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A Buchet From Disciplines: SSSM (Social Sciences – Science – Mathematics) *

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Abstract

The aim of this study is to develop a unique application based on a combination of distinct disciplines brought together by thematic approach in Social Studies course. This study investigated the effect of a developed application on students' academic achievement and creative thinking skills. Interviews were conducted with students. Of mixed methods, the Embedded Design was the research model of choice as it is dominated by the quantitative approach and supported by the qualitative approach. The "Torrance Test of Creative Thinking" was used to quantitatively collect data on the change in students' creative thinking skills while "Academic Achievement Test Questions" were developed to collect data on the change in students' academic achievement. "Semi-structured Interview Forms" and "Student Detective Files" were the qualitative data collection tools used in the study. The former enabled students to evaluate the process while the latter included activities prepared within the scope of the application. Results show that the application caused a statistically significant difference in creative thinking skills and academic achievement. Interviews reveal that experimental group positively assessed all designed activities. Activities positively affected students' feelings and thoughts towards social sciences and Social Studies course. Students associated the social science course with different disciplines (Sciences, Turkish, Mathematics, Religion, Law, Health, Safety etc.).

Keywords

Social studies
Interdisciplinary approach
Thematic approach
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Introduction

It is possible to see different approaches in the application and interpretation of the teaching of Social Studies course, the primary objective of which is defined as educating students to be "good citizens." These approaches can be grouped under three headings as "Teaching Social Studies as Citizenship Transmission," "Teaching Social Studies as a Social Science" and "Teaching Social Studies as Reflective Research" (Öztürk & Deveci, 2011, p. 3). "Teaching Social Studies as Citizenship Transmission" emphasizes the transmission of values. Stating that pure reason can too readily justify the horrors of the gas chambers in Auschwitz or storehouses filled with corpses in Hiroshima, Joseph Junel advocates that students should be taught what social virtue means and what forces reinforce it (Barr, Barth, & Shermis, 2013, p. 30). The aim of "Teaching Social Studies as a Social Science" is to enable individuals to acquire the capacity to comprehend and differentiate various ideas and mentalities related to a certain social science discipline, and to provide them with the opportunity to gain a better understanding of social structure and processes in order to make better personal and social decisions. On the other hand, "Teaching Social Studies as Reflective Research" is based on the views of John Dewey (Öztürk & Deveci 2011, p. 3). According to this approach, the emphasis should be placed on learning-teaching processes in which students can identify and analyze individual and public problems and make informed decisions about them. Given the educational philosophy observed in the teaching of Social Studies, it is possible to use any of the three approaches stated above or coalesce them to address an issue depending on the objective (Öztürk, 2009, p. 7). Fenton (1967) states that Social Studies has three main objectives: educating students as exemplary citizens, teaching them how to think, and conveying cultural heritage. In addition, NCSS (Levstik & Tyson, 2008, p. 1) redefined the purpose of teaching Social Studies and emphasized the importance of improving decision-making and problem-solving skills of active citizens of the future.

From this perspective, it is believed that people can acquire high level thinking and problem solving skills such as creative and critical thinking required by the twenty-first century, by integrating social and positive sciences through multidirectional interaction, in the achievement of which interdisciplinary approaches and related applications play a critical role. Interdisciplinary applications entail setting more than one discipline in motion to solve a complex problem (Condee, 2004, p. 235). GEMS (Great Explorations in Math and Science) is an example of interdisciplinary studies aiming at enabling individuals to understand the world based on the environment in which they live, to approach problems they encounter from different perspectives and develop high level thinking skills to find solutions to them. GEMS is based on integrating science and mathematics, and applying activities developed in this direction. Barrett et al. (1999) emphasize that GEMS play a critical role in educating the "ideal human of the future" by providing the opportunity to associate different branches of science with one another to integrate different disciplines for the development of high-level thinking skills (Barrett et al., 1999). Making use of a similar understanding in teaching Social Studies course, which is based on combining disciplines, raises the importance of this study. Based on "real life problems," Social Studies course is a lesson from life which aims to mobilize high-level thinking skills by integrating different disciplines with each other. Although, the literature abounds in ideas and practices regarding the integration of disciplines (Multidisciplinary, Cross-disciplinary, Pluralist Disciplinary, Transdisciplinary, Interdisciplinary), "interdisciplinary" studies are known to be especially important for the development of high-level thinking skills (Yıldırım, 1996, p. 90; Condee, 2004, p. 236; Çelik, 2014; Özdemir, 2014; Pehlivan, 2015; Haring & Kelner, 2015; Michelsen, 2015). At this point, it can be stated that GEMS activities aiming at developing high-level thinking skills by bringing together different disciplines and enabling students to discover the environment in which they live provides a different perspective to "interdisciplinary" studies. Studies in domestic and foreign literature on creative thinking skills in Social Studies course address program and book reviews (Atik, 2006; Palandökenlier, 2008), teacher or student views on achievements (Vural, 2008; Kuyubaşıoğlu, 2009) and effect of different teaching methods and techniques on creative thinking in Social Studies course (Bacak, 2008; Hackney, 2010). In this study, unit titled "I Know Myself" in "Individual and Society" learning domain covered in

Social Studies course of 2005 program offered in primary school was selected and within the scope of the unit, original activities were developed based on GEMS activities. Associations with different sciences (Science, Mathematics, Medicine, Law etc.) were made within the developed activities, which were termed SSSM (Social Sciences – Science - Mathematics). Despite being a weak unit to be associated with positive sciences, "I know myself" is the first unit of the Social Studies course offered in the fourth grade (Associations in this unit as follows:, Verbal Expression in Turkish course "Speaking" learning domain; Written Expression in Turkish course "Writing" learning domain; "Time Measurement" in sub-learning domain in Mathematic course; Use of Newspaper Clippings; Cooperate with the guidance service to recognize individual differences, expressing feelings and thoughts; Topics related with Kemalism; Identity documents issued by official institutions and organizations: identity card, school ID, sports club ID, library ID, etc .; Special Education; Entrepreneurship; Career Development; Guidance and Psychological Counseling; Health Culture). It is therefore believed that activities that can be developed and applied for this unit can serve as an example for different units. From this perspective, this study represents the first attempt to investigate the issue in question. Developed activities will be used for the first time in primary school Social Studies course, which will be associated with other sciences and thus an alternative technique for the development of creative thinking skills. Given all these explanations, it is believed that the developed activities will set a different example. In this framework, the main research question can be formulated as follows:

1- What is the effect of GEMS-based SSSM activities applied in the fourth grade Social Studies course in primary school on students' academic achievement and creative thinking skills?

A thorough analysis of research problems is possible only with the blending of quantitative and qualitative data types beyond answers that can only be given by numbers or words alone. Therefore the research problem is grouped under two headings. The first problem status is expressed on the basis of quantitative methods; the second problem status is expressed on the basis of qualitative methods. The sub-questions investigated in accordance with the main question are as follows:

1- Is there a statistically significant difference in creative thinking skills between the experimental group with which the education supported by the SSSM activities were applied and the control group to which the Social Studies curriculum of the Ministry of National Education (MNE) was applied in fourth grade in primary school?

2- Is there a statistically significant difference in academic achievement between the experimental group with which the education supported by the SSSM activities were applied and the control group to which the Social Studies curriculum of the Ministry of MNE was applied in fourth grade in primary school?

It has been explored in depth through interviews, what is the learning practices of the students and what their views on the learning environment are. More specifically in the qualitative research, the following sub-question investigated:

1- What are the views of the experimental group students on the learning environment in which SSSM activities were carried out?

Method

Research Design

The aim of this study was to use multiple levels of research data analysis and to support quantitative data with qualitative data in explaining the cause and effect relationship. Data were collected using both qualitative and quantitative approaches based on the pragmatist paradigm and mixed design (Creswell, 2003; Fraenkel & Wallen, 2005). In mixed design, data are collected by merging data collection methods used in qualitative and quantitative research. Creswell and Plano Clark (2014, pp. 79-81) classify mixed models as Convergent Parallel Design, Explanatory Sequential Design, Exploratory Sequential Design, Embedded Design, Transformative Design and Multiphase Design. This

study is based on Embedded Design in which the quantitative approach was also prioritized and the qualitative approach was incorporated into the quantitative experimental strategy.

In the quantitative part of the study, a semi-experimental design with an unbalanced pre-test and post-test control group was used (Çepni, 2007, p. 84). Semi-experimental design is a research design in which participants (subjects) are not randomly assigned to groups, which occurs when the researcher cannot artificially form a group for experiment (Creswell, 2008, p. 313). It is neither practical nor convenient in educational studies to randomly assign subjects to groups. This is particularly the case for school-based surveys in which classes are formed at the beginning of school year (Ross & Morrison, 2011, p. 1023).

In the qualitative part of the study, phenomenology was used as the research design. Phenomenology defines the common meaning of experiences that several people had with a phenomenon or concept (Creswell, 2013, p. 77). It is stated that this approach is suitable for studying effective, emotional and often intense human experiences (Merriam, 2015, p. 26). In line with this, semi-structured interviews were conducted with students in this study.

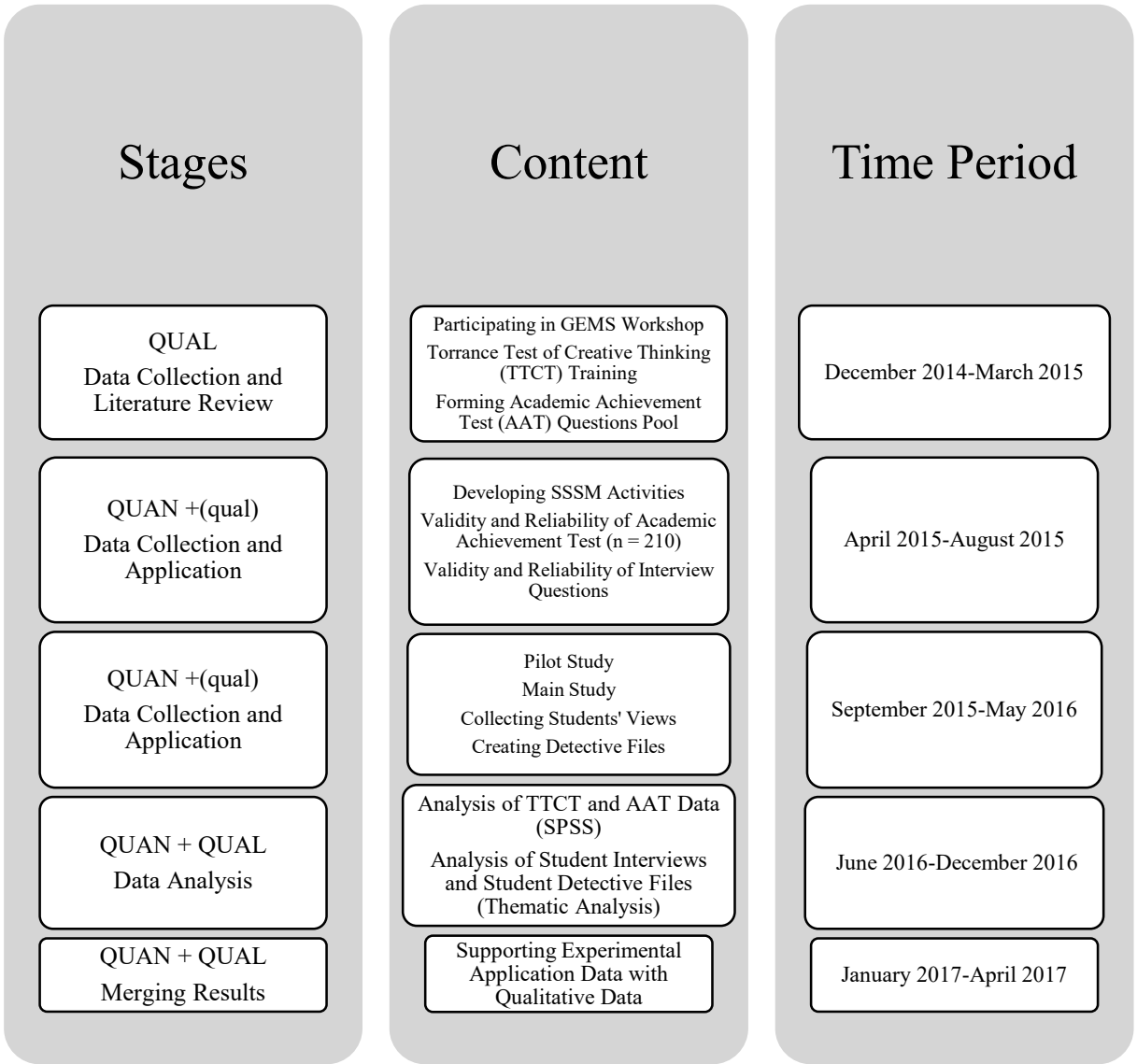

Figure 1. Research Design Stages

Study Group

The study group was sampled using convenience sampling technique, which is a Purposive/Purposeful Sampling technique, which is one of the Non-Probability Sampling Methods. In this kind of sampling, the researcher uses his/her own judgment on who to choose, and chooses samples who he/she thinks are the most suitable for the purpose of research (Balcı, 2016, p. 104). In "Purposive/Purposeful Sampling," which is a non-random sampling method, it is important to collect information from situations related to research problem, to choose the most appropriate situation and, while doing that, to collaborate with people who have knowledge of the subject matter, to collect preliminary information and to decide on the sample to be studied (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz, & Demirel, 2012).

In this study, school principals and class teachers in the district center were interviewed and informed about the purpose of the research for their approval and permission to conduct the study. The primary schools mentioned were selected as pilot and actual study groups. The reasons why these schools were included in the research was that school administration and classroom teachers are interested in scientific studies, no experimental studies have been conducted in the school where the actual study was performed, and the necessary conditions for the research were better, more easily and quickly arranged, which were critical criteria for the validity and reliability of the research. The study group consists of a total of 43 fourth grade primary school students (experimental group [4/A] = 22, control group [4/C] = 21) from a primary school in İlkadım, Samsun, in the academic year of 2015-2016.

Data Collection Tools

Data were collected using the Torrance Test of Creative Thinking, an Academic Achievement Test developed by researchers and Semi-structured Interview Forms.

The Torrance Test of Creative Thinking, first published in 1966, was developed by E. Paul Torrance to measure verbal and figural creativity. Validity, reliability and linguistic equivalence of the test were analyzed by Aslan (2001). For linguistic equivalence, the test was translated into Turkish by three different experts and a common form was designed by comparing those three translations. Ranging from .50 to .96, correlations of the Figural section are significant at the 0.01 and 0.05 levels. Ranging from .64 to .86, correlations of the Verbal section are significant at the 0.01 level. Test-retest and internal consistency calculations were made for reliability. A Cronbach's alpha correlation coefficient ranging from .89 to .86 was obtained for primary school (Aslan, 2001, p. 11). In this research, one of the researchers got the permission of use the "Torrance Creative Thinking Test" from Prof.Dr. Dr. Ayşe Esra Aslan on 6th of March in 2015. During the evaluation of the tests, researchers kept in contact with Aslan and the support was obtained at each stage of the related section. In addition, the tests belonging to the students have been examined by another trained specialist during the evaluation phase.

In the study, an academic achievement test was prepared to investigate the effect of GEMS-based activities performed in Social Studies course on students' academic achievement. Since the aim of the activities was to enable students to develop high-level thinking skills, a great attention was paid to make sure that the academic achievement test questions also served that purpose. The academic achievement test consisted of open-ended and multiple-choice questions. The reliability coefficient and mean difficulty of the statistically developed KR-20 are 0.92 and 0.52, respectively. At this point, it can be stated that the developed test is reliable and valid (Kan, 2008, pp. 268-269; Atılgan, 2009, p. 324; Tezbaşaran, 1996; Fraenkel, Wallen, & Hyun, 1993).

Semi-structured interviews were conducted in order to evaluate the process carried out with the experimental group. Upon developing semi-structured interview forms, a great attention was paid to make sure that questions were easy to understand, open-ended, unbiased, one-directional and logically formulated (Merriam, 2015, p. 88; Patton, 2014, p. 353). Semi-structured interview forms prepared taking the selected unit achievements and Social Studies course into account were subjected to expert opinion. Information on experts who examined the interview forms is as follows:

Table 1. Experts Who Examined the Semi-structured Interview Form

Educational Level	Bachelor's Degree	5
	Master's Degree Student	2
	PhD student	1
	PhD Graduate	1
	Assistant Professor	2
	Associate Professor	1
	Professor	1
Area of Specialization	Geography	2
	Class Teacher (4th grade taught)	7
	History	1
	Social Studies	2
	Classroom Training	1
Total		13

Semi-structured interview questions were finalized based on expert opinion and preliminarily applied to 3 fourth graders, who were excluded from the scope of the research.

Application Process

GEMS-based SSSM activities were developed for six achievements of the unit of "I Know Myself" in the learning area of "Individual and Community" in the curriculum of the Social Studies course offered in the fourth grade.

Prior to the development of the activities, contact person, who is in charge of the development of GEMS programs at the University of California at Lawrence Hall of Science, the center of studies in the field of GEMS, was interviewed. During the interview held in December 2014, information regarding the structure and functioning of GEMS was obtained. For a more detailed study on this subject matter, individual responsible referred the researchers to another individual responsible, who is in charge of GEMS studies at ENKA Schools in Turkey. As a result of the interviews with this individual responsible, one of the researchers enrolled and participated in a workshop namely "A GEMS Day" held in February 2015 and acquired the necessary theoretical and practical information on the operation of GEMS. One of the specialists of GEMS applications, was contacted after the workshop and consulted with throughout the whole process of developing the GEMS-based SSSM activities used in this study. A faculty member who conducts academic studies on GEMS, a social studies education specialist, three fourth grade teachers, a Turkish teacher who checks the suitability of the activities for Turkish language and a language expert who does a PhD in Turkish Education were also consulted with during the process of developing the GEMS-based activities. Since the activities are associated with different branches of science, an expert who does a PhD at the Faculty of Medicine, an expert who does a PhD at the Faculty of Fine Arts and a judge in Sakarya were also asked for support to develop the activities.

Derived from an actual case of robbery, the activities were developed based on GEMS application process. Six clues were developed for the six achievements in the Social Studies curriculum of the Ministry of National Education (MNE), and different methods and techniques were used to explain each clue. The activities were developed under the headings below:

- ✓ Individual differences and similarities (How are similarities and differences in nature? - The First Achievement).
- ✓ Feelings and thoughts (Why did this happen? What were the feelings and thoughts of the robber? What were the feelings and thoughts of the robbed? Based on what feelings and thoughts? - The Second Achievement).
- ✓ Feelings and thoughts of the person whose jewelry was stolen (What feelings and thoughts does this person express his/her situation with? - The Third Achievement)

- ✓ The way in which the person whose jewelry was stolen interprets the situation (Can he/she tolerate and respect? Why or why not? - The Fourth Achievement)
- ✓ Sequence of the event (What might have happened before the event? Why did it happen? - The Fifth Achievement)
- ✓ Identity of the person who carried out the event (How can you identify him/her? What kind of analysis can be done about his/her identity? - The Sixth Achievement).

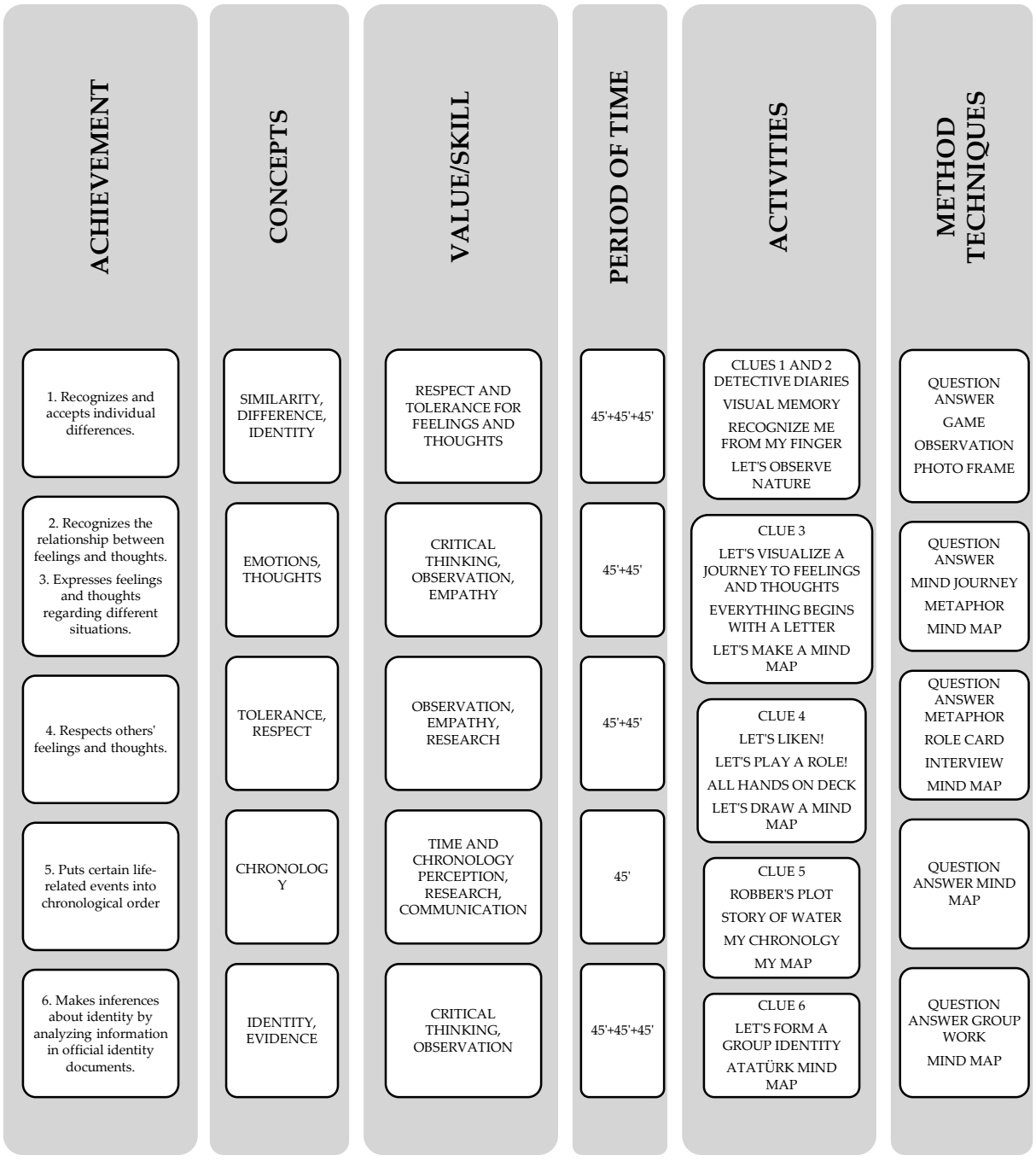

Figure 2. SSSM Activities' Content and Relationship with Achievements

Data Analysis

Quantitative data collected using the measurement tools were transferred to a computer and analyzed using SPSS, version 17. Statistical analysis method to be used should be determined before quantitative data analysis. Quantitative data analysis consists of two groups, parametric and non-parametric. To perform parametric analyses, data should be at a minimum scale and have a normal distribution with a sample size greater than 30 (Büyüköztürk, Çokluk, & Köklü, 2010; Balcı, 2016, p. 240; Can, 2016, p. 82). Nonparametric alternatives should be used when the assumptions of parametric tests cannot be met (Büyüköztürk, 2008, p. 156; Balcı, 2016, p. 262). Pre-test and post-test scores of the experimental and control groups, the sample sizes of which were lower than 30 and the failure of the normal distribution condition (Table 2, Table 4 and Table 10), were compared using a nonparametric test, Mann-Whitney U test.

In this study where the effectiveness of SSSM activities in primary school social studies course was investigated, the qualitative data were analyzed using content analysis. Data are encoded, and associations between themes and codes are made and presented in content analysis, in which an inductive approach is adopted (Yıldırım & Şimşek, 2008, p. 227). Based on the reasons stated above, the qualitative data were subjected to content analysis. Interviews with students were transcribed. Afterwards, they were coded and classified according to those codes. Codes with a meaningful relationship between them were categorized and collected under themes. In this study, "Detective Files" in which students filed the activities they had during the application were used to collect more information. In the analysis of the semi-structured interview forms, necessary studies were carried out for the validity and reliability of the questions posed in interviews. Participants were informed about post-application interviews and interviews were conducted with volunteer students. Semi-structured interview questions were followed by probes that allowed interviewees to further clarify their ideas about the topic. The school guidance room was used for interviews with the permission of the school administration and interviews were recorded to avoid data loss. Interviews started with daily questions and focused on personal information to ensure that interviewees felt comfortable. In order to make sure that interviews were conducted in a warm environment, the researcher offered interviewees chocolate, candies etc. Interviewees were asked to confirm their statements to make sure that they were understood correctly. Data from the interviews were transferred to a computer and an interview inventory was generated. The interview inventory was examined by two experts had previously conducted interview analysis for master's thesis and are currently doing a PhD in the field of classroom education. First, short notes were taken on the interview inventory and then codes were generated based on those notes, which were compared with other studies in the literature. Using continuous comparative analysis, the generated codes were re-grouped and certain themes were formed. Based on the frequency of use by participants, generated codes and themes were presented on tables. While codes and themes were illustrated on tables, interviewees' names were replaced with code names for confidentiality reasons. Under each table, interviewees were quoted, and sources of codes and themes were written.

For expert opinion, tables were reviewed by two experts who had previously analyzed the interview inventory and by an expert who had conducted studies on qualitative approaches and social studies before. Based on the review, code and themes were modified, tables were rearranged, and codes and themes previously presented as two different tables were presented again on a single table.

Results

Torrance Test of Creative Thinking (TTCT) Pre-Test Scores

The Shapiro-Wilks normality test was conducted to determine skewness and kurtosis coefficients were checked whether pre-test scores of the experimental and control groups had normal distribution. To perform Shapiro-Wilks test at a significance level of P < 0.05., data should not be have a normal distribution with a sample size less than 30 (Büyüköztürk, 2008, p. 42).

Table 2. Comparison of Control and Experimental Groups' Scores of Torrance Test of Creative Thinking (TTCT) Verbal A Normality Test

Groups	N	Shapiro- Wilks	$\overline{X}$	df	sd	S	K
Experimantal	22	.911	59.68	21	14.14	-.214	-.115
Control	21	.005	99.90	21	34.52	-.014	-.014

Table 2 shows that there is a normal distribution in the experimental group pre-test scores while there is not a normal distribution in the control group pre-test normality scores (S-W=.911 df=21 p> 0.05; S-W= .005 df=21 p < 0.05).

Table 3. Mann-Whitney U Test Results of Experimental and Control Groups' Verbal TTCT A Sub-Factors Pre-Test Scores

Verbal TTCT A Sub-Factors	Groups	N	$\overline{X}$	Mean Rank	Mean Scores	U	Z	P
Fluency	Experimantal	22	35.36	24.25	533.50	181.500	-1.204	.228
	Control	21	29.57	19.64	412.50			
Originality	Experimantal	22	8.13	21.05	463.00	210.000	-.512	.609
	Control	21	9.04	23.00	483.00			
Flexibility	Experimantal	22	16.18	24.41	537.00	178.000	-1.293	.196
	Control	21	13.23	19.48	409.00			

Table 3 shows that there is no statistically significant difference in the level of fluency, originality and flexibility between the experimental and control groups. It means that the groups are equal in terms of verbal creative test.

Table 4. Comparison of Control and Experimental Groups' Scores of Torrance Test of Creative Thinking (TTCT) Figural A Normality Test

Groups	N	Shapiro- Wilks	$\overline{X}$	df	sd	S	K
Experimantal	22	.583	50.13	21	12.98	-.047	1.135
Control	21	.025	45.00	21	22.57	-.850	.236

Table 4 shows that there is a normal distribution in the experimental group pre-test scores while there is not a normal distribution in the control group pre-test normality scores (S-W=.583 df=21 p> 0.05; S-W= .025 df=21 p < 0.05).

Table 5. Mann-Whitney U Test Results of Experimental and Control Groups' Figural TTCT A Sub-Factors Pre-Test Scores

Figural TTCT A Sub-Factors	Groups	N	$\overline{X}$	Mean Rank	Mean Scores	U	Z	P
Fluency	Experimantal	22	20.59	25.20	554.50	160.500	-1.718	.086
	Control	21	15.85	18.64	391.50			
Originality	Experimantal	22	1.22	23.07	507.50	207.500	-.599	.549
	Control	21	1.71	20.88	438.50			
Abstractness of Titles	Experimantal	22	1.13	20.75	456.50	203.500	-.703	.482
	Control	21	1.85	23.31	489.50			
Elaboration	Experimantal	22	16.36	23.14	509.00	206.000	-.748	.455
	Control	21	14.33	20.81	437.00			
Resistance to Premature Closure	Experimantal	22	0.18	20.91	460.00	207.000	-.968	.333
	Control	21	0.42	23.14	486.00			
List of Creative Strengths	Experimantal	22	10.63	21.93	482.00	229.500	-.037	.971
	Control	21	10.80	22.07	463.50			

Table 5 shows that there is no statistically significant difference in the Figural TTCT A *level of fluency*, *originality*, *abstractness of titles*, *elaboration*, *resistance to premature closure* and *list of creative strengths* pre-test scores between the experimental and control groups. It means that the groups are equal in terms of figural creative test.

Comparison of Control and Experimental Groups' Post-Test Scores of Torrance Test of Creative Thinking (TTCT) Verbal B

At the end of the application process, the experimental and control groups were given the Torrance Test of Creative Thinking (TTCT) Verbal B as the post-test. A Mann-Whitney U Test was conducted to determine whether there is a statistically significant difference in post-test scores between the groups. Results are given in Table 6.

Table 6. Mann-Whitney U Test Results of Experimental and Control Groups' Verbal TTCT B Post-Test Scores

Groups	N	$\overline{X}$	Mean Rank	Mean Scores	U	Z	P
Experimantal	22	157.68	28.82	634.00	81.00	-3.645	.000
Control	21	99.90	14.86	312.00			

Table 6 shows that there is a statistically significant difference in Verbal TTCT B post-test scores between the experimental and control groups in favor of the former (U = 81.000, p = .004 <.05). The mean rank and mean scores of the experimental group are 28.82 and $\overline{X}$=157.68, respectively, while those of the control group are 14.86 and $\overline{X}$=99.90, respectively.

Findings regarding the scores of each sub-factor scale of TTCT Verbal Test B are given in Table 7.

Table 7. Mann-Whitney U Test Results of Experimental and Control Groups' Verbal TTCT B Sub-Factors Post-Test Scores

Verbal TTCT B Sub-Factors	Groups	N	$\overline{X}$	Mean Rank	Mean Scores	U	Z	P
Fluency	Experimantal	22	63.86	27.80	611.50	103.500	-3.099	.002
	Control	21	46.95	15.93	334.50			
Originality	Experimantal	22	61.18	30.82	678.00	37.000	-4.716	.000
	Control	21	26.04	12.76	268.00			
Flexibility	Experimantal	22	32.63	25.55	562.00	153.000	-1.899	.058
	Control	21	26.90	18.29	384.00			

Table 7 shows that there is a statistically significant difference in the level of fluency (Z=-3.099; p=.002<.05) and originality (Z=-4.716; p=.000<.05) between the experimental and control groups in favor of the former while there is no statistically significant difference in the level of flexibility (Z=-1.899; p=.058>.05) between them.

Comparison of Control and Experimental Groups' Post-Test Scores of Figural TTCT B

At the end of the application, the experimental and control groups were given the Figural TTCT B as the post-test in order to determine their figural creativity scores, which were, then, compared using the Mann-Whitney U test. Results are given in Table 8.

Table 8. Mann-Whitney U Test Results of Experimental and Control Groups' Figural TTCT B Post-Test Scores

Groups	N	$\overline{X}$	Mean Rank	Mean Scores	U	Z	P
Experimantal	22	134.63	30.70	675.50	39.500	-4.654	.000
Control	21	64.71	12.88	270.50			

Table 8 shows that there is a statistically significant difference in the Figural TTCT B scores between the experimental and control groups in favor of the former (U=39.500; p=.000<.05). The mean rank and mean scores of the experimental group are 30.70 and $\overline{X}$=134.63, respectively, while those of the control group are 12.88 and $\overline{X}$=64.71, respectively.

Findings regarding the scores of each sub-factor scale of the Figural TTCT B are given in Table 9.

Table 9. Mann-Whitney U Test Results of Experimental and Control Groups' Figural TTCT B Sub-Factors Post-Test Scores

Figural TTCT B Sub-Factors	Groups	N	$\overline{X}$	Mean Rank	Mean Scores	U	Z	P
Fluency	Experimantal	22	36.13	29.64	652.00	63.000	-4.106	.000
	Control	21	21.47	14.00	294.00			
Originality	Experimantal	22	12.63	29.07	639.50	75.000	-3.789	.000
	Control	21	5.33	14.60	306.50			
Abstractness of Titles	Experimantal	22	6.54	26.00	572.00	143.000	-2.150	.032
	Control	21	3.95	17.81	374.00			
Elaboration	Experimantal	22	16.95	27.05	595.00	120.000	-2.873	.004
	Control	21	14.61	16.71	437.00			
Resistance to Premature Closure	Experimantal	22	2.27	25.50	561.00	154.000	-2.160	.031
	Control	21	0.47	18.33	385.00			
List of Creative Strengths	Experimantal	22	60.09	30.82	678.00	37.000	-4.719	.000
	Control	21	18.85	12.76	268.00			

Table 9 shows that there is a statistically significant difference in the Figural TTCT A *level of fluency* (Z=-4.106; p=.000<.05), *originality* (Z=-3.789; p=.000<.05), *abstractness of titles* (Z=-2.150; p=.032<.05), *elaboration* (Z=-2.873; p=.004<.05), *resistance to premature closure* (Z=-2.160; p=.031<.05) and *list of creative strengths* (Z=-4.719; p=.000<.05) post-test scores between the experimental and control groups in favor of the former.

Academic Achievement Pre-Test Scores

The Shapiro-Wilks normality test was conducted to determine skewness and kurtosis coefficients were checked whether pre-test scores of the experimental and control groups had normal distribution.

Table 10. Comparison of Experimental and Control Groups' Academic Achievement Normality Test

Groups	N	Shapiro- Wilks	$\overline{X}$	df	sd	S	K
Experimantal	22	.006	9.13	21	2.45	.1.590	3.847
Control	21	.521	8.95	21	4.16	.046	-.327

Table 10 shows that there is not a normal distribution in the experimental group pre-test scores while there is a normal distribution in the control group pre-test normality scores (S-W=.006 df=21 p< 0.05; S-W= .521 df=21 p >0.05).

Table 11. Mann-Whitney U Test Results of Experimental and Control Groups' Academic Achievement Pre-Test Scores

Groups	N	$\overline{X}$	Mean Rank	Mean Scores	U	Z	P
Experimantal	22	9.13	21.93	482.50	229.500	-.037	.971
Control	21	8.95	22.07	463.50			

Table 11 shows that there is no statistically significant difference in the level of academic achievement between the experimental and control groups. It means that the groups are equal in terms of academic achievement.

Comparison of Experimental and Control Groups' Academic Achievement Post-Test Scores

A Mann-Whitney U test was conducted to compare the Academic Achievement test scores of the groups. Results are given in Table 12.

Table 12. Experimantal ve Control Grubu Akademik Başarı Son Test Puanlarına İlişkin Mann-Whitney U Testi Sonuçları

Groups	N	$\overline{X}$	Mean Rank	Mean Scores	U	Z	P
Experimantal	22	25.86	27.07	595.50	119.500	-2.715	.007
Control	21	20.00	16.69	350.50			

Table 12 shows that there is a statistically significant difference in the Academic Achievement Test results between the experimental and control groups in favor of the former (Z=-2.715; p=.007<.05). The mean rank and post-test mean scores of the experimental group are 27.07 and $\overline{X}$=25.86, respectively, while those of the control group are 16.69 and $\overline{X}$=20.00, respectively.

Students' Pre-Application Views on the Teaching of Social Studies Course

Students in the experimental group were interviewed to elicit information on their views on pre-application Social Studies course. Findings are presented in Table 13.

Table 13. Pre-Application Teaching of Social Studies Course

Themes	Codes	Students
Student Active	*Workbook*	Ali, Eda, Suna, Gonca, İpek, Songül
	Research	Ali, Eda
	Poster Making	Ali
Student Passive	*Reading*	Ali, Eda, Gökhan, İpek, Nilay
	Writing	Emre, Suna, Gökhan, Songül
	Question Answer	Ayşe, Emre, Songül
	Direct Instruction	Nilay

Based on interviews with students, the themes "*Student Active*" and "*Student Passive*" regarding the pre-application teaching of Social Studies course were formulated. The codes of "Workbook," "Poster-Making" and "Research" were specified under the theme of "Student Active." The codes of "Reading," "Writing," "Question Answer" and "Direct Instruction" were specified under the theme of "Student Passive". The examples of the opinions of the students are as follows:

> Songül: "*Social Studies? Now, well, when the teacher wrote on the board, we were asking some questions [to him/her]. We could write their answers, we now have a source book, the teacher gave [us] some writing [assignment], he/she was asking us questions, and we answered them, he/she even quizzed us. In general, we were covering the topics from the textbook.*"
>
> *(Student Active/Workbook)*

Eda: "*We sometimes did some research. It was going well but we did such fun stuff when you came, too. Well, [the teacher] got us to read, the research section, we did the research section, [the teacher] sometimes gave it as homework and gave use research assignments.*"

(Student Active, Research)

Ali: "*We performed some activities about Atatürk, we did this thing… There was a map until the year he died. We were making posters with paper and pens, we sometimes had research assignments, we did some research. We sometimes skipped some activities, sometimes we were reading some passages, the teacher was giving some homework and we were using the workbook to do it.*"

(*Student Active, Poster Making)*

Gökhan: "*The teacher was covering a topic and asking us to read about it and then getting us to write.*"

(Student Passive, Reading)

Emre: "*We were writing, and then, having an exam, the teacher was asking questions. That's it. The teacher was getting us to write."*

(Student Passive, Writing)

Ayşe: "*We didn't have many activities, I mean such activities. It was just, well, we were covering a subject, we were doing the things about the subject, the teacher was asking us some questions and we were answering them. If it was a topic we liked, we were raising our hands, if it was not, then some were raising their hands, and some weren't.*"

(Student Passive, Question Answer)

Nilay said: "*We were reading and the teacher was lecturing*."

(Student Passive, Direct Instruction)

Students' Views on Application Activities

Students in the experimental group were interviewed to elicit information on their views on application activities. Findings are given in Table 14.

Table 14. Students' Views on Application Activities

Themes	Codes		Students
All Activities	*Positive*	*Entertainment*	Suna, Gonca, Nilay
Ivy-Walnut Tree	*Positive*	*Entertaining*	Eda, İnci, Murat
		Reveals Skills	İnci
	Negative	*Hard to Act*	Songül
Mind Maps	*Positive*	*Entertaining*	Eda, Gonca, Songül
		Paint/Drawing	İpek
	Negative	*Tedious*	Murat
		Difficult	Ali
Mind Journey	*Positive*	*Improves Imagination*	Ayşe
		Enhances Communication	Suna
	Negative	*Bad Thoughts*	Emre
Water Cycle	*Positive*	*Easy Learning*	Ali
		Different Point of View	Nilay
	Negative	*Sorting*	İpek
		Not Entertaining	Eda
Group Work	*Positive*	*Winning*	Emre
		Entertaining	Gonca
Fingerprint	*Negative*	*Dirty/Messy*	İnci

Students' views on activities performed during the lesson were expressed in a way that each activity corresponds to a theme. The examples of the opinions of the students are as follows:

Gonca: "*…because, teacher, they are all fun, I am not wasting my time, when it's not a waste of time, we just don't understand how fast the lesson goes by, so I had a lot of fun*."

(All Activities, Positive/Entertainment)

İnci: "*Walnut tree and ivy activity. Because it is so much fun to act, I love it. I was the walnut tree. I think I acted well. I think I have a talent for acting. I believe I am talented in acting*."

(Ivy-Walnut Tree, Positive/Entertaining, Reveals Skills)

Songül: "*Well…It's not that I got bored. It's just that it was a little hard for me…teacher, you know that tree…I had difficulty doing the shape of it in the walnut tree and ivy activity*."

(Mind Maps, Negative/Hard to Act)

Songül: "*The best…I can't decide…Well, I liked the mind maps the best... As I said, teacher, I found it very entertaining. I'm glad you've taught it, I will do these things with my own physical features and I will even put them on a special corner*."

(*Mind Maps, Positive/Entertaining)*

Ali: "*There were some things, some activities I didn't like. Well, mind map. The reason is, teacher, it is hard, we, like, have to write in capital letters and try to find some things, that's why I find it hard*."

(*Mind Maps, Negative/Difficult)*

Ayşe: "*The best…teacher, the one when we travelled outside…that one. Teacher, it improves one's imagination and also we have overcome our emotions and thoughts*."

(Mind Journey, Positive/ Improves Imagination)

Emre: "*There was this activity where we imagined. I saw a bad friend of mine in my imagination, so I didn't like that activity*."

(Mind Journey, Negative/ Bad Thoughts)

Ali: "*I liked the water cycle the most because it is very nice, I can learn about my own life. It's like we grow up from infancy to this day*."

(Water Cycle, Positive/ Easy Learning)

Eda: "*Because I like fun things but the water cycle didn't seem fun to me. It was not much entertaining, I mean, it wasn't something happy, so I didn't like it*."

(Water Cycle, Negative/ Not Entertaining)

Gonca: "*Group and mind mapping…the one we did a presentation in…Because we chose ours and the thing, our animal…It was more fun. We wrote three things in there. I wrote that I love my animals and siblings. Nice, I liked it better*."

(Group Work, Positive/ Entertaining)

İnci stated "*Watercolor paint. I don't like watercolor painting at all. I like drawing pictures but I don't like watercolor painting. Besides, watercolor painting makes my hands dirty. I care about cleanliness. That's why I don't like it*."

(Fingerprint, Negative/ Dirty/Messy)

Students' Views on Effect of Application on Feelings and Thoughts towards Social Studies Course

Students in the experimental group were interviewed to elicit information regarding their views on the effect of the application on feelings and thoughts towards Social Studies course. Findings are given in Table 15.

Table 15. Effect of Application on Feelings and Thoughts towards Social Studies Course

Themes	Codes	Students
Positive Change	*I have grown a liking to it*	Ali, Ayşe, Eda, Emre, Gonca, İnci, İpek, Songül
	I like it better	Suna, Nilay
No Change	*I like it*	Gökhan
	I do not like it	Murat

The effect of the application on changes in students' feelings and thoughts towards Social Studies course was grouped under the themes of "Positive Change" and "No Change." The codes of "*I have grown a liking to it*" and "*I like it better*" were specified under the theme of "*Positive Change*." The codes of "*I like it*" and "*I do not like it*" were specified under the theme of "*No Change*". The examples of the opinions of the students are as follows:

> Gonca: "*Teacher, I didn't like it before, but I like it better now. Teacher, it is more fun when we do activities*."
>
> (*Positive Change, I have grown a liking to it)*
>
> Suna: "*Yes, it has changed. I liked Social Studies [course] better because we do fun activities, and I have been more interested in it*. "
>
> (*Positive Change*, *I like it better)*
>
> Gökhan: "*There was no change. I have already liked it. I still like it*"
>
> (*No Change*, *I like it)*
>
> Murat: "*I have never liked it, so no, I still do not like it*."
>
> (*No Change*, *I do not like it)*

Students' Views on Associating Social Studies Course with Different Disciplines

Students' views on the association of Social Studies course with different disciplines were sought in the interviews. Findings are given in Table 16.

Table 16. Associating Social Studies Course with Different Disciplines

Themes	Codes	Students
Positive	*Entertaining*	Emre, Suna, İnci, İpek, Songül
	Learning Information	Nilay
	Permanent Learning	Ayşe
	Understanding Easily	Gonca
	Development of Confidence	Gökhan
Negative	*Confusion*	Ali, Eda
	Irrelevant	Murat

Students' views on the association of Social Studies course with different disciplines were grouped under the themes of "*Positive*" and "*Negative*". The codes of "*Entertaining,*" "*Learning Information,*" "*Permanent Learning,*" "*Understanding Easily*" and "*Development of Confidence*" were specified under the theme of "*Positive*". The codes of "*Confusion*" and "*Irrelevant*" were specified under the theme of "*Negative*". The examples of the opinions of the students are as follows:

> İnci: "*Actually, it's the best way to get it done. Because if there too many games, then it gets boring but if it's too plain, then it gets boring too. This was the best. There were discussions, there were speeches, there were games, and there were activities. There were pictures and stuff. Mevlana's things and others' lives. It was good in that sense*."
>
> (*Positive*, *Entertaining)*

Nilay: "*It's a good thing. I get to learn more.*"

(*Positive, Learning Information)*

Ayşe: "*I like it now, teacher. I remember everything my teacher said and others said, but I can't say the same thing for those who are careless.*"

(Positive, Permanent Learning)

Gonca: "*I think good things about it. Because some people understand better by doing activity rather than by reading, and some understand better by seeing. So it makes them understand better. Besides, it is fun.*"

(Positive, Understanding Easily)

Gökhan: "*We learn about our own lives, then we can improve our self-confidence.*"

(Positive, Development of Confidence)

Eda: "*I think it would create a confusion. Because you cover the subject of mathematics but you also cover many things from Sciences, Social Studies, Turkish, Traffic Security and whatnot, we wouldn't know what to keep in mind.*"

(*Negative, Confusion)*

Murat: "*It wouldn't work. Because, teacher, it wouldn't be relevant with another subject.*"

(Negative, Irrelevant)

Students' Views on Fields That Can Be Associated with Social Studies Course

Students' views on fields that can be associated with Social Studies course were sought in the interviews. Findings are given in Table 17.

Table 17. Fields That Can Be Associated with Social Studies Course

Themes	Codes	Students
	Sciences	Ali, Emre, Gökhan, Gonca, İnci, Murat, Songül
	Turkish	Ayşe, Eda, Emre, Suna, Gonca, İnci, Nilay
	Mathematics	Ayşe, Gonca, İnci, Nilay, Songül
Assocation	*Culture of Religion and Moral Knowledge*	Emre
	Law	Songül
	Health	Songül
	Safety	Songül

Students' views on fields that can be associated with Social Studies course were grouped under the theme of "*Association.*" The codes of "*Sciences,*" "*Turkish,*" "*Mathematics,*" "*Culture of Religion and Moral Knowledge*" "*Law,*" "*Health*" and "*Safety*" were specified under this theme. The examples of the opinions of the students are as follows:

Ali: "*Well, It looks like Sciences. In Sciences, we do something about living things, and also in Social Studies. For example, cycles of living things, it is similar to lives of living things.*"

(*Association*, *Sciences)*

İnci: *"I can do it because the topics of mathematics include every other topic. For example, Social Studies course covers the birth and death year of Atatürk. Turkish covers our physical features and our personal characteristics. We occasionally learn things in Sciences, too. I associate it mostly with Turkish because such topics are covered a lot in Turkish. They ask many [Turkish] questions in exams. We need to understand those topics well to understand the exams well. It's the same thing in mathematics. They sometimes ask questions about personal characteristics or*

the life of Atatürk in exams. Also in Sciences, there are cycles; gas, steam or liquid circulation, water circulation is also there, we cover it."

(*Association, Turkish/ Sciences/ Mathematics)*

Ayşe: "*Well, teacher, chronology, for example, teacher, ranking numbers from smallest to largest…I mean with Mathematics…I can associate emotions and thoughts with Turkish…that's all.*"

(*Association, Turkish/ Mathematics)*

Emre: "*That water cycle, for example, is about Sciences. It's also about the Culture of Religion because it's also about nature. Then… the mind map. It seems to be related to Turkish, I guess…Because I think they are very much related*."

(Association, Culture of Religion and Moral Knowledge/ Sciences/ Turkish)

Songül: "*It can be associated with mathematics, chronological study… sciences, nature, plants…And, how should I put it?… There is that thing we figure out who the robber is…That one…there is such a course…That, for example…I can associate it [Social Studies Course] with that one, health and the field of police work and law*."

(Association, Mathematics/ Sciences/ Law/ Health/ Safety)

Discussion, Conclusion and Suggestions

The results of the first subproblems show that SSSM activities applied in the fourth grade Social Studies course in primary school cause a meaningful difference in creative thinking skills. This result can be interpreted as a positive effect of the prepared activities on creativity skills in Social Studies course in the fourth grade in primary school. It can be stated that the applications and techniques involved in these applications (mind map, metaphor, techniques used in creative drama, etc.) are effective in the development of creative thinking skills. Widiana and Jampel (2016, p. 251) state that the multi-intelligence approach they designed using mind maps has a positive effect on students' creativity. At this point, it is also necessary to consider the structure of mind maps, which allows the right and left lobes of the brain to operate together. The use of imagination (right lobe) and associations (left lobe) in mind maps provides a positive contribution to the generation of creative ideas (Buzan, 2009, p. 26). It is also believed that the metaphors used in the activities positively affect students' creative thinking skills. It is stated that metaphors help to organize creative ideas while offering alternative solutions to unusual problems and situations (Choi & Kim, 2017, p. 31). The techniques used in the creative drama (mind journey, role playing, role cards, games, etc.) were utilized in the activities designed for the research. Since creative drama is an interdisciplinary field (Adıgüzel, 2014, p. 337), the richness and diversity of the techniques used are believed to have positively affected the process. There are studies on the effect of different methods and techniques on creative thinking skills in Social Studies course. Bacak (2008) states that the story-based learning approach has a positive effect on creativity while Hackney (2010) reports that teaching methods to support creative problem solving positively affect Social Studies course. Considering the fact that GEMS focuses on the development of high-level skills and related-designs (Barret et al., 1999), we can state that GEMS-based SSSM activities serve the purpose of developing creative thinking skills in Social Studies course. Moreover, SSSM activities are believed to provide solutions to problems with which educators are faced such as lack of sufficient information and activities to enable students to develop creative thinking skills, especially in Social Studies course (Atik, 2006), and time, venue, etc. issues for the implementation of activities. Therefore, SSSM activities incorporating positive sciences into Social Studies course lead to the development of a model specific to the field.

Results show that there is a statistically significant difference in the fluency and originality dimensions but no statistically significant difference in the flexibility dimension of verbal creativity between the experimental and control groups in favor of the former, indicating that the activities applied in the research have an effect on fluency and originality dimensions in terms of generating numerous and high level ideas. This improvement in fluency defined as the continuity of ideas in verbal creativity and originality defined as a new way of thinking is important for such a course as Social Studies, which focuses on the development of the ability to interpret the world, to think broadly and to produce new ideas constantly in the face of different social events and situations. Arguing that the main problem arises from not seeing the meaning behind the words, Barr et al. (2013, p. 15) state that students who learn to think about complex issues with the skills and care of social scientists can best examine the functioning, structure and problems of society which they will inherit in the future. Winkelhake (2015, pp. 22-23) supports this view by maintaining that the examination of world-wide problems in the light of science, mathematics and social science will be a step in the education of future problem solvers. Kaplan's (2012) essay entitled "*Yeni Bir İnsan Tipi Yaratmak*" (Creating a New Human Type) refers to a "Modern Type of Parents" in Turkey (p. 32), which is, in a sense, an example to studies addressing a new type of human that should be educated. Kaplan (2012, p. 36) states that the Modern Type of Parents is the human of the future who should stand up to challenges, appreciate culture, read, graduate from university, establish positive relationships, and gradually transform their surroundings by using all their heart and intelligence. Resulting in an improvement in the fluency and originality dimensions of creativity in Social Studies course, the developed SSSM activities provide an alternative for the education of the type of individuals who will have an impact on society.

Results show that there is a statistically significant difference in the fluency, originality, abstractness of titles, elaboration, resistance to premature closure and list of creative strengths dimensions of figural creativity between the experimental and control groups in favor of the former, suggesting that the activities applied to the experiment group had an effect on all dimensions in terms of generating numerous and high-level visual and spatial ideas. It can be stated that the applied experimental activity was effective in the development of imagination and the ability to interpret from different perspectives referred to as resistance to premature closure and list of creative strengths. Considering the fact that humanity is what it makes of itself (Meriç, 2010, p. 232), individuals who will self-construct are expected to be effective in all aspects of generating high-level visual and spatial ideas. It can be stated that the activities developed in Social Studies course had a positive effect on students to generate visually and spatially creative ideas, which supports the notion that "students learn best by doing" (Pompea & Gek, 2002).

The results of the second subproblems show that SSSM activities applied in the fourth grade Social Studies course in primary school revealed a meaningful difference in academic achievement. The experimental group students' academic achievement scores were statistically significantly higher than the control group students', suggesting that the applications were more effective on the experimental group than on the control group. This result can be interpreted as SSSM activities applied in the fourth grade Social Studies course in primary school having a positive effect on academic achievement, which is consistent with the results of studies on the effect of GEMS-based activities on academic achievement (Bevis, Granger, Saka, & Southerland, 2009).

The results of the third subproblems show that Students' answers to "how was the course taught before the application?" show that the lecture mostly included activities in which they were passively engaged. These activities focused especially on reading, writing, question-answer and direct instruction. In other studies, when students were asked to describe the activities in which they were actively engaged, they referred to workbook activities, research assignments and poster-making. It can therefore

be stated that the results of this study are consistent with those of studies on enhancing the engagement of students both inside and outside the classroom with Social Studies course supported by different activities (Lee, Lim, & Ng, 1997; Salako, Eze, & Adu, 2013). Studies on problems encountered in the implementation of Social Studies curriculum indicate that teachers are concerned about the lack of available resources (Basiga, 2006; Palandökenlier, 2008; Vural, 2008; Kuyubaşıoğlu, 2009; Hackney, 2010; Doğanay & Yağcı, 2011) and sufficient knowledge and competence (Atik, 2006) to enable students to develop creative and critical thinking skills. The results of this study therefore confirm the findings in the literature, indicating that activities in which students are actively engaged are needed and that the number of activities and teachers' competence are insufficient. The statement of Gökhan (from the experimental group) "*The teacher was covering a topic and asking us to read about it and then getting us to write"* support this interpretation.

Students' views on the application activities show that they evaluate all the GEMS -based SSSM activities positively. They state that they found "Ivy-Walnut Tree," "Mind Map," "Water Cycle" and "Mind Journey" activities difficult and that they disliked the "Fingerprint" activity as the paints spread around. These activities have contributed to the development of students' creativity skills and academic achievement. From this point of view, it can be interpreted that giving students the opportunity to engage in activities they like during Social Studies lessons positively affects their creativity and academic achievement. Adkins (2013, p. 158) states that using different methods and techniques in Social Studies lessons supports students in various aspects. In addition, the literature contains studies asserting that using different methods and techniques affects Social Studies course in a versatile and positive way (Karabacak, 2011; Atalay, 2014; Bolat, 2016; Gürkan, 2016; Çatlak, 2017; Taşkıran, 2017). Therefore, the results of this study are consistent with the literature. The statement of Gonca from the experimental group *"Because, teacher, they are all fun, I am not wasting my time, when it's not a waste of time, we just don't understand how fast the lesson goes by, so I had a lot of fun"* supports this interpretation. Though students found "Ivy-Walnut Tree," "Mind Map," "Water Cycle" and "Mind Journey" activities difficult as it was the first time they engaged in them, later on, they stated that they enjoyed them, too.

Experiment group students expressed a positive change in their feelings and thoughts towards Social Studies lessons carried out with SSSM activities. Students who already love Social Studies course stated that they loved it more while students who did not like love Social Studies stated that they grew a liking to it during Social Studies lessons carried out with SSSM activities. Suna expressed this change by stating *"Yes, it has changed. I liked Social Studies [course] better because we do fun activities, and I have been more interested in it"*. Aktepe, Tahiroğlu, and Sargın (2014, pp. 268-269) argue that although fourth graders have positive views on Social Studies course, they feel distressed about attending the lesson, dislike studying it and are afraid of the course and its exams. The findings of this study can be said to run counter to this situation expressed in the literature. Social Studies course carried out with SSSM activities motivated the students. Educational environment and course tools and materials prepared considering students' level enable students to develop a positive attitude towards the course (Swanson & Legutko, 2008, Karadeniz & Ata, 2013; Aktepe et al., 2014). Moreover, these activities, which are effective in increasing students' motivation, have a positive effect on the development of academic achievement and creative thinking skills.

Students associated Social Studies course with different fields (Sciences, Turkish, Mathematics, Religion, Law, Health, Safety etc.). When students made these associations, they presented the activities as examples. Songül from the experimental group expressed this view by saying *"Mathematics, chronological study… sciences, nature, plants…And, how should I put it…there is that thing we figure out who the robber is…that one…there is such a course…that for example…I can associate it [Social Studies Course] with that one, health and the field of police work and law."* It can be stated that the application had a positive effect

on students' associating Social Studies course with different fields. Studies on interdisciplinary approaches maintain that bringing together different disciplines provides people with the opportunity to develop the ability to perceive the world as a whole (Winkelhake, 2015, pp. 22-24), and to comprehend and solve real-life problems (O'Donnel, 2015, p. 76). Students' associations of activities with different fields have a positive effect on academic achievement and creative thinking skills. Therefore, findings are consistent with those in the literature. The experimental group students' views on the association of Social Studies course with different courses and fields were positive. They state that this situation made the lessons more entertaining and that these associations will make a positive contribution to permanent learning and provide self-confidence. Studies on interdisciplinary approaches point out that bringing together different disciplines improves students' engagement and enthusiasm (Sullivan, 2000; Suraco, 2006; Laughlin & Nganga, 2008) and contributes to multidimensional thinking skills (Yıldırım, 1996, p. 90). The results of the application performed in this study are in parallel to data in the literature. SSSM activities enable students to associate Social Studies course with other fields, which supports academic achievement by positively affecting creative thinking skills. In the light of this result, it can be stated that performing SSSM activities and associating Social Studies course with different courses and areas support students in various aspects. The suggestions of the research can be listed as follows:

1. The results of the first, second and third subproblems show that the techniques used in SSSM activities contributed to GEMS's foundation in Social Studies course. In this respect, it is recommended that SSSM activities be designed for different units, achievements and skills and that different grades and variables be taken into account in design. Similarly, activity pools for SSSM activities should be established to provide diversity for researchers and teachers in primary school Social Studies course.
2. The results of the first subproblem shows that considering the fact that SSSM activities will contribute to Social Studies course aiming to educate the type of individuals who will have an impact on society, course contents should be organized in this direction and SSSM activities to be prepared for Social Studies course should be designed by determining what to teach the younger generation.
3. The results of the first subproblem shows that given the fact that Social Studies fourth-year curriculum of the MNE was designed to improve creative thinking skills, but that the activities included were limited and one-dimensional, activities aimed at improving creativity should be given special emphasis in Social Studies course in primary school. It is recommended that reading activities to develop creative thinking and imagination be performed, and methods and techniques to improve creativity be included in the course. It may also be suggested to develop projects involving teachers, parents, school environment and students.
4. The results of the first, second and third subproblems show that using the prepared activities, a sample program can be developed for Science and Art Centers (BİLSEM).
5. The results of the third subproblem shows that given the fact that SSSM activities have a positive effect on students' ability to establish daily life relationships in Social Studies course, two- or three- day workshops called "SSSM Days in Social Studies" can be organized to enable students to use SSSM activities more effectively for their daily life associations in Social Studies course. A wide range of application areas can be provided by encouraging teachers and researchers to participate in the workshops.

6. The results of the third subproblem shows that given since fun extracurricular activities (music, painting, theater, poetry etc.) carried out in Social Studies lessons contribute to the physical and mental development of students, it is recommended that more outdoor activities be designed for primary school Social Studies course. These activities can include the works of poets, writers and artists who contributed to the Turkish culture.
7. The results of the third subproblem shows that given based on the fact that the application has a positive effect on students' associating Social Studies course with different fields (Sciences, Turkish, Mathematics, Religion, Law, Health, Safety etc.), it is recommended that subjects and applications to be included in Social Studies course be expanded to cover different areas, rather than solely establish associations between Turkish and Social Sciences. In this respect, while SSSM activities are developed in primary school Social Studies course, multidisciplinary and interdisciplinary projects should be carried out in collaboration with experts from the fields of medicine, law, safety, arts and so on.

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