- Comparative studies can be carried out to determine animated films' impact on students' learning in different countries.
- Due to the global crisis, the Covid-19 pandemic, it is challenging to produce animated films today. Therefore, the Turkish Ministry of National Education can give financial support to produce animated films to enrich students' knowledge about the adverse effects of epidemic diseases.
- In the current domestic and foreign animated films, aesthetic and philosophical information types were used less than other information types. The Turkish Ministry of National Education can support the production of animated films that mainly focus on aesthetic and philosophical information types.

Research and Publication Ethics

In this study, all the rules specified to be followed within the scope of "Higher Education Institutions Scientific Research and Publication Ethics Directive" were followed. None of the actions specified under the title of "Actions Contrary to Scientific Research and Publication Ethics", which is the second part of the directive, were not carried out.

Ethical Procedures

Ethics committee approval of the study was obtained from Hasan Kalyoncu University Scientific Research and Publication Ethics Committee on 29.05.2020 (Board Approval No: 804.01-E.2005290003).

Authors Contribution Rate

The first and second authors contributed equally to this study.

Conflicts of Interest

The authors declare that there is no conflict of interest.

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