

Original article

How to Teach Social Studies? An Interdisciplinary Model for Pre-Service Primary School Teachers: SSSM (Social Sciences – Science – Mathematics)

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Abstract

This study tried to determine how the theory and practice of the social studies teaching course taken by pre-service primary school teachers were shaped. The research was conducted using a case study, one of the qualitative research designs. The study group consisted of 11 pre-service teachers studying in the third grade of the Department of Primary Teaching at a state university in the 2019-2020 academic year and 11 classroom teachers teaching in the schools where these pre-service teachers made observations. Criterion sampling, one of the purposeful sampling methods, was used to determine the study group. Semi-structured interview forms, field observations, lesson plans developed by pre-service teachers, and metaphors created by pre-service teachers were used as data collection tools. According to the study results, the SOFEM lesson plans developed by the pre-service teachers associated the Social Studies course with different disciplines, especially Science, Mathematics, and Health. They created the plans based on real fiction. It was determined that the pre-service teachers needed to be more decisive in making associations in different disciplines in the steps of the invention of the concept and transformational thinking, and they could not benefit from the studies of creating meaning about the concept and combining disciplines related to high-level skills. Nevertheless, they tried to adapt the Social Studies course to real-life applications by using different methods and techniques in the application step. On the other hand, it was observed that the classroom teachers in the field did not make use of interdisciplinary associations or integration of disciplines in their Social Studies course practices and that they used teaching methods and techniques such as question-answer and discussion in which the teacher was active. It was determined that the teachers in the field received theoretical training on Social Studies teaching before their service and had deficiencies in practice, and this situation was reflected in the learning-teaching processes in their classrooms. According to the results of the research, it can be suggested that classroom teachers should cooperate with faculties of education to associate disciplines, and teachers and prospective teachers should focus on practices to combine disciplines in the planning and implementation process in the Teaching Practice courses carried out in the classroom teaching program. It can be suggested that classroom teachers should come together with teachers from their own branch and teachers from different branches (Music, Visual Arts, Mathematics, Science, Turkish, etc.) to plan for the Social Studies course outcomes and develop activity designs for higher order thinking skills in these plans.

Keywords: Interdisciplinary Approach, Preservice Teacher, Primary School, Primary School Teacher, Social Studies Teaching.

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INTRODUCTION

The discipline of social studies is "a study on human beings" (Zarillo, 2016, p. 4). It is similar to the essence of human beings because it combines different disciplines. Human beings are "microcosms" (Bhadra, 2019) that are a totality of diversity. The similarity between us and the universe (Vazza and Feletti, 2020) and our efforts to make sense of this complexity urge us to reinterpret and conduct research on social studies. The definition of social studies has changed over time. Parker's (2018) definition of social studies is based on social and civic competence, while Inan (2019) defines it as a course taught in schools and a new multidisciplinary field of study. However, this can be expressed as a reflection of the confusion in the concepts of multidisciplinary and interdisciplinary approaches used to define the relationship between social studies and other disciplines.

Multidisciplinary approaches involve the integration or association of different disciplines, whereas interdisciplinary approaches involve combining and interrelating two or more disciplines. The discipline of social studies offers a holistic perspective by incorporating different disciplines and combining them. The National Council for the Social Studies (NCSS) has a vision of social studies that is active, meaningful, integrative, engaging, value-based, and powerful (Seefeldt et al., 2015). In order to realize that vision, we need to adopt interdisciplinary or transdisciplinary approaches that focus on a holistic view rather than multidisciplinary approaches to address social studies. According to the NCSS, "Social studies coordinates and is systematically compiled from various social science disciplines, such as anthropology, sociology, archeology, economics, geography, history, law, psychology, political science, philosophy, religion, sociology, humanities, mathematics, and natural sciences." This underlines that "social studies" adopts a "holistic" approach to combining disciplines. The holistic approach is also present in classroom teaching. Primary school lessons based on a holistic approach and associations are more effective because children perceive the world as a whole and acquire their first scientific knowledge. Primary school students develop learning skills when they are engaged in activities. When they learn a topic, they relate it to their environment (Stanley, 2018). Primary school teachers bring together the first scientific concepts of each discipline. Therefore, they should formulate holistic activities that are appropriate to the nature of their students.

Theoretical and Conceptual Framework

All preschool and primary school curricula treat disciplines as a whole (Seefeldt et al., 2015). Suppose academics use different methods and activities based on integration to teach social studies. In that case, they can design creative learning environments to help preservice primary school teachers acquire the knowledge and develop the skills they need to perform effectively in classroom settings when they step into professional life. Holistic preservice education is based on the following parameters: taking area courses, conducting laboratory experiments, using instructional technologies and materials, and engaging with learning designs that keep up with the requirements of the age. On the other hand,

how pre-service primary school teachers perceive the social studies course and express the related concepts will also affect this situation (Gezer, 2020). According to Petrie, metaphors used to perceive and interpret concepts in the literature are the primary pedagogical tool that bridges the gaps between different categories and concepts of different disciplines (Petrie, 1976). Pre-service teachers' perception of social studies courses may also affect the metaphors they create in this direction. (Akça-Berk, Gültekin, & Çençen, 2015). Preservice teachers who receive this type of holistic education are more likely to perform better professionally (Büyükgöze-Kavas & Bugay, 2009). Settings with integration-based learning designs that focus on different disciplines allow preservice teachers to look at things holistically (Karakuş & Aslan, 2016).

The studies of primary school teachers, who will give a holistic perspective on primary school in pre-service education, are essential. Indeed, primary school teachers are similar to Turkish music performers (virtuosos in Western music). An excellent Turkish music performer should know all the characteristics of the maqams, create new melodies, and perform unusual and creative transitions, performances, and nuances from maqam to maqam (Behar, 2019). She must be familiar with teaching methods, know specific instrument performance techniques, and have a vast repertoire of instruments. Similarly, primary school teachers should have content knowledge and a good understanding of methods and techniques. They should also be creative enough to provide environments that stimulate their students' curiosity and allow them to discover themselves. They should adopt holistic and interdisciplinary perspectives (science, mathematics, social studies, life sciences, visual arts, music, physical education, games, etc.) to achieve this. This integration is inevitable for social studies education. For example, a social studies teacher must focus on geography to help their students acquire the fourth-grade learning outcome "SS4.3.3. The student distinguishes between natural and human elements in the environment." However, she should also focus on natural sciences (physics, chemistry, biology, etc.) to address the physical form of phenomena and their interaction with their environment. She should also concentrate on math to calculate the area of the phenomena (travertines, sinkholes, etc.). She can also associate them with music by matching the elevations of the phenomena with notes.

Moreover, she can use Turkish and linguistics by creating metaphors and analogies related to the phenomena. In short, social studies teachers are supposed to integrate all disciplines to deliver their lectures effectively. If academics use interdisciplinary and transdisciplinary activities to deliver social studies education, primary school teachers can redesign their educational environments when they enter professional life.

Almost all countries switched to artificial intelligence-supported online education due to the COVID-19 pandemic, indicating that we must integrate holistic perspectives and different fields (Snell-Rood et al., 2021; Wen et al., 2021). For example, some institutions plan to provide education on the Metaverse, a virtual universe (Kalkan, 2021; Jovanović & Milosavljević, 2022). The Metaverse has a

comprehensive and holistic structure that involves technology (blockchain, artificial intelligence, cloud and edge computing, cryptocurrencies, computer vision, etc.) (Damar, 2021). Therefore, undergraduate social studies education should have a holistic, interdisciplinary, or transdisciplinary design to help preservice teachers prepare for the requirements of the new era. Combining or integrating disciplines is no longer an ideal but a necessity for primary school teachers (Yearta, 2019). Social studies combined with science and math play a crucial role in educating citizens about decision-making processes and providing them with information and data to help them analyze alternatives and "weigh the arguments" (Van Fossen, 2018).

A Model for Helping Preservice Teachers Integrate Disciplines in Social Studies Teaching: SSSM (Social Sciences – Science – Mathematics)

Today, we need innovative approaches to learning and teaching. According to the new age educational paradigm, students should take an active role in their learning, while teachers should act as advisors (Aslan et al., 2016). At this point, it is crucial to create learning and teaching settings that combine disciplines to generate solutions to daily life skills (Yaki et al., 2019). People educated in combined disciplines develop daily life skills because they do not evaluate real-life problems through a single discipline but look at things holistically (Acıkgül-Firat, 2020). Beane (1997, p.2) states, "The answer to the usual student questions about why certain skills or concepts have to be learned is not 'to prepare for some future' but to do what needs to be done now." In this way, he suggests that we combine disciplines. People solve everyday-life problems by combining disciplines classified as interdisciplinary, transdisciplinary, cross-disciplinary, multidisciplinary, and multidisciplinary (Drake & Burns, 2004; Jacobs, 1989; Park & Mills, 2014). As a product of this classification, social studies, science, and math include different disciplines. These disciplines have diverse practices of making connections, creating content, and mobilizing higher-order thinking skills. There are different integration models for bringing different disciplines together, such as GEMS (Great Explorations in Math and Science), STEM (Science, Technology Engineering and Math), or STEAM (science, technology, engineering, art, and mathematics) (Pompea & Gek, 2002; Stohlmann et al., 2012; Thuneberg et al., 2018). STEM, one of these applications, focuses on the solution of these problems with an interdisciplinary perspective by addressing studies based on daily life problems (Aydın-Günbatar, 2020; Yıldırım, 2021); STEAM is based on adding the artistic perspective to this solution (Awang et al., 2020); GEMS, on the other hand, combines science and mathematics applications and is based on a fun teaching process (Tekbıyık & Yalçın, 2013; Çelik & Tekbıyık, 2016).

SSSM aims to bring together different disciplines in social studies teaching, especially combining positive sciences and social studies. SSSM is based on the application steps of GEMS. Its primary objective is to pave the way for transdisciplinary studies by approaching social studies and positive sciences from an interdisciplinary perspective in social studies teaching (Kartal & Çağlayan, 2018).

Therefore, SSSM consists of five steps: (1) invitation, (2) exploration, (3) the invention of a concept, (4) application, and (5) reflexive thinking. First, fiction based on an actual event, a piece of news, or scientific content aims to arouse interest and curiosity and uncover existing knowledge about the topic or concept (invitation). Second, students are encouraged to question and conduct research about the topic or concept (exploration). Third, students are encouraged to define and explain the topic or concept in their own words. This step is based on students' experiences (the concept's invention). Fourth, students' progress is evaluated. They are encouraged to carry out new activities (application). Fifth, students compare old and new ideas. They develop higher-order thinking skills and come up with a different perspective or product (reflexive thinking). In all these steps, teachers combine different disciplines (science, mathematics, art, art, type, law, etc.) and use methods and techniques to make students active. SSSM put the perspective of combining the disciplines like Social Studies into the center of the curriculum, which the Ministry of National Education (2018) put into practice together with the constructivist approach in 2005. Besides, 10 National Council for the Social Studies Standards (NCSS) themes were used while creating the contents of the social studies curriculum.

Literature Review

Academics need examples and activities that combine disciplines in social studies teaching. Research shows that primary school teachers must learn more about combining disciplines and performing interdisciplinary activities. Therefore, the education faculty should offer preservice primary school teachers undergraduate courses on interdisciplinary activities (Karakuş & Aslan, 2016). Moreover, researchers often focus on combining science and math. In addition, it is recommended that interdisciplinary studies be limited to studies that combine the disciplines of Science and Mathematics, and interdisciplinary studies should be carried out to improve the connections between Mathematics and Social Studies or Science and Social Studies courses (Özaydınlı et al., 2019). In the same study, it was stated that there are not enough studies on interdisciplinary studies in teacher training programs, and there is a need for research on interdisciplinary studies carried out in education faculties to eliminate the deficiency in this area. However, transdisciplinary studies allow us to create a new vision and activities in preservice teacher education to help us explore real-life problems. They also help learners to create new integrated environments (Worster & Rohde, 2020). Sungurtekin and Bilhan (2020) focused on combining art and social studies courses and made three recommendations. First, we must offer preservice teachers learning settings that allow them to adopt a broader perspective. Second, those activities should be carried out with teachers from different disciplines through in-service training. Third, teachers should create interdisciplinary activities that connect past and present cultural values. Stanley (2018) maintains that primary school teachers should integrate social studies into students' daily lives and integrate it with other disciplines. While doing all this, they should also connect with students' interests. Seitz and Krutka (2020) conducted a study on "climate change" in social studies. They stated

that teachers should design lessons that combine disciplines and help students become active, engaged, and participatory ecological citizens who fight for a more just society and use deliberative methods to solve problems and take informed action on social issues. Sağ and Ünal (2019) focused on how to teach the topics of "culture" and "heritage" in social studies in primary school. They stated that teachers should include content from different disciplines and use different methods and techniques to design their lessons. Retnaningsih (2019) also argues that teachers should design interdisciplinary activities to train preservice teachers in delivering social studies lessons. However, Powell (2018) maintains that designing and implementing activities that combine disciplines is hard.

Furthermore, researchers should evaluate the teaching effectiveness of social studies concepts integrated with literature, mathematics, and science (Ollila & Macy, 2019). It is essential to determine how much theoretical knowledge primary school preservice teachers have and how much they put into practice when delivering social studies lessons. Akaydın and Kaya (2015) argue that teachers fall short of associating social studies with other disciplines.

Therefore, this study sought answers to the question: "How has the theory and practice of the social studies teaching course taken by the pre-service primary school teacher shaped?"

The following are subquestions:

- What kind of SSSM-based lesson plans do preservice teachers develop?
- What do preservice teachers' observations tell us about how primary school teachers deliver social studies lessons?
- What do primary school teachers think about how they deliver social studies lessons?
- What kind of metaphors do preservice teachers generate about combining disciplines in social studies lessons?

MATERIALS and METHODS

Research Design

This paper adopted a case study design, which focuses on the "how" or "why" of an event, phenomenon, or situation (Yin, 2017). A case study aims to provide an in-depth understanding of a phenomenon and to describe and elaborate on its unique nature (Creswell, 2018). This study had three objectives: (1) assessing preservice teachers' lesson plans for the social studies course, (2) comparing preservice teachers' lessons plans with how primary school teachers deliver social studies classes in practice, and (3) determining what kind of metaphors the preservice teachers generate about the social studies course.

Sampling

The sample consisted of 22 participants. Eleven participants (nine women and two men) were third-year students from the department of classroom teaching of a public university in the 2019-2020 academic year. Eleven participants were 11 primary school teachers (nine women and two men) observed by the preservice primary school teachers. Participants were recruited using purposive criterion sampling. The inclusion criteria for preservice teachers were (a) taking the “social studies teaching” course and (b) having developed interdisciplinary lesson plans for the social studies course. The inclusion criteria for primary school teachers were (a) being a primary school teacher and (b) having taught fourth graders. Table 1 shows the primary school teachers’ sociodemographic characteristics.

Table 1. Primary school teachers’ Sociodemographic Characteristics

Participant	Gender	Work Experience (year)	Undergraduate Degree
Eda	Woman	3.5	Adıyaman University
Canan	Woman	6	Kayseri Erciyes University
Nilay	Woman	2	Gazi University
Suna	Woman	7	Kırıkkale University
Osman	Man	9	Dokuz Eylül University
Gülây	Woman	4	Ondokuz Mayıs University
Aynur	Woman	9	Atatürk University
Hande	Woman		Mustafa Kemal University
Eylem	Woman	5	Bolu İzzet Baysal University
Ali	Man	17	Van Yüzüncü Yıl University
Selma	Woman	24	Ankara University

Instruments and Procedures

The data were collected using a semi-structured interview form, field observations, lesson plans, and metaphors. The semi-structured interview form was developed to interview the primary school teachers. The form consisted of open-ended and general questions. Three experts (one academic with a Ph.D. in social studies education, one with a Ph.D. in classroom teaching, and one primary school teacher) were consulted to assess the intelligibility and relevance of the questions. The form was revised based on their feedback. A pilot study was conducted with three primary school teachers. The form was finalized based on the pilot study results. Qualitative research involves using numerous data collection tools (interviews, observations, documents, audiovisual materials, etc.) (Creswell, 2018). To ensure data diversity, we focused on the preservice teachers' lesson plans, observations, and primary school teachers' views. Observations are conducted to triangulate findings. In other words, observations are combined with interviews and document analysis to substantiate findings (Merriam, 2015). We analyzed the preservice primary school teachers' lesson plans together with their observations and the primary school teachers' opinions to ensure data diversity. The preservice teachers developed the lesson plans and

observed (participatory observation) the primary school teachers deliver the "social studies" classes. Each observation was recorded on a field note.

The data were collected between September 2019 and March 2020. Table 2 shows the 14-week course syllabus. The preservice teachers developed the lesson plans while making observations.

Table 2. 14-Week Course Syllabus

Preservice teacher	City/District	School	Primary school teacher	Grade-level	Observation Period	Observation Date
Burcu	Bingöl/Solhan	F	Eda	4	40'+40'	29.02.2020
Esmâ	Muş/Center	A	Canan	4	40'	29.02.2020
Emel	Muş/Center	B	Nilay	4	40'+40'	12.03.2020
Handan	Muş/Center	C	Suna	4	40'	06.03.2020
Meltem	Muş/Center	C	Osman	4	40'	28.02.2020
Nigar	Muş/Center	B	Gülây	4	40'	28.02.2020
Pınar	Muş/Center	C	Aynur	4	40'+40'	28.02.2020
Suat	Muş/Center	D	Hande	4	40'	28.02.2020
Yunus	Muş/Center	E	Eylem	4	40'+40'	04.03.2020
Yeliz	Muş/Center	E	Ali	4	40'	28.02.2020
Zehra	Muş/Center	B	Selma	4	40'	05.03.2020

Table 3. Data Collection and Activities

Week	Content	Activity
1	The Fundamentals of Social Studies	Theoretical
2	The Objectives of Social Studies	Theoretical
3	Concept Teaching	Theoretical
4	Skills	Theoretical + Observations
5	Values	Theoretical + Observations
6	Measurement and Evaluation	Theoretical
7	Methods and Techniques	Theoretical+ Interdisciplinary Activity Development Drafts
8	Midterm Exam	Midterm Exam
9	Developing a Social Studies Lesson Plan	Developing SSSM Lesson Plans
10	Developing a Social Studies Lesson Plan	Developing SSSM Lesson Plans
11	Developing a Social Studies Lesson Plan	Developing SSSM Lesson Plans
12	Presenting the plans	Presenting the SSSM Lesson Plans
13	Presenting the plans	Presenting the SSSM Lesson Plans
14	Assessment	Assessment

Data Analysis

Certainly! Here's a more detailed rewrite:

The researcher conducted an inductive content analysis of the data, beginning by transcribing all recorded information and thoroughly reviewing interviews, observation notes, and metaphors, in addition to carefully examining the lesson plans. Following this, the data was coded, and themes were developed based on the categories derived from the initial codes. The researcher revisited the data at different points in time to ensure accuracy and consistency in the coding and themes. To validate the analysis, the researcher sought input from two experts: one with expertise in social studies education and another specializing in primary school education. These experts reviewed the codes and themes and provided valuable feedback, leading to further discussions and adjustments by the researcher. For instance, the initial classification of the code "Theme" under the broader theme "Tag" was revised based on the input from the experts. Ultimately, the researcher identified the interrelationships among the themes, summarized the findings, and presented them in organized tables. Furthermore, to maintain internal consistency, the tables included direct quotations from the interviews, observations, lesson plans, and metaphors (Tables).

Limitations

The results are sample-specific and cannot be generalized to the whole population.

RESULTS

Findings related to the First Subquestion

The first subquestion investigated how the preservice teachers developed SSSM-based lesson plans. The results were discussed under two headings: (1) Findings Related to Lesson Plan Tags and (2) Findings Related to Lesson Plan Steps. Figures present the results.

Findings Related to Lesson Plan Tags

The tags of the lesson plans were collected under four headings: “associated disciplines,” “fiction,” “skills,” and “theme.”

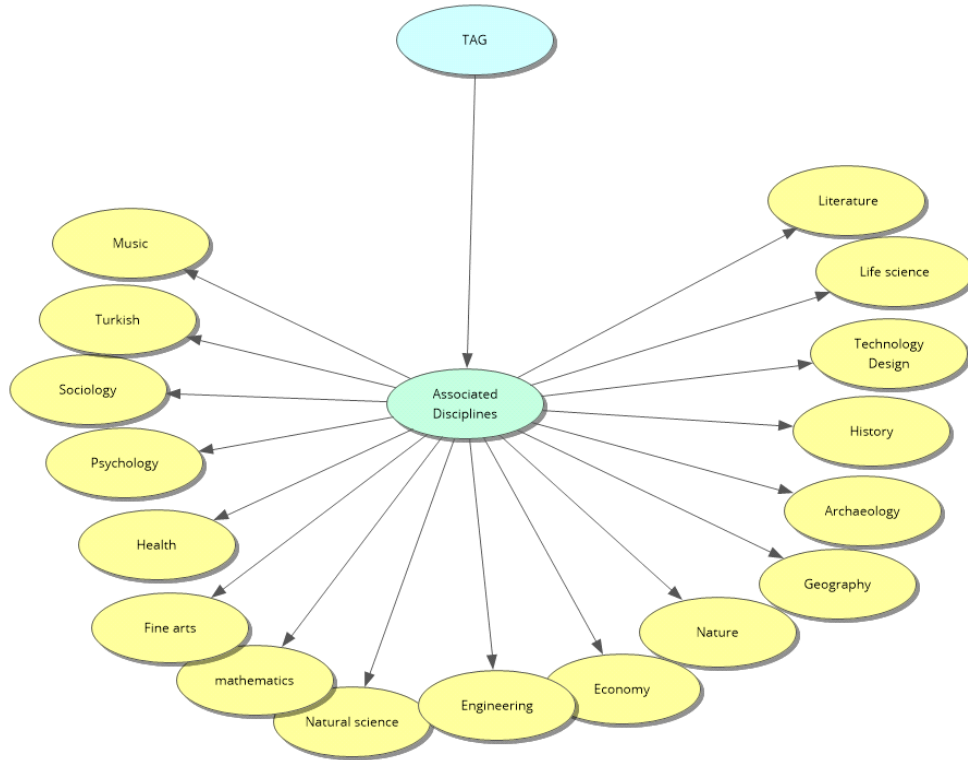


Figure 1. Associated Disciplines

Their SSSM-based lesson plans associated social studies with different disciplines (natural science, math, nature, health, geography, visual arts, music, literature, etc.)

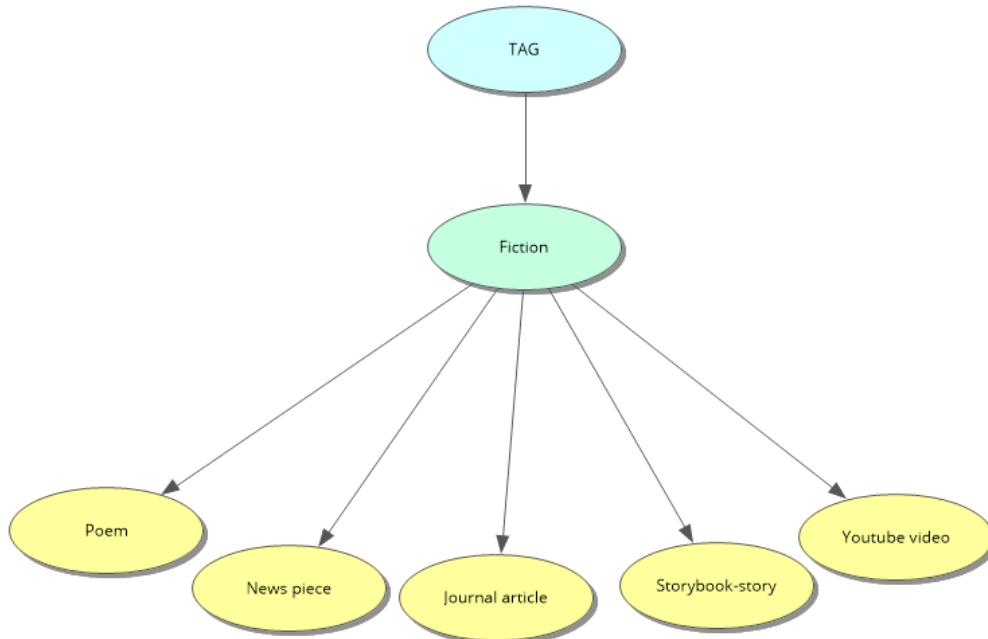


Figure 2. Fiction

The preservice teachers used pieces of news, articles, storybooks, YouTube videos, and poems to develop their fictions.

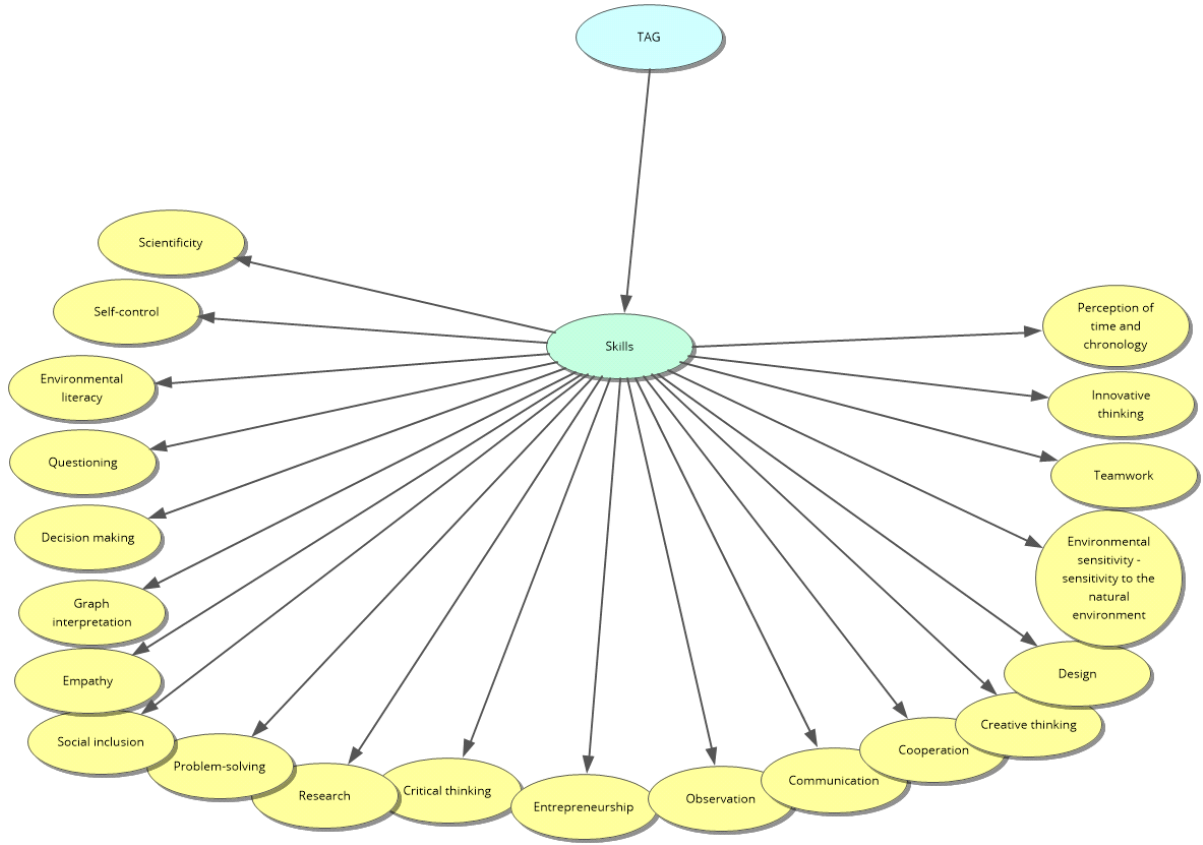


Figure 3. Skills in SSSM Lesson Plans

The preservice teachers used inquisitive, critical thinking, entrepreneurship, observation, communication, cooperation, problem-solving, empathy, and creative thinking skills

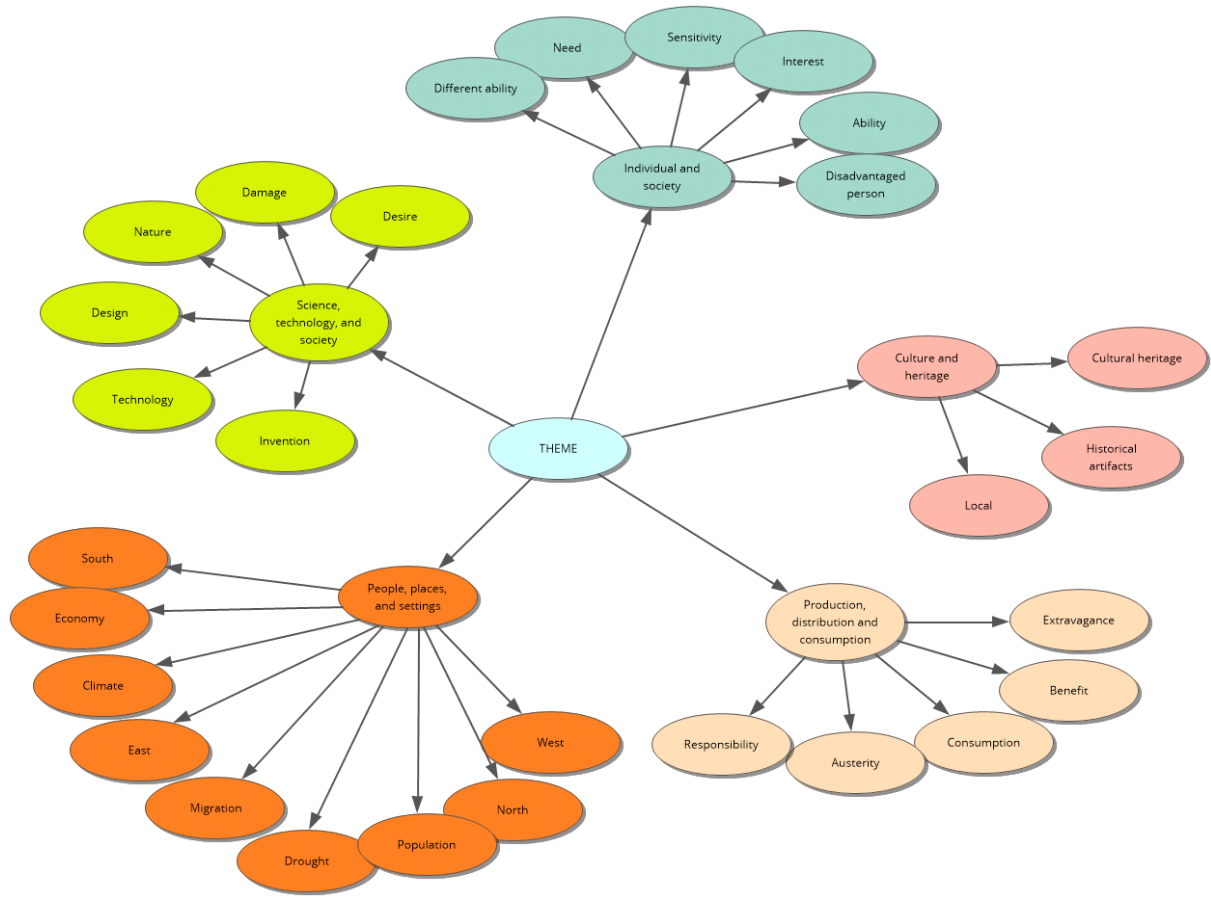


Figure 4. Themes in SSSM Lesson Plans

The lesson plans consisted of five themes: “science, technology and society,” “people, places and settings,” “production, distribution, and consumption,” “culture and heritage,” and “individual and society.” The theme “science, technology and society” addressed the concepts “technology,” “design,” “design,” “invention,” “nature,” “damage,” and “desire.” The theme “people, places, and settings” addressed the concepts “north,” “climate,” “drought,” “east,” and “west.” The theme “production, distribution, and consumption” addressed the concepts “benefit,” “consumption,” “austerity,” “responsibility,” and “extravagance.” The theme “culture and heritage” addressed the concepts “historical artifacts,” “cultural heritage,” and “local.” The theme “individual and society” addressed the concepts “ability,” “disadvantaged person,” “different ability,” “sensitivity,” “interest,” and “need.”

Findings Related to Lesson Plan Steps

The lesson plans were examined under the themes “invitation,” “exploration,” “the invention of a concept,” “application,” and “reflexive thinking.”

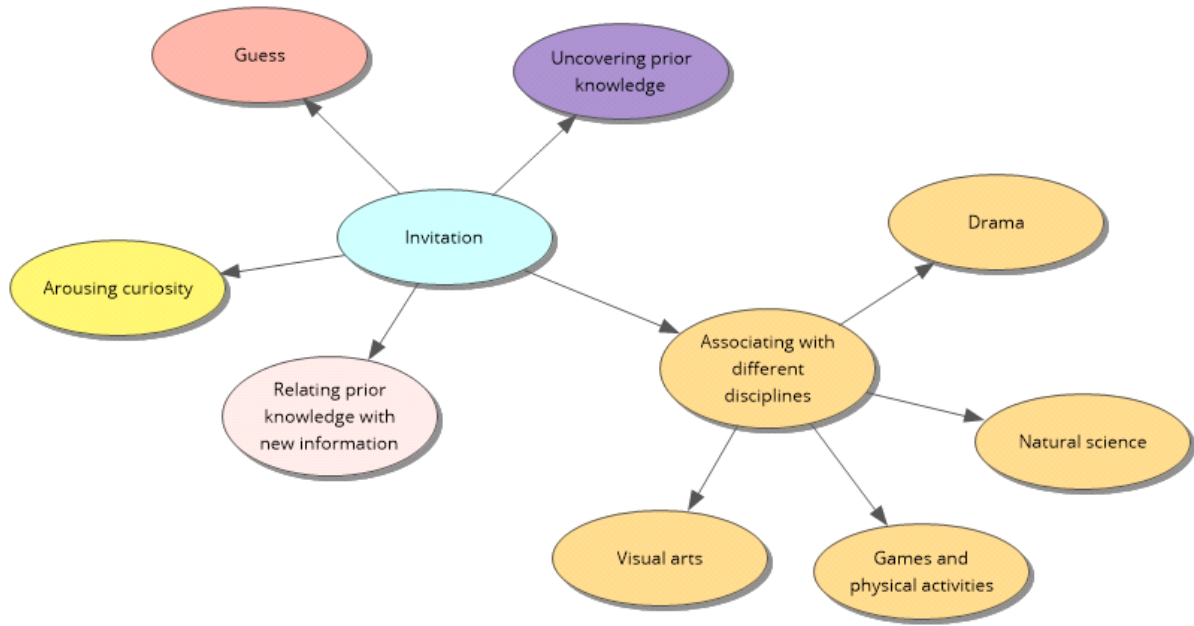


Figure 5. Invitation

The “invitation” step consisted of the themes “arousing curiosity,” “uncovering prior knowledge,” “relating prior knowledge with new information,” and “associating with different disciplines.” The theme “associating with different disciplines” consisted of the codes “natural science,” “visual arts,” “games and physical activities,” and “drama.”



Figure 6. Exploration

The “exploration” step consisted of the themes “open-ended exploration,” “associating with different disciplines,” “concept-skill process development,” “creating a discussion environment,” “working together,” and “methods and techniques.” The theme “associating with different disciplines” consisted of the codes “natural science,” “math,” “geography,” “visual arts,” and “literature.” The theme “methods and techniques” consisted of the codes “concept map,” “fish bone,” “station,” “mind map,” and “game.”

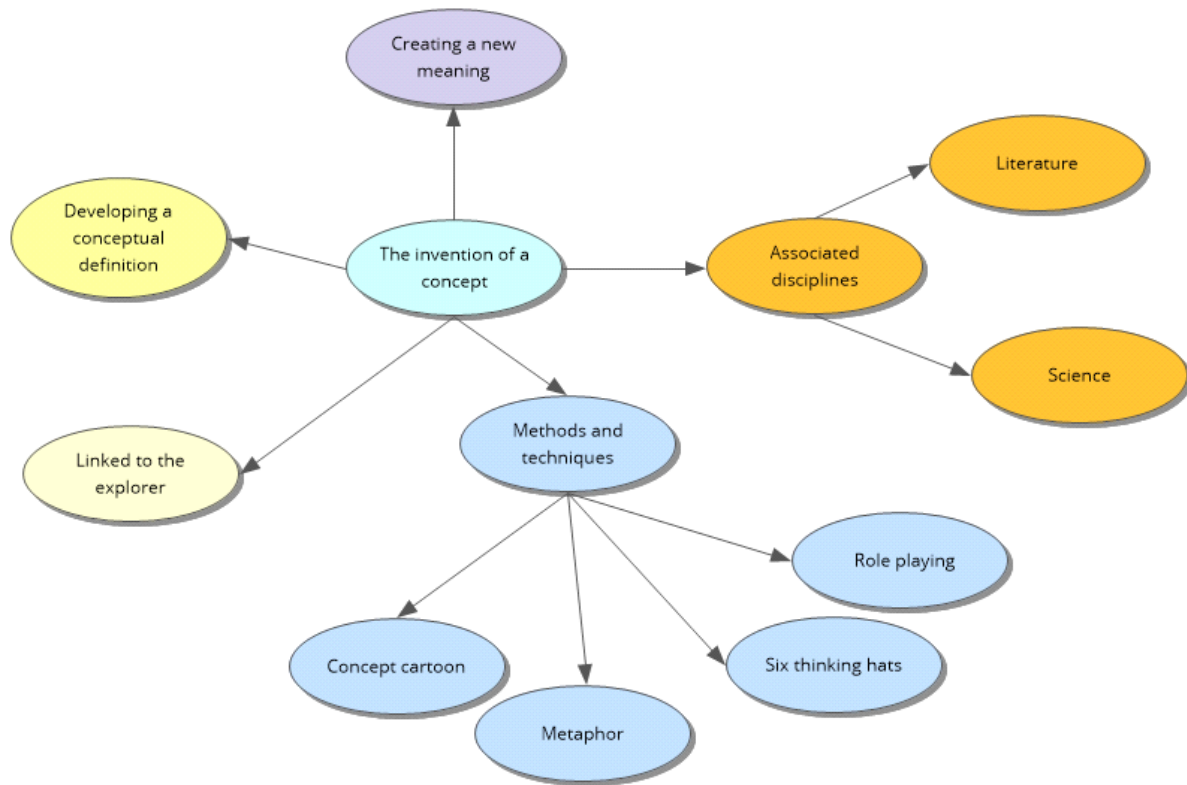


Figure 7. The Invention of A Concept

“The invention of a concept” step consisted of the themes “linked to the explorer,” “methods and techniques,” “developing a conceptual definition,” “creating a new meaning,” and “associated disciplines.” The theme “methods and techniques” consisted of the codes “concept map,” “six thinking hats,” “concept cartoon,” “role-playing,” “concept map,” and “metaphor.” The theme “associated disciplines” consisted of “natural science” and “literature.”



Figure 8. Application

The “application” step consisted of the themes “solving a new problem,” “using concepts in a new context,” and “associating with disciplines.” The theme “associating with disciplines” consisted of the codes “technology,” “sociology,” “natural science,” “archeology,” “geography,” “math,” “visual arts,” and “games and physical activities.”

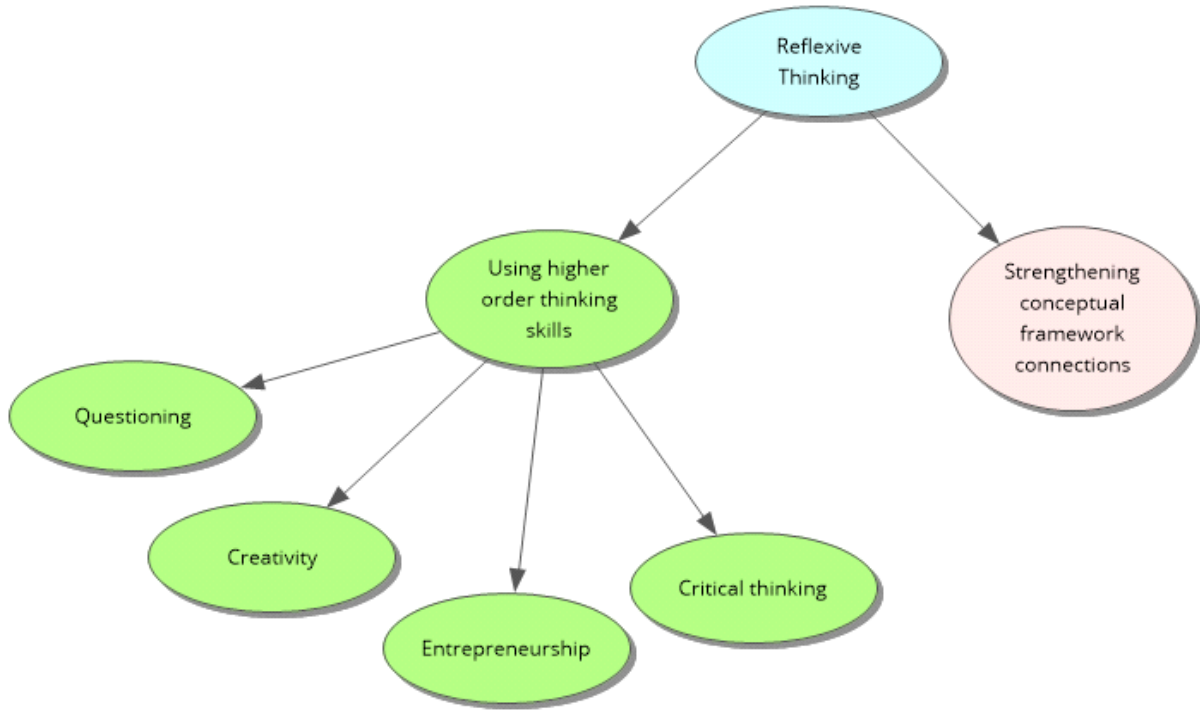


Figure 9. Reflexive Thinking

The “reflexive thinking” step consisted of the themes “strengthening conceptual framework connections” and “using higher order thinking skills.” The theme “using higher order thinking skills” consisted of the codes “creativity,” “critical thinking,” “questioning,” and “entrepreneurship.”

Findings related to the Second Subquestion

The second subquestion focused on the preservice teachers’ observations. The results were discussed under the themes “schools,” “learning outcome,” and “social studies learning-teaching process.” Figures show the results.

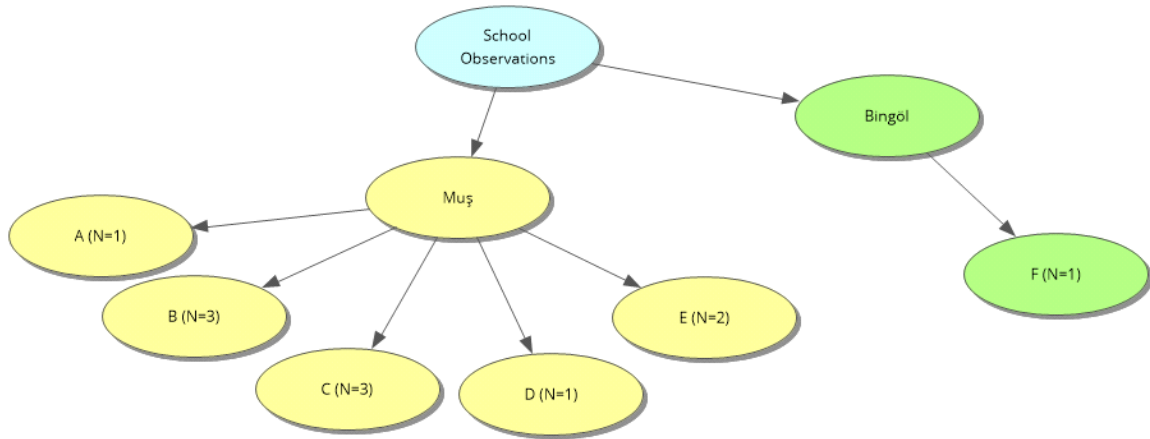


Figure 10. Schools

The preservice teachers made observations in schools in Muş and Bingöl provinces.

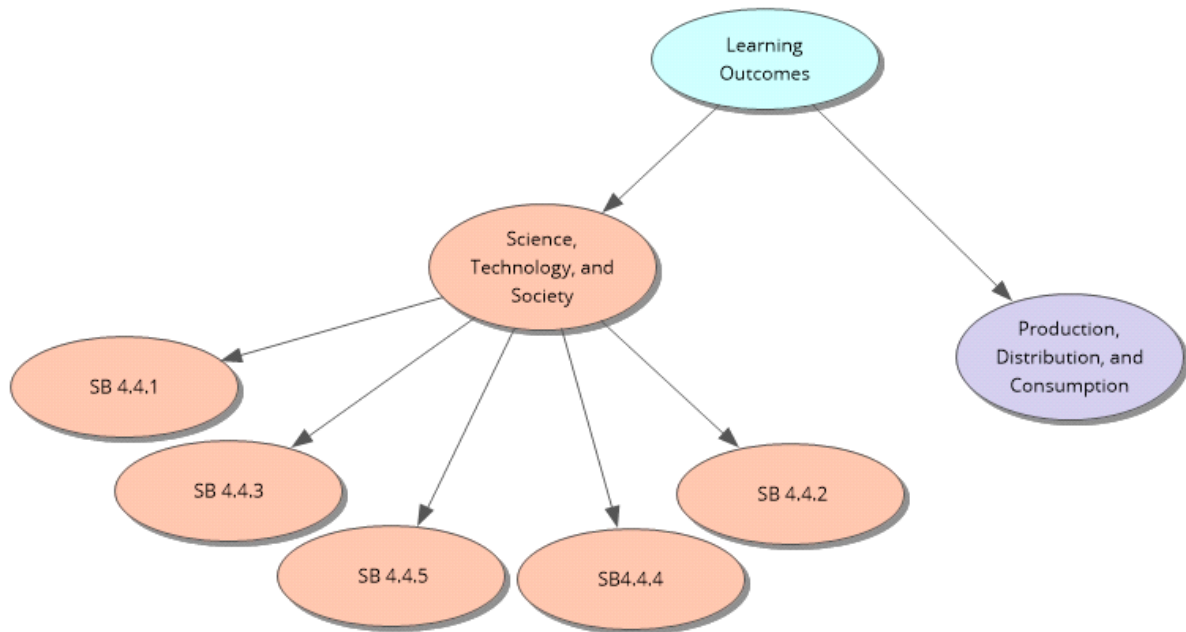


Figure 11. Learning Outcomes

The learning outcomes were grouped under the themes “science, technology, and society” and “production, distribution, and consumption.”



Figure 12. Social Studies Learning-Teaching Process

The preservice teachers' observations regarding social studies learning-teaching processes were grouped under the themes "preparation," "main part of the lesson," and "end-of-lesson evaluation." The theme "preparation" consisted of the codes "remembering the previous topic," "checking the homework of the previous lesson," "not done," and "conversation about current issues." The theme "main part of the lesson" consisted of the categories "method and technique," "material," and "reading-writing activities." The category "method and technique" consisted of the codes "question and answer," "presentation," "lecturing," "brainstorming," and "discussion." The theme "material" consisted of the codes "smartboard," "textbook," and "notebook." The theme "end-of-lesson evaluation" consisted of the codes "preparing poems-slogans," "taking notes on the notebook," "not done," and "solving evaluation questions." The following are some quotations from preservice teachers:

Burcu: After the reading, the teacher turned on the app she had used two weeks ago and continued with the video. She didn't need a lesson plan because she chose a video that delivered the class and asked a lot of questions. I mean, the video asked all the questions that had to be asked. But, they weren't extraordinary questions. She could've come up with the same questions easily and delivered the lesson based on her students' answers. But, she chose the easiest way. There was this question in the video, 'Why shouldn't we drive personal cars?' which Poyraz, one of the students, answered. He said, 'because

they cause global warming. Imagine everybody has a car. There would be too many cars and traffic problems.' She listened to Poyraz and then moved on with the video."

Material-Smartboard

Emel: "The teacher used the Q&A technique throughout the lesson. But the students got bored after a certain point. She told them to be quiet. She knew that they were bored, but she tried to get them to focus back on the lesson by raising her voice."

Method-Technique-Q&A

Findings related to the Third Subquestion

The primary school teachers' views of primary school social studies teaching were discussed under the themes "preservice social studies education (at the university)," "reasons for choosing the profession," "opinions on the primary school social studies curriculum," "materials used in social studies teaching," "methods and techniques used in social studies teaching," and "the raison d'être of the social studies course."

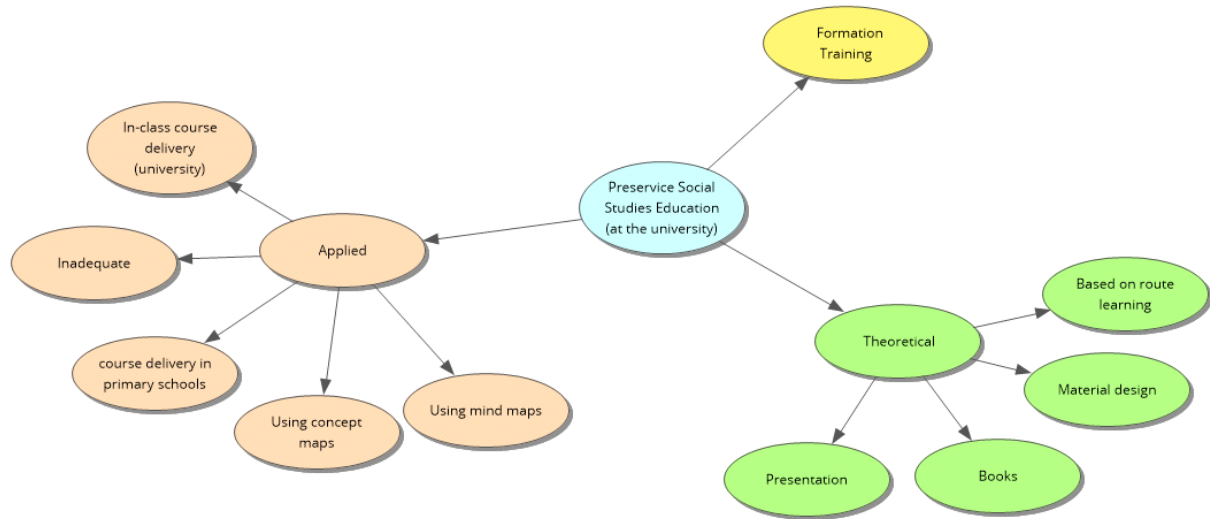


Figure 13. Preservice Social Studies Education

The primary school teachers' views of undergraduate social studies education were collected under the categories "applied," "theoretical," and "formation training." The category "applied" consisted of the codes "in-class course delivery (university)," "inadequate," "course delivery in primary schools," "using concept maps," and "using mind maps." The category "theoretical" consisted of the codes "presentation," "books," "material design," and "based on route learning." The following are some quotations:

Selma: "Back in college, we had theoretical training in social studies. I don't think it did any good about my teaching. I had to learn almost everything by myself."

Theoretical-Presentation

Osman: "I have no idea if I learned any methods or techniques back in college. I learned from books, and, to be honest, I forgot most of it. The classroom is where you learn how to do things. I mean we had no experience back in college. I didn't stick to one technique. What I always have in mind is to make sure that my teaching is student-centered. I meet my students' needs as I go along. We used to prepare tons of materials back in college, and we used to make a lot of observations."

Theoretical-Books

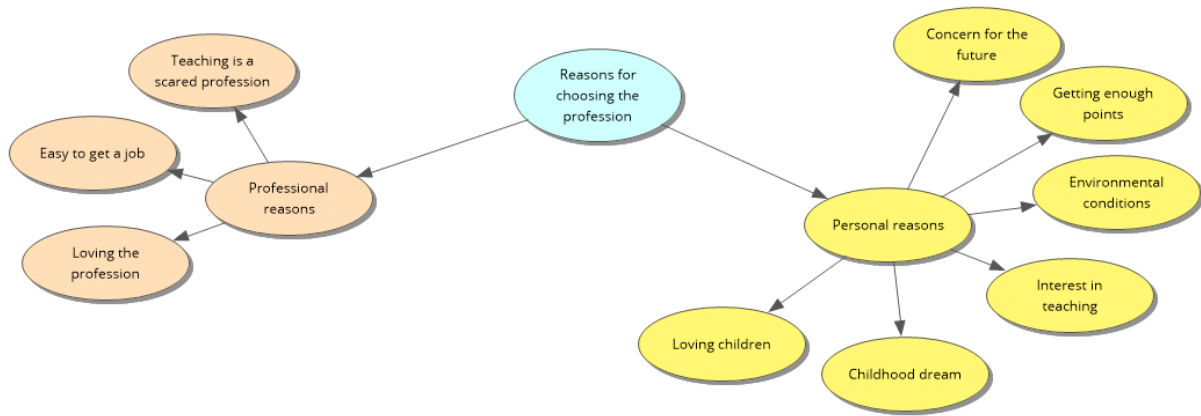


Figure 14. Reasons for choosing the profession

The primary school teachers chose the profession for professional or personal reasons. The theme "professional reasons" consisted of the codes "teaching is a scared profession," "easy to get a job," and "loving the profession." The theme "personal reasons" consisted of the codes "loving children," "interest in teaching," "environmental conditions," "getting enough points," and "concern for the future." The following are some quotations:

Gülay: "It's so nice to be with students. Teaching makes me happy. I chose this profession because I love kids."

Personal Reasons-Loving Children

Eylem: I chose this profession because my score in the Student Selection Examination was good enough only for that department. I'm sometimes unsure whether I'm happy with what I do. I sometimes love it and sometimes hate it.

Personal Reasons-Getting Enough Scores

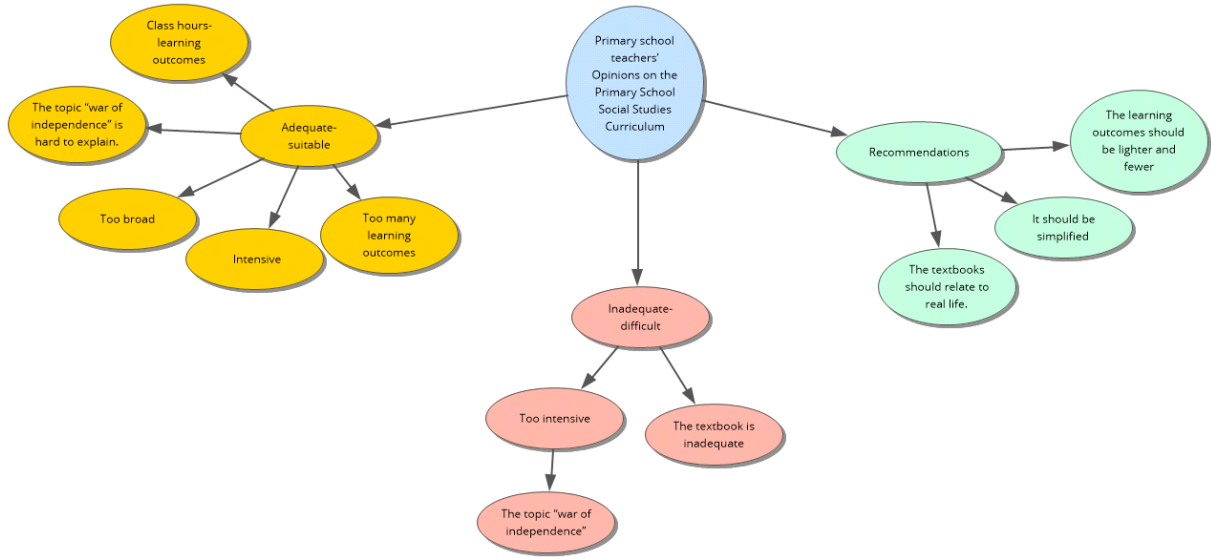


Figure 15. Primary School Teachers' Opinions on the Primary School Social Studies Curriculum

The primary school teachers' views of the primary school social studies curriculum were grouped under the themes "adequate-suitable," "inadequate-difficult," and "recommendations." The theme "adequate-suitable" consisted of the codes "The topic "war of independence" is hard to explain," "Too broad," "intensive," "too many learning outcomes," and "class hours-learning outcomes." The theme "inadequate-difficult" consisted of the codes "the textbook is inadequate" and "too intensive." The theme "recommendations" consisted of the codes "it should be simplified," "the textbooks should relate to real life," and "The learning outcomes should be lighter and fewer." The following are some quotations:

Selma: "The curriculum is adequate, but its structure is a bit wrong. For example, the topic "war of independence" is too hard for students. We should cover such topics throughout the years instead of dumping them in one semester. We need more opportunities to have applied classes because students learn by living.

Adequate-suitable/The topic "war of independence" is hard to explain

Nilay: The textbook is inadequate, so we end up searching for more materials. It should be more informative and relate to real life.

Inadequate-difficult/the textbook is inadequate



Figure 16. Materials Used in Social Studies Teaching

The materials used in social studies teaching were grouped under the themes “materials prepared by the teacher,” “ready-made materials,” “materials prepared by students,” and “materials prepared by the teacher and students.” The “materials prepared by the teacher” consisted of the codes “cardboard-topic summaries” and “historical photos.” The “ready-made materials” consisted of the codes “pictures,” “real objects,” “smartboard,” “books,” “photocopies,” “notebooks,” “maps,” and “visuals.” The theme “materials prepared by students” consisted of the code “project homework assignments.” The theme “materials prepared by the teacher and students” consisted of the codes “concept map” and “creating a classroom board.” The following are some quotations:

Eda: “I don’t prepare materials. I use real objects or get my students to prepare some materials. I use the Smartboard if I don’t have real objects or pictures. Going to museums is out of the question. I tried to do it online. I couldn’t take my students to museums when I worked as a teacher in the East of Turkey.”

Ready-made materials-Real objects

Suna: “I mostly use videos. I choose activities that we can do in class or that they can do back home. I give them tasks, that’s how I believe I can attract their attention.”

Ready-made materials /Smartboard-Videos

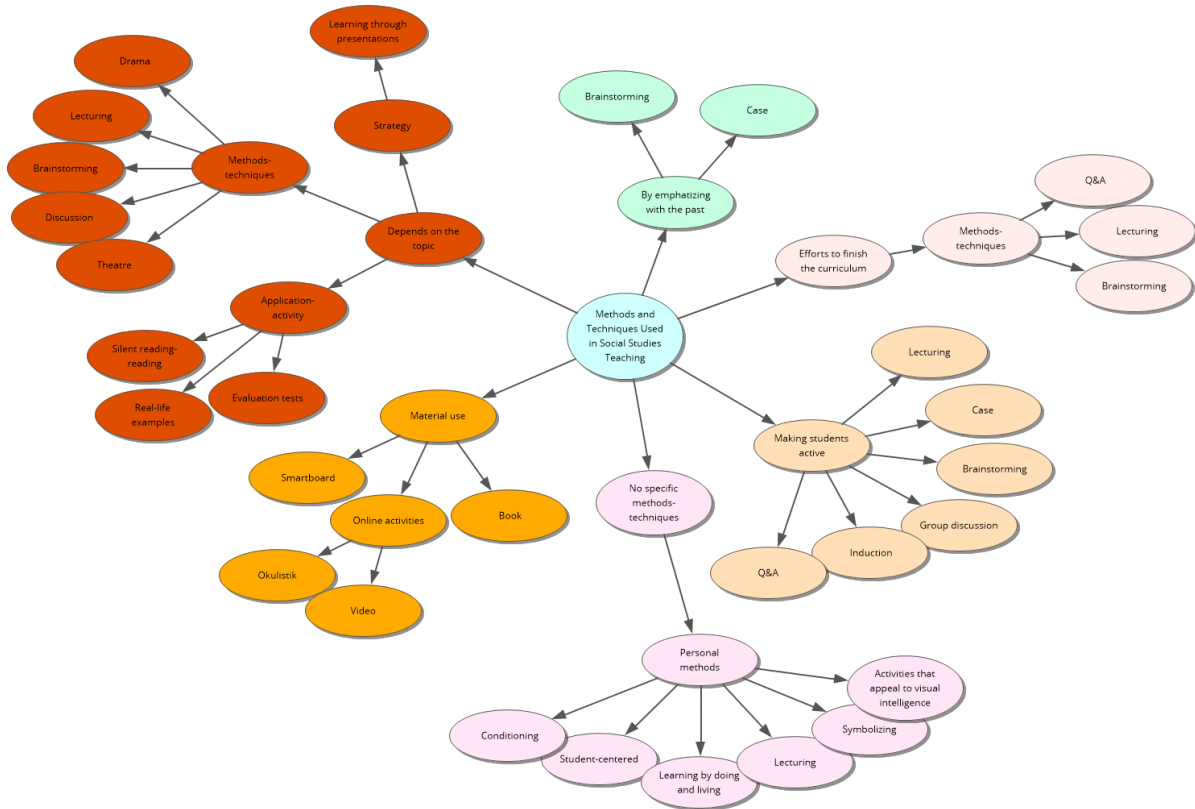


Figure 17. Methods and Techniques Used in Social Studies Teaching

The primary school teachers' views of the methods and techniques used in social studies teaching were grouped under the themes "depends on the topic," "material use," "by empathizing (with the past)," "efforts to finish the curriculum," "no specific methods-techniques," and "making students active." The theme "depends on the topic" consisted of the category "methods-techniques." The category "methods-techniques" consisted of the codes "Q&A," "brainstorming," "discussion," and "theater." The "methods-techniques" had the category "strategy," which had the code "learning through presentations." The "application-activity" category consisted of the codes "silent reading-reading," "real-life examples," and "evaluation tests." The theme "material use" consisted of the categories "online activities," "smartboard," and "book." The theme "by empathizing (with the past)" consisted of the categories "case" and "brainstorming." The theme "efforts to finish the curriculum" consisted of the category "method-technique," under which we had the codes "lecturing," "Q&A," and "brainstorming." The "no specific methods-techniques" theme consisted of the category "personal methods," under which we had the codes "student-centered," "learning by doing and living," "lecturing," "conditioning," "symbolizing," and "activities that appeal to visual intelligence." The theme "making students active" consisted of the categories "lecturing," "Q&A," "induction," "group discussion," "brainstorming," and "case." The following are quotations:

Osman: “There is no one method that I use. I generally deliver student-centered classes. I mean, I try to get my students to develop certain skills, like learning by doing and living, etc. I have my own style of delivering the classes. I stick to it.”

No specific methods-techniques -Personal methods

Aynur: “I get my students to read books, then we discuss them. Everybody gives examples from their lives. I turn on the Smartboard and show some videos. It depends on the topic. We’ve performed drama and theater-like activities before.”

Depends on the topic/Methods-techniques

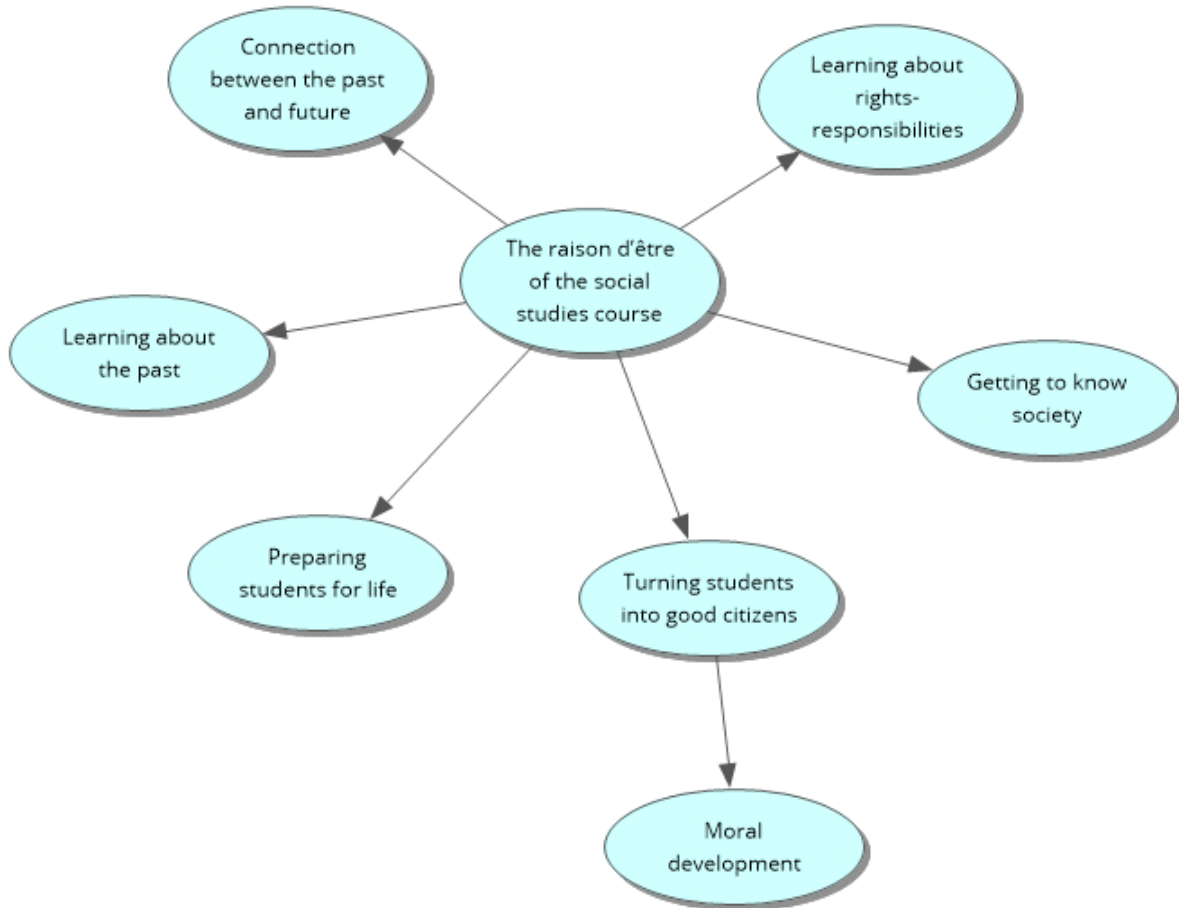


Figure 18. The Raison D'être of the Social Studies Course

The primary school teachers' views of the raison d'être of the social studies course were grouped under the themes “learning about the past,” “preparing students for life,” “turning students into good citizens,” “getting to know society,” “learning about rights-responsibilities,” and “connection between the past and future.” The following are some quotations:

Hande: “Information is always enough. There is no such thing as redundant information. There’s just information that’s not used. So, each class is important. This course helps students learn their history, which is very important.”

Learning about the past

Eylem: “The social studies course teaches students about life. It’s important because it helps them put what they learn into practice. This course prepares them for life.”

Preparing students for life

Findings related to the Fourth Subquestion

The table shows the preservice teachers’ metaphors for combining the social studies course with different disciplines.

Table 4. Preservice Teachers’ Metaphors for Combining the Social Studies Course with Different Disciplines

Category	Metaphor	Preservice Teachers' Views
Interdisciplinary relationship	Tree, Rainbow, Pool, Bee, Earth, Flower	Nigar: "The social studies course is like a big, rooted tree with many branches. That is why it involves more than one discipline." Meltem: "The social studies course is like the world because the world symbolizes wholeness. The social studies course symbolizes something whole because it involves all disciplines." Handan: "The social studies course is like a flower because it's like every leaf represents a discipline. There's an interdisciplinary connection with all the leaves opening up." Yunus: "The social studies course is like a rainbow because it feeds off of every discipline." Suat: "The social studies course is like a pool because it feeds off of many sources and connects different disciplines."
Related to life	Butterfly, Sun	Pinar: "The social studies course is like a butterfly because a butterfly is free and touches everywhere. The social studies course is also free; it touches every sphere of life."
Guide	Star (*2)	Yeliz: "The social studies course is like a star. Social studies is our source of light, just like the star is our source of light; it guides us."



Figure 19. Metaphors

The metaphors used by preservice teachers were categorized as “interdisciplinary relationship,” “related to life,” and “guide.” “Tree,” “rainbow,” “pool,” “bee,” “world,” and “flower” were among the metaphors included in the “interdisciplinary relationship” category. “Butterfly” and “sun” were categorized as “related to life,” while “star” was the sole metaphor in the “guide” category.

Discussion, Conclusion, and Recommendations

This study investigated the theoretical and practical aspects of the “social studies teaching” course taken by preservice primary school teachers during their undergraduate years. Therefore, this study had four objectives: (1) analyzing preservice teachers' SSSM-based lesson plans, (2) focusing on their observations of primary school teachers delivering the social studies course, (3) addressing the primary school teachers' views of the social studies course, and (4) the preservice teachers' views of how to combine the social studies course with other disciplines.

The first subquestion, “What kind of SSSM-based lesson plans do preservice teachers develop?” searched for an answer. The first subquestion analyzed the preservice teachers' SSSM-based lesson plans. They associated the social studies course with different disciplines (natural science, math, health, etc.). They based their lesson plans on fiction derived from pieces of news, articles, storybooks, and

poems. Their lesson plans appealed to critical thinking, entrepreneurship, observation, creative thinking, empathy, problem-solving, and collaboration skills. They preferred themes allowing them to associate the social studies course with natural sciences and math. Some of those themes were “science, technology and society,” “people, places, and settings,” “production, distribution, and consumption,” “culture and heritage,” and “individual and society.” Their lesson plans were associated with real life, affecting the skills they chose in their plans. Real-life connected fiction allows students to use real-life skills and analyze issues and events. Research on education focuses mostly on theory and disregards practical aspects (Rycroft-Smith, 2022). Our result can be a solution to this problem. Education and training associated with real life may be a good step for us to combine theory and practice. In the “invitation” step, the preservice teachers focused on activities that associated prior knowledge with new information and aroused students’ curiosity. For example, they associated the social studies course with natural sciences, visual arts, games and physical activities, and drama to make it more appealing. They chose these disciplines to develop practices that would appeal to their students. Learning is based on curiosity (Kılıç, 2021). If this curiosity is supported by different fields, daily life activities can be carried out (Berlyne, 1978; Pluck & Johnson, 2011; Singh & Manjaly, 2022). Therefore, the path the preservice teachers took to develop lesson plans is consistent with the literature. In the “exploration” step, the lesson plans focused on methods and techniques to associate the social studies course with other disciplines as the concept and skill development process begins. In this step, students made self-discoveries, and the preservice teachers conducted the process through questions. Preservice teachers should use stations, mind maps, and concept maps to create a discussion environment and encourage students to work together. Therefore, we can state that our conclusions are based on this reasoning. Research shows that teachers need to use different methods and techniques to engage students (Stanley-Yolgeçen, 2018; Sungurtekin & Bilhan, 2020; Yılmaz-Özcan & Tabak, 2019; Yildiz-Durak, 2021). In “the invention of a concept” step, the preservice teachers integrated methods and techniques into their lesson plans. They focused on techniques (concept cartoons, metaphors, etc.) that helped students define concepts in their own words, create new meanings, and detect and dispel their misconceptions. Research shows that concept cartoons, metaphors, and analogies help students recognize and dispel their misconceptions (Duman et al., 2020; Lancor, 2012; Şeyihoğlu & Özgürbüz, 2015; Şeyihoğlu & Şahin, 2019). However, the lesson plans fell short of associating the social studies course with other disciplines at this step. They mostly associated it with literature. This is probably because they think defining concepts has something to do with linguistics and literature. Research shows that teachers and preservice teachers have difficulty associating the social studies course with other disciplines (Monte-Sano & Quince, 2021; Muhammad, 2020; Ollila & Macy, 2019; Worster & Rohde, 2020). In the “application” step, most preservice teachers associated the social studies course with different disciplines (archaeology, geography, science, math, visual arts, etc.), probably because they think that doing that is the only way to help students come up with solutions and use new concepts in different contexts.

Students who embrace representations of multiple perspectives and social spheres are likely to construct knowledge more holistically (Mohammed & Kinyo, 2020). In the “reflexive thinking” step, the preservice teachers could not adequately associate the social studies course with other disciplines. At this step, their lesson plans focused on high-order thinking skills (inquiry, creative thinking, critical thinking, entrepreneurship, etc.). Their lesson plans aimed to strengthen conceptual framework connections. They fell short of associating the social studies course with other disciplines probably because they had gaps in their knowledge of the fact that skills in social studies change depending on how much association is made with other disciplines. Bekiroğlu and Ütkür-Güllühan (2022) argue that preservice teachers should be provided with training in critical thinking skills because they feel incompetent about teaching them in professional life. Therefore, our results are consistent with the literature.

The second subquestion, “What do preservice teachers’ observations tell us about how primary school teachers deliver social studies lessons?” and the third subquestion, “What do primary school teachers think about how they deliver social studies lessons?” searched for an answer. The second subquestion addressed the preservice teachers’ observations of the primary school teachers, while the third subquestion focused on the primary school teachers’ views of social studies teaching. The preservice teachers observed that the primary school teachers delivered the social studies lessons to help their students acquire learning outcomes related to the themes “science, technology, and society” and “production, distribution, and consumption.” The preservice teachers observed that the primary school teachers did not prepare for the social studies lessons and focused on reminding their students of the previous topics and checking their homework assignments at the beginning of the lessons. Some primary school teachers started their lessons by discussing current issues with their students. Most primary school teachers used the methods and techniques of “lecturing,” “Q&A,” “discussion,” and “presentation.” The primary school teachers utilized the SmartBoard and textbooks. However, they were unsuccessful in developing activities, planning their lessons, using different methods, techniques, or materials to keep their students engaged, and arousing their curiosity by combining the social studies course with other disciplines. Koç (2019) also maintains that primary school teachers are unsuccessful in developing age-appropriate activities that appeal to high-order learning outcomes and turn abstract concepts into concrete representations. Siddik and Kawai (2020) also argue that most teachers use textbooks when delivering their lessons. Therefore, they should develop student-centered activities and plans that appeal to individual differences. The preservice teachers observed that the primary school teachers did not make end-of-lesson evaluations. Some teachers took notes in their notebooks and asked evaluation questions in the book. Few teachers used poem slogans to evaluate their students at the end of the lessons. Nortvedt, Santos, and Pinto (2016) investigated the evaluation activities performed by teachers from different countries and reported that teachers lacked a culture of evaluation and had difficulty setting criteria for assessment and evaluation. Research also shows that primary school

teachers prefer conventional assessment and evaluation techniques (Şeyihoğlu & Yazar-Kaptan, 2009) because they have gaps in their knowledge of alternative assessment and evaluation techniques (Acar & Anıl, 2009; Özenç et al., 2017). Moreover, most primary school teachers cannot use alternative assessment and evaluation techniques because they have too many students to handle (Acar & Anıl, 2009). The preservice teachers observed that the primary school teachers did not combine disciplines or did not associate the social studies course with different disciplines. They also observed that the primary school teachers had gaps in their knowledge of assessment and evaluation techniques. We can state that primary school teachers do not adhere to the social studies course's nature and objectives when delivering their lessons. Teachers use methods and techniques that keep students active and move lessons along quickly to save time for other classes (Erdem & Sezginsoy-Şeker, 2017; Şahin et al., 2022). The primary school teachers' views of social studies teaching were grouped under the themes "preservice social studies education (at the university)," "reasons for choosing the profession," "opinions on the primary school social studies curriculum," "materials used in social studies teaching," "methods and techniques used in social studies teaching," and "the raison d'être of the social studies." The primary school teachers found the undergraduate "social studies" instruction inadequate as they believed it was mostly theoretical based on presentations and textbooks with rote-based content. Therefore, they have difficulty delivering the social studies course professionally. On the other hand, teachers who received applied education during their undergraduate years are better at delivering social studies courses in their professional lives (Jenset, 2020). In this context, Osman and Booth (2014) advocate that academic education should be consistent with school activities. In other words, preservice training should parallel practical education in the field. Preservice training is integral to teacher training. It is a pedagogical craft that helps preservice gain real classroom experiences (Gray et al., 2019). Our results are consistent with the literature. In addition, why teachers choose this profession affects how they deliver social studies lessons. In the present study, the teachers chose this profession for environmental or personal reasons. Some chose the profession because their university entrance exam scores were high enough, they believed it was easier to get a job, viewed teaching as a sacred profession, or described it as their childhood dream. Nalçacı and Sökmen (2016) report a positive correlation between why teachers choose the profession and how they view it. Moreover, teachers choose the profession because they want a secure job or realize their dreams. The primary school teachers found the social studies course curriculum too hard, intense, and broad. They also thought the textbooks were inadequate and full of many learning outcomes. They believed the textbooks should be revised to contain fewer and simpler learning outcomes. Research shows that teachers consider curricula too intense to teach the learning outcomes on time (Yıldız & Kılıç, 2018). However, some teachers believe textbooks are adequate for learning outcomes (Çetin, 2007). The primary school teachers had negative attitudes toward the social studies course due to their negative views of the curriculum. Therefore, they have difficulty reviewing the necessary content and associating the social studies course with other

disciplines. It may also be because they did not want to exert much effort to combine disciplines. Munkebye et al. (2020) argue that teachers and students who implement interdisciplinary curricula find it difficult to think holistically because they focus on single-disciplinary activities rather than combining disciplines. Powell (2018) also maintains that although primary school teachers need activities that combine disciplines, they have difficulty designing and implementing them. Although associating different disciplines allows teachers to address the learning outcomes of different courses in one course, teachers view the social studies course as only one discipline, causing them to limit themselves. In addition, the primary school teachers were unsuccessful in using materials during classes. The primary school teachers said they used course worksheets, photocopies, slides, and presentations to deliver the social studies course. However, they had limited project tasks. They also used real objects, maps, historical photographs, etc., in a limited way, preventing them from associating disciplines during their lectures. Research shows that teachers have a hard time combining and integrating disciplines. They also do not know how to use materials and whom to work with when delivering their lessons (Gürgil & Çetin, 2019). Our results are consistent with the literature. The primary school teachers stated they did not use specific methods or techniques to deliver their "social studies" lectures. They also noted that they conducted student-centered symbolizing activities that focused on learning by doing and living and appealed to visual intelligence. However, the preservice teachers observed that the primary school teachers mostly used teacher-centered "Q&A" and discussion methods. They stated that they used those methods to review all the learning outcomes on time. Tünkler (2021) also argues that most social studies teachers use teacher-centered methods because they feel incompetent in using student-centered methods. We can argue that primary school teachers have misconceptions regarding student-centered methods and techniques. However, the primary school teachers believed that the social studies course was necessary as it had several objectives: bridging the past and the future, turning students into law-abiding citizens who knew about their rights and responsibilities, and preparing them for life. However, what they think in theory is inconsistent with what they do in practice. Combining social studies with science and mathematics is key in educating citizens in decision-making, providing them with information and data to analyze alternatives and "weigh the arguments" (Van Fossen, 2018). Therefore, teachers should provide students with activities that mobilize high-order thinking skills (Bekiroğlu & Ütkür-Güllühan, 2022). Combining or integrating disciplines is no longer an ideal but a necessity for primary school teachers (Yearta, 2019).

The fourth subquestion, "What kind of metaphors do preservice teachers generate about combining disciplines in social studies lessons?" searched for an answer. The fourth subquestion focused on the preservice teachers' metaphors about combining the social studies course with other disciplines. Their metaphors were grouped under the categories "interdisciplinary relationship," "related to life," and "guide." Akça-Berk, Gültekin, and Çençen (2015) also found that teachers came up with metaphors that emphasized the interdisciplinary and social aspects of the social studies course. This concerns the

preservice teachers viewing the social studies course and implementing different methods in their lesson plans.

The following are recommendations based on the results:

Teachers can base their SSSM-based lesson plans on fiction related to everyday life. They should integrate different methods and techniques (concept cartoons, metaphors, analogies, etc.) into their lesson plans. They should combine the social studies course with other disciplines. To do that, they should use scientific journals (TÜBİTAK Bilim Çocuk, Bilim ve Teknik, Meraklı Minik, etc.) and contents. Academics should use unique teaching methods (Web 2.0 tools, etc.) to teach their students how to deliver the social studies course. The Ministry of National Education should offer a practical course called Social Studies Course Practices for primary school social studies. Preservice teachers from different branches should work together to practice combining the social studies course with other disciplines.

It is important for authorities to support primary school teachers in integrating social studies with other disciplines. This can be achieved by utilizing various teaching methods and techniques that engage students and by actively evaluating their progress. Collaboration between primary school teachers and education faculties can be beneficial in learning how to effectively combine different subjects. Through Teaching Practice courses, both teachers and preservice teachers can practice the integration of disciplines in their planning and implementation. Furthermore, collaborating with colleagues from various fields such as music, visual arts, mathematics, science, and Turkish can help in devising activities and lesson plans that promote higher-order thinking skills for social studies course objectives. Additionally, it is essential for authorities to involve experts from different disciplines in the design of social studies materials and curriculum. Integration of STEAM, STEM, and other relevant approaches into the social studies curriculum should be a key focus.

Our results are sample-specific. Researchers should conduct further research on SSSM-based lesson plans and observe teachers use those plans in practice. In this context, they should also investigate those plans' interdisciplinary and practical aspects.

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