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Article

Student teachers' implicit knowledge and cognitive complexity of perspectives on being a citizen

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Keywords: implicit knowledge, cognitive complexity, student social studies teachers, citizenship education, turkey

- This study examined the implicit knowledge and cognitive complexity of student teachers' perspectives on being a citizen.
- Repertory Grid Technique (RGT) can be used as an appropriate technique and tool for exploring implicit knowledge and the cognitive complexity of the student teachers.
- The implicit knowledge of the participants reflected an understanding of a personally responsible citizen.
- Cognitive complexities of the participants on being a citizen did not differ from each other with class year.
- Future studies could use different methods to investigate student teachers' implicit knowledge and cognitive complexity on citizenships education.

Purpose: Students can learn to be citizens through school education and experiences in socio-cultural contexts. Individuals' perspectives on being a citizen can be represented as implicit and explicit knowledge in cognitive structures. This study aimed to investigate the implicit knowledge and cognitive complexity of student social studies teachers' perspectives on being a citizen

Design/methodology/approach: This study comprised 23 student social studies teachers in the Department of Social Sciences Teaching in Turkey. Data were collected by using a RGT.

Findings: The findings revealed that the implicit knowledge of the participants reflected an understanding of a personally responsible citizen. Many participants demonstrated cognitive simplicity.

Research limitations: As the study included 23 first- and fourth-year student social studies teachers, the findings cannot be generalized to any population as whole.

Practical implications: This study indicates that the justice-oriented and participatory citizen understanding of student social studies teachers must be emphasized and strengthened through a multidimensional perspective.

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1 INTRODUCTION

Citizenship education is one of the primary subjects of the curriculum of various countries worldwide. Citizenship education may be a compulsory subject of its own or part of the social studies curriculum in primary and secondary schools (Eurydice, 2017). For example, in Turkey, where this study was conducted, the Human Rights, Citizenship, and Democracy course is part of the fourth grade curriculum and it has been taught as a compulsory course since the 2015–16 academic year (Ministry of National Education [MoNE], 2015). In addition, the Social Studies Curriculum includes citizenship education as an “effective citizenship” learning domain as of 2018 (MoNE, 2018b). Citizenship education reform in Turkey started in 1995 when the name of the Citizenship Knowledge Curriculum was changed to Citizenship and Human Rights Education. This curriculum was abolished after the 2005 curriculum reform, and citizenship education was integrated with the Social Studies course (Sen, 2019); also, “Human Rights and Citizenship” has been included in primary and secondary school education curriculum as interim discipline. In 2010, a new course called “Citizenship and Democracy Education” was included in the secondary school curriculum in 2010 and prioritized thoughts such as human rights, democracy, equality, and cultural diversity, but this course was removed again in the curriculum in 2012 (Sen, 2019). Since the 2015-2016, it was included in the curriculum as a compulsory course with the name of “Human Rights, Citizenship, and Democracy” in the 4th year primary school curriculum and is still taught (MoNE, 2015; 2018a). The aim of this course is to provide students with conceptual knowledge about citizenship and basic values related to human rights, citizenship and democracy (MoNE, 2018a). However, in studies examining citizenship education curriculum from past to present, it is seen that citizenship responsibilities, loyalty to the state and self-sacrifice are emphasized more than citizenship rights and the struggle for democratic rights in citizenship education in Turkey (Cayır & Gurkaynak, 2007; Sen, 2019; Ulubey, 2021; Ustel, 2016).

It can be seen that the social studies course has a crucial role in teaching conceptual knowledge, attitudes, and behaviors of citizenship (Carpenter, 2006; Chareka & Sears, 2006; Sim, Chua, & Krishnasamy, 2017). Dewey (1937, p.185, as cited in Carpenter, 2006, p.39) considered social studies courses as powerful tools for inducing active participatory, democratic, and intelligent citizenship. Thus, student social studies teachers need to acquire citizenship knowledge, skills, and values, and reinforcement of their citizenship education qualifications is crucial (Eurydice, 2017; Kerr, 1999).

Pre-service teacher education is crucial in enabling student social studies teachers to acquire knowledge, values, and skills related to citizenship to ensure that they are able to foster participatory and democratic individuals who are aware of their rights and responsibilities. Student social studies teachers' perspectives on being a citizen are shaped in socio-cultural and political contexts, as well as their education prior to university. Schugurensky and Myers (2003) state that the teaching approaches of citizenship teachers are affected by experiences gained at different social sources and levels, such as family,

primary and secondary school education, pre-service education, university degrees, non-formal education, political participation, media, and prior citizenship courses. Therefore, previously acquired understanding and beliefs of student social studies teachers improves their cognitive structure where it convergences with conceptual knowledge, skills, and attitudes acquired during pre-service teacher education. This knowledge can be represented as explicit and implicit in a cognitive structure (Taber, 2013), and it can affect teaching-related decisions and behaviors (Korthagen & Kessels, 1999; Tomlinson, 1999). This study aimed to elicit implicit knowledge and the cognitive complexity of student social studies teachers' perspectives of being a citizen.

2 THEORETICAL BACKGROUND

2.1 Implicit knowledge and being a citizen

Since the 1990s, citizenship has increasingly been studied in terms of status, rights, identity (Joppke, 2007; Kadioglu, 2012a; Kymlicka & Norman, 2012), and aspects of citizenship education (Kerr, 1999; Torney-Purta & Amadeo, 2011). The definition of citizenship that emerged during the French Revolution has been redefined to include racial, ethnic, religious, and language-based differences consistent with global, social, and political changes (Heater, 2007; Kadioglu, 2012b). Moreover, discussion of the definition of citizenship has focused on two general approaches, namely liberal-individualist citizenship and citizen-based republicanism (Heater, 2007; Oldfield, 2012).

In the liberal-individualist understanding that is based on citizenship as a status, citizenship is focused on rights (Joppke, 2007). In this approach, the rights possessed of an individual supersede their responsibilities, and these rights are natural or "human". Conversely, the citizen-based republican understanding of citizenship is society-based, wherein being a citizen is defined through active participation, duties, and responsibilities (Heater, 2007; Joppke, 2007; Oldfield, 2012). In Turkey, the citizen-based republican understanding is reported as dominant (Caymaz, 2007; Cayır & Gurkaynak, 2007; Ustel, 2016). The predominance of citizen-based republican understanding can be explained by the conditions of the Turkish socio-political culture. It can be stated that the understanding of cultivating good people and national citizens, loyal to the state, loving their homeland, self-sacrificing, fulfilling their duties and responsibilities, giving importance to national security, has been imposed both in formal education and socio-political practices from The Second Constitutional era to the present (Kadioglu, 2012b; Polat-Guzel, 2011; Ulubey, 2021, Sen 2019; Ustel, 2016).

Prominent definitions of citizenship understandings affect practices of citizenship education and thus individuals' perceptions of and identities as citizens (Knight Abowitz & Harnish, 2006). Both formal learning experiences and attainments through real-life experiences are determinants in the process of learning to be a citizen, and both these domains can affect the formation of students' cognitive structures of being a citizen

(Fischman & Haas, 2012, Kerr, 1999; Lawy & Biesta, 2006; Patterson, Doppen, & Misco, 2012; Schulz, Fraillon, Ainley, Losito, & Kerr, 2008). Thus, conceptual understanding and knowledge of being a citizen is implicit by nature. Implicit knowledge accrues through the socio-cultural context and is developed through practices and experiences in real life (Duguid, 2005; Eraut, 2000; Nonaka, 1994). Therefore, it can be stated that student teachers' cognitive structures about perspectives on being a citizen are affected by the explicit knowledge in the textbooks as well as and the experiences in the socio-cultural and political environments and are represented in the mind implicitly. According to Ziori and Dienes (2008), "explicit knowledge is knowledge one is aware of having, and hence is easily verbalized; conversely, implicit knowledge is knowledge one is not aware of having" (p.602). Considering implicit knowledge acquisition processes, conceptualizations of student teachers on being a citizen may involve both explicit and implicit knowledge.

Studies on citizenship education have primarily examined characteristics of teachers within the pedagogy of citizenship education (Evans, 2006), such as supporting their professional development (Willemse, ten Dam, Geijssel, van Wessum, & Volman, 2015), primary and secondary school teachers' perspectives on citizenship (Martin, 2008), perceptions and conceptualizations on citizenship and good citizens (Fry & O'Brien, 2015; İkinci, 2016; Iverson & James, 2010; Kılınç, 2015; Li & Tan, 2017; Patterson et al., 2012; Sim et al., 2017; Yesilbursa, 2015; Yigit, 2017), student teachers' definitions of ideal citizenship in terms of criticism and multiculturalism (Castro, 2013), perspectives on multicultural citizenship education (Mathews & Dilworth, 2008), perspectives on global citizenship education (Osler, 2011), and values (Thornberg & Oguz, 2016). However, to the best of our knowledge, few studies have investigated student teachers' understanding of being a citizen in terms of implicit knowledge. Kesik and Akbulut-Tas (2020) conducted a study by investigating secondary school seventh-grade students' implicit perspectives of the concept on citizenship by using the RGT. The results revealed that they considered being a citizen equivalent to "being a good person," and the majority of the students had high self-eigenvalues on being a citizen.

Implicit knowledge is the foundation for explicit knowledge (Eraut, 2000; Polanyi, 1966). Therefore, it is considered highly determinative in teachers' learning-teaching practices of citizenship education. Moreover teachers' conceptualizations of citizenship and being a citizen affected their teaching practices (Sim et al. 2017). Willemse et al. (2015) reported that primary and secondary school teachers implicitly included citizenship education in their teaching, and their citizenship education practices were not always planned. Consequently, learning-teaching practices of citizenship education partially depend on implicit personal and professional knowledge, skills, beliefs, and values of teachers. Fischman and Haas (2012) highlighted that implicit understanding of citizenship is the source of discussions on citizenship education and neglecting implicit learning experiences may lead to inefficient citizenship education programs. Therefore, the learning-teaching practices of effective citizenship education highly depend on the implicit knowledge of teachers, which involve individual and professional knowledge,

skills, and beliefs. Moreover, implicit knowledge is considered crucial for improving the learning–teaching experiences of student teachers (Korthagen & Kessels, 1999; Tomlinson, 1999). Therefore, an in-depth analysis of implicit perspectives of teachers may be essential for understanding the relationship between the cognition and performance of teachers.

2.2 Eliciting implicit knowledge in a cognitive structure

The cognitive structure of an individual is their inner mental representation comprising various schemas, scenarios, and mental models, and these representations are formed and reorganized through planned and informal educational processes as well as real-life experiences (Ifenthaler, Masduki, & Seel, 2011). The cognitive structure of individuals determines how they perceive and apply concepts and interpret ideas, facts, and objects; it can provide a format for reorganizing related information (Ifenthaler et al., 2011; Jonassen & Grabowski, 1993). Cognitive representations of concepts are categorized as implicit and explicit knowledge (Taber, 2013). An individual's conceptual understanding involves explicit conscious processes as well as nonconscious implicit processes and representations (Hampton, 1999; Ziori & Dienes, 2008).

Implicit knowledge, which forms the basis of human activities, cognition and learning, has philosophical foundations as well as cognitive psychology. Thinkers such as Polanyi (1958/2005, 1966), Ryle (1949) and, Wittgenstein (2000) distinguish between 'knowing what' and 'knowing how'. Implicit knowledge cannot be fully articulated linguistically and codified mathematically and is acquired through personal experience (Polanyi (1958/2005). Polanyi (1958/2005, p.92) stated that implicit knowledge is 'knowing more than we can say'. According to Polanyi (1966), 'all knowledge is either tacit or rooted in tacit knowledge' (p.7). Explicit knowledge is coded and can be easily expressed and defined in a written or verbal form (Eraut, 2000; Matthew & Sternberg, 2009). Also, implicit knowledge is personal and acquired through experiences as well as intuitional and contextual circumstances (Duguid, 2005; Eraut, 2000; Matthew & Sternberg, 2009). Implicit knowledge is best acquired, shared and improved in properly situated context (Brown, Collins & Duguid, 1989). Nonaka (1994), who more broadly examined Polanyi's concepts, revealed the technical and cognitive aspects of implicit knowledge. The technical aspect of implicit knowledge includes understanding how something is done and successfully reflecting the acquired skills through performance. In the cognitive aspect, implicit knowledge involves an individual's beliefs, ideas, values, schemas, and mental models that affect comprehension, definition, and interpretation of real-world events (Nonaka, 1994; Nonaka & Konno, 1998). This study examines implicit knowledge in terms of its cognitive aspect, which involves the individual's understanding of a specific subject.

Whether implicit knowledge demonstrates complexity (on being a citizen) is another issue within the scope of this study. Cognitive complexity, which is a crucial feature of information processing, is an individual's ability to use their multiple perspectives when comprehending and evaluating a stimulant (Goodwin, 1991). Furthermore, multiple

perspectives represent the organization and grouping of the stimulant (Goodwin, 1991). Cognitive complexity reveals how information is represented in the cognitive structure (Jonassen & Grabowski, 1993). Bieri et al. (1966, p.185, as cited in Fransella, Bell, & Bannister, 2004, p.64) stated that 'in comparison to individuals with low cognitive complexity, individuals with high cognitive complexity have a different cognitive system for comprehending behaviours of others in the environment.' Individuals with high cognitive complexity can represent information in their mind multidimensionally and utilize cognitive differentiation and integration for information processing (Mayer, 1996). Implicit and explicit knowledge interact with each other in the process of acquiring, accessing, and utilizing knowledge (Nonaka, 1994; Sun, 2001). Although the literature differentiates between implicit and explicit knowledge in terms of accessing and utilizing information, these two types of knowledge can interact with and be transformed into each other. Nonaka (1994) defined the transformation processes between implicit and explicit knowledge as socialization (from implicit to implicit knowledge), externalization (from implicit to explicit knowledge), internalization (from explicit to implicit knowledge), and combination (from explicit to explicit knowledge). Although implicit knowledge is difficult to elicit, it can be verbalized using appropriate techniques and tools. That is, some aspects and parts of implicit knowledge can be elicited through reflection and indirectly explained (Homer & Ramsay, 1999; Matthew & Sternberg, 2009). Implicit knowledge can be partially elicited through techniques that help individuals to explain their ideas and images. These techniques include definitions, metaphors, analogies, stories, discursive consciousness, and visualization (Nonaka, 1994; Nonaka & Toyama, 2003). Mertins and Finke (2004) recommend nine methods to elicit implicit knowledge: Repertory grid technique (RGT), concept sorting, analogy method, structure-laying technique, behavior observation, method of thinking aloud, storytelling, group discussion, and critical incident technique. This study utilized the RGT, as it can reveal the cognitive aspects of implicit knowledge and the cognitive structure of an individual regarding a topic (Kelly, 1955/1991; Jankowicz, 2004).

In this study, the category system of Westheimer and Kahne (2004) was used for the classification of the implicit cognitive construct utilized by the participants on being a citizen.

This categorization was preferred because implicit cognitive constructs were appropriate. Westheimer and Kahne (2004) categorized the ideal citizen as being raised through educational programs for improving democracy in three categories based on their characteristics, namely personally responsible citizen, participatory citizen, and justice-oriented citizen. The personally responsible citizen "acts responsibly in his or her community" (Westheimer & Kahne, 2004, p. 241). Such citizens "must have good character; they must be honest, responsible, and law-abiding members of the community" (Westheimer & Kahne, 2004, p. 240). The participatory citizen is defined as an active member of the community to solve social problems and improve society. The core assumptions of this orientation are that "citizens must actively participate and take

leadership positions within established systems and community structures” (Westheimer & Kahne, 2004, p. 240). Finally, the justice-oriented citizen “critically assesses social, political, and economic structures to see beyond surface causes” (Westheimer & Kahne, 2004, p.240). Those who have adopted a justice orientation “question, debate, and change established systems and structures that reproduce patterns of injustice over time” (p. 240) and also are asking “why people are hungry and acting on what they discover” (p.242). This study aimed to reveal first- and fourth-year student social studies teachers' implicit knowledge and cognitive complexity of perspectives on being a citizen. The first research question of this study was formulated as follows in accordance with the nature of qualitative research.

What is the implicit knowledge held by first- and fourth-year student social studies teachers on being a citizen?

The cognitive constructs of fourth-year student social studies teachers on being a citizen were expected to be more complicated than that of the first-year students. That is, the perspectives of fourth-year students were expected to be multidimensional, and those of the first-year students were expected to demonstrate cognitive simplicity. Therefore, the second research question of this study, which has provided us with quantitative information, is as follows:

Does the implicit knowledge elicited from first- and fourth-year student social studies teachers on being a citizen reveal cognitive complexity?

3 METHOD

In this research, the RGT was employed to elicit the implicit knowledge of student teachers on being a citizen and to investigate cognitive complexity. RGT, a structured interview technique motivated by Kelly's Personal Construct Theory, and propose a content-analytic procedure combining quantitative and qualitative information (Tomico, Karapanos, Lévy, Mizutani, & Yamanaka, 2009). The RGT is a suitable technique and tool for converting the implicit cognitive construct into explicit constructs (Björklund, 2008). As the RGT is a technique that enables us to access unconscious mental processes (Fransella et al., 2004), it has frequently been used for exploring implicit knowledge in recent years (Björklund, 2008; Hemmecke & Sary, 2004; Kreber & Klampfleitner, 2012; Rozenszajn & Yarden, 2015). In addition, as the RGT is used as an appropriate analysis technique for evaluating the cognitive complexity of individuals (Fransella et al., 2004), this study utilized it to understand the implicit knowledge of the students.

3.1 Study group

The participants of this study comprised 23 student teachers: 11 first-year and 12 fourth-year students who were enrolled in the Department of Social Sciences Teaching at a state university located in Adana, Turkey. The study included eight female and three male

students from the first year and three female and nine male students from the fourth year. The average age of the first-year students was 19.1 years and that of the fourth-year students was 23.5 years. At the university where this study was conducted, student social studies teachers take four mandatory courses: citizenship knowledge, introduction to politics, basic law, and human rights and democracy in the second year of their four-year education. Although a fourth-year student social studies teacher has taken all of the aforementioned courses, first-year students have not taken any of these courses, thus, they may have less experience with citizenship education. Similarly, based on the formal and informal learning experiences of the fourth-year student teachers and their interactions with instructors in the fourth year, these student teachers' implicit knowledge of being a citizen demonstrates differences with that of the first-year student teachers.

Participation in the study was voluntary, and the participants were informed about the purpose of the study and their approval was obtained.

3.2 Data collection process

The procedures of the study included a) preparation of a data collection tool, b) data collection, and c) data analysis.

3.2.1 Preparation of the data collection tool

In this study, data were obtained using a semi-structured interview technique based on the RGT. The RGT comprises four primary components, namely the topic, element, construct, and ratings (Jankowicz, 2004). Elements can be identified by the researchers or participants to reflect the participant's experiences (Curtis, Wells, Lowry, & Higbee, 2008; Fransella et al., 2004; Jankowicz, 2004). Furthermore, it is stated by Kelly (1955/1991) that a standard form can be used for the selection of elements. Elements (such as mother, father or friend roles) that are important for the participants are frequently used in the studies. These roles are experienced and taken into consideration every day. Individuals' roles on being a citizen are less accessible or more difficult than memory. Therefore, some of the elements identified by the researchers take into account the research questions. In this study, it was decided to include core elements (actual, ideal, social, and normative self), regarding the self-design of the individual as a citizen. Core elements directly affect the formation of the individual's personal construct system and represent the individual's cognitive construct (Berzonsky, 2004; Fransella et al. 2004; Schoeneich & Klapp, 1998). The core elements that are expressed in relation to the citizenship role in this study are: Me as a citizen; What kind of citizen do I want to be?; Me as a citizen compared to other people in my environment; What kind of citizen do I have to be? While the actual-self element represents how the individual perceives himself or herself, the ideal-self element represents how the individual wants to be in the future (Schoeneich & Klapp, 1998). According to Jankowicz (2004, p. 57), "actual-self and ideal-self elements are the core elements that give individuals the opportunity to express their desires and thoughts about

future". The social-self represents the individual's perceptions about how the people around see him/her. The social-self represents the idea that the formation of an individual's personal structure is shown by the practices in the socialization process (Ugazio & Castiglioni, 1998). The normative self represents how individuals perceive themselves to comply with the expectations, values, and rules shown by the surrounding people (Berzonsky, 2004). Elements other than core elements are peripheral elements (ideal citizen, non-ideal citizen, a good citizen I know, a bad citizen I know). These elements are peripheral elements that enable the individual to reveal his/her perspectives about social stimulus outside of himself or herself. Ideal and non-ideal citizen elements do not describe concrete and a real person (Fransella et al., 2004; Jankowicz, 2004). Thus, participants were encouraged to reveal their personal understanding of the ideal and non-ideal citizen in the cognitive structure. Therefore, while the element of "What kind of citizen do I want to be?" reflects the ideal self that the individual wants to be as a citizen, ideal citizen and non-ideal citizen represent the individual's view of an ideal citizen outside himself or herself. "A good and a bad citizen I know" are elements that represent real people. These elements were determined as a result of the pre-interview with the participants. In the pre-interview, the participants were asked to identify two people in their social circle who they thought were a good citizen and a bad citizen.

According to Bartholomew (1993), part of identity is testing the similarity or uniqueness of the core elements with other individuals. These elements are compared in terms of similarity to others, and the individual can thus build a unique identity (Makhlouf-Norris & Jones, 1971; Norris & Makhlouf-Norris, 1976). Thus, eight elements were used in the grid. Then, by comparing the elements, an uncovering personal structures stage could begin. Moreover, the RGT form was developed by the researchers in consideration of the constructs produced by the participants, to establish the associations between the constructs and the elements. Table 1 presents the RGT form filled in by Participant 2 as an example.

Table 1. an example of a ranked repertory grid (participant 2)

Negative Pole	Me as a citizen	What kind of citizen do I want to be?	Me as a citizen compared to other people in my environment	What kind of citizen do I have to be?	To me, an ideal citizen	To me, a non-ideal citizen	A good citizen I know	A bad citizen I know	Positive Pole
Is not disciplined	2	4	4	5	4	2	4	3	Is disciplined (fulfills the duties given)
Does not defend women's rights	5	3	4	2	4	1	5	2	Defends women's rights
Prevents acquisition of new information	4	4	3	2	3	1	5	2	Contributes to the new scientific knowledge of his country
Is not aware of citizenship rights and responsibilities	5	4	4	3	5	2	3	1	Is aware of citizenship rights and responsibilities
Cannot express his thoughts freely	3	4	3	2	3	2	4	1	Expresses his thoughts freely
Is not sensitive to environmental problems	5	4	4	2	4	1	3	2	Is sensitive to environmental problems
Is selfish	5	4	3	4	4	3	4	2	Is not selfish
Connects everything to religion and does not develop himself	5	5	3	4	3	2	5	4	Develops himself

3.2.2 Data collection

Data were collected in three phases comprising explanation of the topic, eliciting the constructs by comparing the elements, and participants ranking each element in terms of the construct pairs they produced.

3.2.2.1 Explaining the topic

Initially, a pre-interview was conducted with all the student teachers in an available class hour, wherein they were given information on the purpose of the study and asked to volunteer for participation. Subsequently, the participants were provided with an appointment time for interviews. The interviews were conducted using the RGT form administered by either of the researchers in one of their offices. The researchers took notes, as participants did not agree to audio recording.

3.2.2.2 Eliciting constructs by comparing elements

The constructs were elicited via a triad system. As none of the student teachers reportedly had any experience with the RGT, an example was performed before each interview. Each student teacher was asked to select three cards from spreading on the table. The participants were asked to indicate a feature that differentiated one card from the other two. Thus, the construct pairs were elicited (e.g., democratic–anti-democratic, sensitive to human rights–not sensitive to human rights, etc.). This process was continued until eight personal construct pairs were formed. The features verbally indicated by the participants were simultaneously written on the RGT form in the relevant column by one of the researchers. This procedure was repeated for each element card by each student. On average, each interview required 50 minutes to complete. Both first-year and fourth-year student teachers encountered difficulty when comparing the elements' similarities and differences and verbalizing them. The participants were asked not to hesitate during the process and indicate the first feature that came to mind. The unclear features were clarified. After completion of the interviews, the participants were asked to briefly write down their perspectives on the process.

3.2.2.3 Ranking elements in terms of constructs

At this stage, the elements were ranked based on the elicited constructs. This study utilized a five-point Likert scale (see Table 1)). Here, 1 indicated that the element does not have the feature, and 5 indicated that it completely represents the feature.

3.3 Data analysis

A total number of 184 constructs, with 88 from first-year student teachers and 96 from the fourth-year students, were elicited in this study. The constructs elicited were analyzed using the general content analysis technique (see Jankowicz, 2004). For the content analysis, constructs obtained from the participants were enumerated and tabulated by both the researchers. Pre-analysis results showed that the constructs obtained could be analyzed based on the personally responsible citizen, participatory citizen, and justice-oriented citizen categories proposed by Westheimer and Kahne (2004). Subsequently, the constructs were classified based on these categories by both the researchers. The categorization revealed that only five different constructs were placed in different categories by both the researchers. The constructs that were coded differently were revised by both the researchers and appropriately categorized after discussion. The agreement between the coders was calculated using the reliability formula suggested by Miles and Huberman (1994, p.64). The agreement between the coders was 97% for all categories ($179/179 + 5 \times 100$). The frequency and percentage distributions of the constructs were performed based on the number of total constructs.

The data were quantitatively analyzed through the principal component analysis (PCA) by using the Rep Plus V1.1 program to measure the cognitive complexity of participants. Accordingly, the number of components with an eigenvalue of 1 or higher and the variance percentage of each component were considered (Jones, 1954, as cited in Fransella et al., 2004). The first component in this study had a high variance percentage, thereby indicating that the participant had high cognitive simplicity of being a citizen. This finding indicates that the participant's implicit knowledge of being a citizen was one-dimensional. The low variance percentage of the first component indicated the cognitive complexity of participants. This finding indicates that the implicit knowledge of the participant on being a citizen was multidimensional.

4 FINDINGS

The qualitative and quantitative findings obtained in line with the research questions in this study were presented in the two subheadings.

4.1 Findings on the student social studies teachers' implicit knowledge on being a citizen

Table 2 presents the findings related to the implicit knowledge of first- and fourth-year student social studies teachers on being a citizen according to their class years, which relates to the first research question.

Table 2 reveals that the first- and fourth-year students' implicit constructs on being a citizen reflect the characteristics of a personally responsible citizen. Among the 88 constructs from the first-year student teachers and 96 constructs from the fourth-year student teachers, 54 (29.3%) and 46 (25%) were in the personally responsible citizen category. Furthermore, an analysis of Table 2 shows that the first-year student teachers provided fewer constructs on participatory citizenship (f: 13, 7.5 %) than the fourth-year student teachers (f: 28; 15.2%). In the justice-oriented citizen category, the frequency of the constructs produced by first-year (f: 21; 11.4%) and fourth-year (f: 22; 11.9%) student teachers was very similar. However, the constructs provided by fourth-year student teachers involved more questioning and criticism.

Table 2. frequency and percentage distributions of the constructs of first-year and fourth-year student social studies teachers about being a citizen according to the categories

Categories	Class year	Constructs produced by the participants representing the categories (examples)*	f	%
Personally responsible citizen	First-year	is tolerant and helpful/ does not harm publicly owned things and environment/ respects and is sensitive to the emotions and thoughts of people in his environment/ respects different views / obeys the law/ is not selfish/ does not use people in government for his own benefits / makes decisions without favouritism but with qualification/ is disciplined/ educates and develops himself/ obeys the rules indicated in society/ fulfills responsibilities for state/ has and fulfills the citizenship responsibilities/ is reliable in terms of human relationships/ is honest, deserves his position/ fulfills his profession appropriately / fights for his country, struggles to protect it/ is not against modernization / is consistent in terms of political views and behaviors.	54	29.3
	Fourth-year	Fulfills the requirements and responsibilities of citizenship / fulfills social duties / does not behave in an illegal way for personal benefits/ does not use favouritism and influential contacts/ does not use his profession and status for personal benefits/ is sensitive to the environment and society/ is sensitive to sharing and is helpful/ adopts and protects social values / is honest about the jobs and duties he does/ does not harm his country and people socially, politically, or economically/ does not waste services and facilities of state/ develops himself/loves the job he is doing/ is understanding and tolerant about differences/ is consistent in terms of social and political actions and statements.	46	25.0

Participatory Citizen	First-year	Plays an enlightening role in society / contributes to the new scientific knowledge of his country/ is socially productive /produces for the development of his country/ is aware of the citizenship rights and responsibilities / requires equality under the law / is sensitive to the events and problems in the country / is interested and sensitive to social problems / uses right to elect and be elected.	13	7.5
	Fourth-year	Uses the right and responsibilities of voting / votes consciously/ claims and uses the right to work/ gives importance to right to education/ is aware of and uses his rights (protesting)/ produces new ideas / encourages to reveal the production potential/ is sensitive to important problems in country (financial crisis, terror, femicide, unscientific explanations, and practices)/ is interested in the problems of people who are not from their own ethnic origin, religion, communion/ supports and participates in social responsibility projects/ reacts against negative political, social, financial practices/ struggles for enlightening people and raising awareness.	28	15.21
	First-year	Looks after rights, is fair; struggles for securing justice / raises voice against injustices / defends women's rights/ defends the rights of other citizens as well/ is an intellectual person who values human rights / is an independent individual who can express and disseminate his ideas/ can openly express political views and preferences freely/ treats people equally without discriminating by religion, language, ethnic origin, and thought/ gives importance to different political thoughts, does not act according to one single political view.	21	11.41

Fourth-year	Uses legal rights in cases of injustices; can criticize the government's policies positively or negatively/ does not keep silent against the exploitation of social, political and economic rights/ questions the practices of people in power/ is able to defend human rights for people from different religion, language, and ethnic origin/ is able to protest government activities harming individuals and societies / takes risks about social problems despite pressures/does not give up rights and freedoms in the face of pressures and impositions / defends the importance of freedom of thought and expression/ takes an active role in changes/questions the ideological views and policies imposed by government/ questions the laws and rules related to citizenship that is of interest to him / does not obey authority and the current order, questions them.	22	11.95
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Not all the constructs were given as the table would be too long. Constructs representing categories were presented as examples.

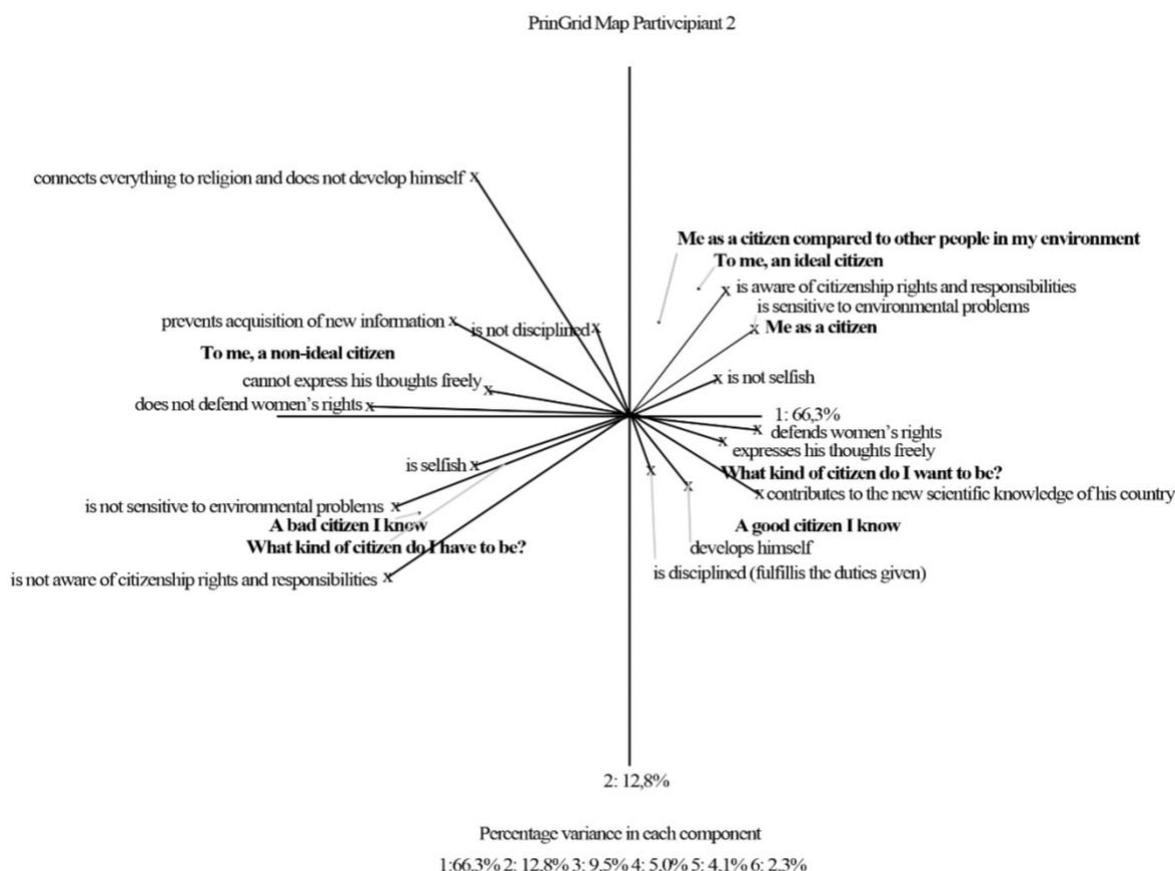
4.2 Findings on the student social studies teachers' cognitive complexity on being a citizen

In this study, the findings related to the cognitive complexity of the implicit knowledge of the first- and fourth-year student teachers on being a citizen are presented as follows.

4.2.1 Findings on the participants with cognitive complexity

The constructs of the first- and fourth-year student teachers on being a citizen can be divided into two components. An eigenvalue of higher than 1 in the second component and a relatively lower variance explained by the first component indicated cognitive complexity. Moreover, three participants from each group of the first- and fourth-year students exhibited cognitive complexity on being a citizen (i.e., participants 2, 5, 6, 16, 17, and 19). Participants 19 and 2 exhibited the highest (79%) and lowest (66%) variance explanation ratios, respectively, among the students that demonstrated high cognitive complexity (see Appendix). The PrinGrid Map of Participant 2, who exhibited cognitive complexity, is as follows:

Figure 1. the PCA of participant 2

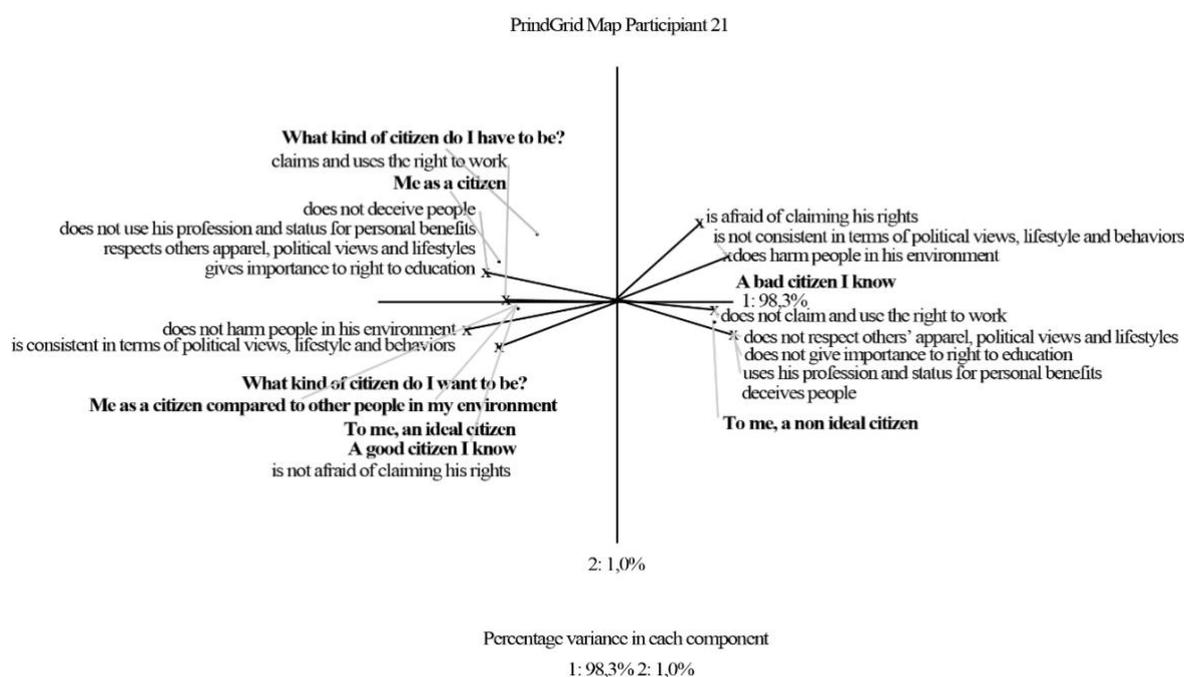


The PrinGrid Map reveals that Participant 2 exhibited cognitive complexity on being a citizen. When this map was compared with that of other participants, the variance explained by the first component was relatively low (66.3%), and the eigenvalue of the second component was higher than 1. Figure 1 shows that the participant placed the “me as a citizen” element close to both the “an ideal citizen to me” and “me as a citizen according to other people in my environment” elements. These elements were considered similar in terms of the “is aware of citizenship rights and responsibilities,” “is sensitive to environmental problems,” and “is not selfish” constructs. Constructs that were in contrast to these were associated with the “a bad citizen I know,” and “what kind of citizen I have to be” elements. Figure 1 shows that Participant 2 placed the “what kind of citizen I want to be” and “a good citizen I know” elements relatively close in terms of the “is sensitive to women’s rights,” “expresses their opinions freely,” “contributes to the new scientific knowledge of their country,” “develops themselves,” and “is disciplined” constructs. Constructs in contrast to these personal constructs were associated with the “a non-ideal citizen to me” element. Moreover, Figure 1 shows that Participant 2 differentiated the provided elements from each other, which indicates a multidimensional cognitive structure of being a citizen. Therefore, an analysis of Figure 1 shows that the elements were placed relatively far from each other.

4.2.2 Findings on the participants with cognitive simplicity

An analysis of the eigenvalue of the second component and the variance criteria explained by the first component in terms of the aforementioned criteria revealed that 17 student teachers, 8 first-years and 9 fourth-years, exhibited cognitive simplicity on being a citizen (See Appendix). Therefore, the fourth-year student teacher coded as Participant 21 exhibited the highest variance explanation ratio (98%). The fourth-year student teacher coded as Participant 15 exhibited the lowest variance explanation ratio (83%). The PrinGrid Map of Participant 21, who exhibited cognitive simplicity, is shown in Figure 2.

Figure 2. the PCA of participant 21



An analysis of the PrinGrid Map in Figure 2 shows that Participant 21 exhibited cognitive simplicity on being a citizen. Compared to other participants, the variance associated with this participant that explained the first component was relatively high (98.3%), and the eigenvalue of the second component was lower than 1 and close to zero. Figure 2 shows that Participant 21 placed the “me as a citizen” element especially close to the “the type of citizen I have to be” element. In fact, as the construct on being a citizen was one dimensional, these elements were evaluated parallel to the “what kind of citizen I want to be,” “me as a citizen according to other people in my environment,” “to me an ideal citizen,” and “a good citizen I know” elements. Thus, Participant 21 did not differentiate the elements. All elements were placed close together in terms of the “claims and uses the right to work,” “does not deceive people,” “does not use their profession and status for personal benefits,” “respects others’ clothing choices, political views, and lifestyles,” “gives importance to right to education,” “does not harm people in their environment,” “is

inconsistent in terms of political views, lifestyle, and behaviors,” and “is not afraid of claiming their rights” constructs. Conversely, the “a bad citizen I know” and “a non-ideal citizen to me” elements represented the aforementioned constructs in a negative manner.

5 DISCUSSION

This study investigated the implicit knowledge and cognitive complexity of first- and fourth-year student social studies teachers on being a citizen. The findings revealed that constructs produced by the participants on being a citizen were primarily in the personally responsible citizen category. Accordingly, the student teachers interpreted being a citizen as being an individual with personal responsibility and good morals. By contrast, compared with first-year student teachers, the fourth-year student teachers produced more constructs primarily related to the participatory citizen category. Both first- and fourth-year students produced a similar number of constructs on the justice-oriented citizen category, thus exhibiting an eclectic structure.

The implicit constructs of the student teachers reflected the characteristics of a personally responsible citizen, which can be related to the statements imposed in their prior learning experiences in a variety of formal, non-formal and informal settings, university curriculum, and students' real-life experiences. The conceptualizations of the fourth-year student teachers may demonstrate differences compared with those of the first-year students because the fourth-years had learned citizenship-related concepts and theories in their courses. That is, they acquired explicit conceptual knowledge on citizenship. Implicit and explicit knowledge interact with each other in the process of acquisition and reorganization of information (Nonaka, 1994; Nonaka & Toyama, 2003; Sun, 2001). This interaction can change the nature of implicit knowledge, and implicit knowledge may undergo changes due to increases in experience and sharing. However, the findings from this study revealed that the implicit constructs of first- and fourth-year student teachers did not semantically differ from each other. Therefore, the informal experiences and courses of the fourth-year student teachers do not significantly affect their cognitive constructs on being a citizen.

The characteristics of a personally responsible citizen primarily reflect the characteristics of an individual with good character and morals, that is, a good person (Fry & O'Brien, 2015; Westheimer & Kahne, 2004). The implicit knowledge of both the first- and fourth-year student teachers reflected being a good person more than being a good citizen. The understanding in the personally responsible citizen category was dominant among social studies teachers and student teachers (Fry & O'Brien, 2015; Li & Tan, 2017; Patterson et al., 2012; Sim et al., 2017). The conception of a personally responsible citizen is also dominant in cross-cultural comparisons. Leung, Yuen and Ngai (2014) reported that the conceptions of 'good citizen' defined in the official documents, as in many countries, (comparison among United States, Canada, the United Kingdom, Australia and Hong Kong) just hovering between personally responsible citizen and participatory citizen, but the justice-

oriented citizen is rarely involved. Leung et al. (2014) stated that the cultivation of personal responsible citizen and participatory citizen results from the conservative politicization of civic education. Furthermore, the first- and fourth-year student teachers presented constructs that primarily reflected the characteristics of personally responsible citizens, which can be related to the functioning of the social and political system as well as the nature of their relationship with these social structures. In the socialization process, the rights and responsibilities of individuals as citizens and the utilization of these rights by individuals can affect perceptions and conceptualizations of being a citizen (Caymaz, 2007). It can be stated that the state plays a central role in the formation of citizenship in Turkey, rather than the social and political struggle of individuals. In other words, citizenship practices are top-down (Caymaz, 2007). An understanding of citizenship that depends on the nation-state ideology and prioritizes citizenship duties and responsibilities is dominant. In this study, it was determined that the duty and responsibility-based perspective was effective on the student teachers' understanding of being a citizen. In the citizen-based republican approach, citizenship is an active participatory practice (Oldfield, 2012). In this approach, public (common) benefits take precedence over individual benefits on behalf of the welfare of the state and society. An individual can become a citizen or remain a citizen as long as she/he fulfills the duties and responsibilities (Oldfield, 2012; Polat-Guzel, 2010). Therefore, a primarily personally responsible citizen understanding of student teachers can be attributed to their experiences in the socio-cultural and political background as citizens in their socialization process.

A good character and morals can be considered crucial and necessary in terms of being a good citizen (Westheimer & Kahne, 2004). However, having the characteristic of a personally responsible citizen is not a sufficient condition for being a good citizen because a personally responsible citizen primarily reflects the characteristics of a passive citizen. Moreover, being a citizen requires democratic societies to maintain their existence as well as socially, economically, and politically active participatory citizens (Kymlicka & Norman, 2012). Westheimer and Kahne (2004) reported that the curriculum and education policies supporting and improving the understanding of a personally responsible citizen prevent understanding of a participatory and justice-oriented citizen and that understanding of a participatory and justice-oriented citizen should be fostered for management of democratic society.

In this study, another feature that characterized a personally responsible citizen with an emphasis on being a good, moral person is being an individual who fulfills their citizenship duties and responsibilities. The emphasis of the participants on this feature indicates that they primarily associate citizenship with duties and responsibilities and not rights, which can be attributed to citizenship education in Turkey that prioritizes duties and responsibilities (Kadioglu, 2012b; Ustel, 2016). This result reflects the ideological, duty and responsibility-based citizenship practices from the Ottoman period to the present. Being a citizen requires establishing a balance between rights, freedoms, and responsibilities (Kymlicka & Norman, 2012). However, it is emphasized that there are still serious problems in terms

of citizenship rights and seeking rights, although some arrangements have been made in the last decades in Turkey to improve citizenship rights and democratic life within the EU membership process (Ozbudun, 2011). In fact, the European Union Commission (2020) has reported that there is a regression in human rights and fundamental rights, civil rights and democratic processes in Turkey. Although issues such as justice, human rights, equality, participation, and seeking rights are addressed from time to time in citizenship education curriculum in Turkey (Sen, 2019; Ulubey, 2021, Ustel, 2016), it can be stated that practices that support participatory and justice-centered citizenship understanding are still insufficient. In fact, Kesik and Akbulut-Taş (2020) revealed that seventh grade students implicitly perceive a good citizen as a good person, and they interpret being a citizen in terms of duty and responsibility rather than rights. According to results from this study, it can be stated that the implicit knowledge of student social studies teachers about being a citizen is like to that of seventh-grade students. Subsequently, student social studies teachers must be provided with learning-teaching activities that can improve participatory and justice-oriented citizen understanding. Moreover, promoting participatory and justice-oriented citizen characteristics is the purpose and duty of the social system in which the individual lives and is not merely educated.

This study investigated the cognitive complexity of student social studies teachers on being a citizen. Only 6 of the 23 participants (3 first- and 3 fourth-year students) demonstrated cognitive complexity. Furthermore, a higher number of the fourth-year students were expected to exhibit cognitive complexity. Similarly, the cognitive complexity of student teachers' perspectives of being a citizen did not vary with class year. Accordingly, three first-year and three fourth-year students exhibited cognitive complexity.

6 LIMITATIONS AND FUTURE RESEARCH

Although it is suggested that the sample size in studies on RGT may be small (see Tan & Hunter, 2002), this also weakens the external validity of the findings. As the study included 23 first- and fourth-year student social studies teachers, the findings cannot be generalized to any population as whole. Although our findings yielded similar results with earlier studies (Fry & O'Brien, 2015; Li & Tan, 2017; Patterson et al., 2012; Sim et al., 2017), this study may be crucial for guiding future research with an emphasis on the role of implicit knowledge and cognitive complexity in citizenship education. Therefore, this study should be conducted with a larger sample to yield higher representative findings using different research designs. Also, future studies could involve social studies teachers. Another limitation of the study is that data on implicit knowledge and cognitive complexity were obtained from a single data collection tool and method. Future studies could use different data collection tools and mixed methods to investigate individuals' implicit knowledge and cognitive complexity on being a citizen. This study focused on eliciting only the implicit knowledge of student social studies teachers; however, future studies could investigate implicit and explicit conceptual knowledge in tandem. The interaction between implicit

and explicit knowledge in a comparative manner could also be examined. There are few studies that examine student teachers' understanding of being a citizen through cross-cultural comparisons. Therefore, cross-cultural comparison studies can be carried out. Also, this study was carried out before the COVID-19 pandemic. In future studies, it can be examined how such critical events effect the implicit knowledge of individuals on being a citizen.

7 CONCLUSION

In conclusion, this study found that implicit knowledge of first- and fourth-year student social studies teachers more often reflects characteristics of a personally responsible citizen than a participatory and justice-oriented citizen. Moreover, the majority of the first- and fourth-year student teachers demonstrated cognitive simplicity (one dimensional), and only six participants exhibited cognitive complexity (multi-dimensional). However, society requires student teachers who can act responsibly in society and think critically about the causes of events and problems, in order to construct and maintain a democratic society (Eurydice, 2017; Ten Dam, Geijssel, Reumerman, and Ledoux, 2011). Thus, the justice-oriented and participatory citizen understanding of student social studies teachers must be emphasized and strengthened through a multidimensional perspective.

REFERENCES

- Bartholomew U (1993) Die selbst-identitäts-graphik [The self-identity graphic]. In Scheer J.W, Catina A (Eds.), *Einführung in die repertory grid-technik. Bd 2. Klinische forschung und praxis* [Introduction to repertory grid technique. Vol 2. Clinical research and practice] (pp. 30-37). Bern/Göttingen/Toronto/Sea: Huber.
- Berzonsky, M. D. (2004). Identity processing style, self-construction, and personal epistemic assumptions: A social-cognitive perspective. *European Journal of Developmental Psychology*, 1(4), 303-315. <https://doi.org/10.1080/17405620444000120>
- Björklund, L. (2008). The repertory grid technique: Making tacit knowledge explicit: Assessing creative work and problem solving skills. In H. Middleton (Ed.), *Researching technology education: Methods and techniques* (pp.46-69). Rotterdam: Sense Publishers.
- Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18(1), 32-42.
- Carpenter, J. J. (2006). The development of a more intelligent citizenship: John Dewey and the social studies. *Education and Culture*, 22(2), 31-42. <https://www.jstor.org/stable/42922591>
- Castro, A. J. (2013). What makes a citizen? Critical and multicultural citizenship and pre-service teachers' understanding of citizenship skills. *Theory & Research in Social Education*, 41(2), 219-246. <https://doi.org/10.1080/00933104.2013.783522>
- Caymaz, B. (2007). Türkiye'de vatandaşlık resmi ideoloji ve yansımaları [The official ideology on citizenship in Turkey and its repercussions]. İstanbul: Bilgi University Publications.

- Chareka, O., & Sears, A. (2006). Civic duty: Young people's conceptions of voting as a means of political participation. *Canadian Journal of Education*, 29(2), 521-540. <https://www.jstor.org/stable/20054175>
- Curtis, A. M., Wells, T. M., Lowry, P. B., & Higbee, T. (2008). An overview and tutorial of the repertory grid technique in information systems research. *Communications of the Association for Information Systems*, 23(3). <https://doi.org/10.17705/1CAIS.02303>
- Cayır, K., & Gurkaynak, I. (2007). The state of citizenship education in Turkey: Past and present. *Journal of Social Science Education*, 6(2), 50-58. <https://doi.org/10.4119/jsse-385>
- Duguid, P. (2005). The art of knowing: Social and tacit dimensions of knowledge and the limits of the community of practice. *The Information Society*, 21(2), 109-118. <https://doi.org/10.1080/01972240590925311>
- Eraut, M. (2000). Non-formal learning and tacit knowledge in professional work. *British Journal of Educational Psychology*, 70, 113-136. <https://doi.org/10.1348/000709900158001>
- Eurydice. (2017). *Citizenship education at school in Europe – 2017 (Eurydice report)*. Retrieved from European Union website: <https://publications.europa.eu/en/publication-detail/-/publication/6b50c5b0-d651-11e7-a506-01aa75ed71a1/language-en/format-PDF/source-56573425>
- European Commission. (2020). Commission staff working document Turkey 2020 report. Retrieved July 15, 2021 from https://ec.europa.eu/neighbourhood-enlargement/sites/default/files/turkey_report_2020.pdf
- Evans, M. (2006). Educating for citizenship: What teachers say and what teachers do. *Canadian Journal of Education*, 29(2), 410-435. <https://www.jstor.org/stable/20054170>
- Fischman, G. E., & Haas, E. (2012). Beyond idealized citizenship education: Embodied cognition, metaphors, and democracy. *Review of Research in Education*, 36, 169-196. <https://doi.org/10.3102/0091732X11420927>
- Fransella, F., Bell, R., & Bannister, D. (2004). *A manual for repertory grid technique* (2nd ed.). Chichester, UK: John Wiley & Sons.
- Fry, S. W., & O'Brien, J. (2015). Cultivating a justice orientation toward citizenship in pre-service elementary teachers. *Theory & Research in Social Education*, 43(3), 405-434. <https://doi.org/10.1080/00933104.2015.1065530>
- Goodwin, V. L. (1991). *Antecedents, consequences, and covariates of organizational cognitive complexity*. (Doctoral dissertation). University of Texas, Arlington.
- Hampton, J. A. (1999). Implicit and explicit knowledge: One representational medium or many? *Behavioral and Brain Sciences*, 22(5), 769-770. <https://doi.org/10.1017/S0140525X99382182>
- Heater, D. (2007). *A brief history of citizenship* [Yurtttaşlığın kısa tarihi] (M. Delikara Üst, Trans.; 1st ed.). İstanbul: Imge Kitabevi.
- Hemmecke, J., & Stary, C. (2004). A framework for the externalization of tacit knowledge embedding repertory grids. In *Proceedings OKLC-2004, 5th European Conference on Organizational Knowledge, Learning and Capabilities* (Vol. 56). Innsbruck.
- Homer, B. D., & Ramsay, J. T. (1999). Making implicit explicit: The role of learning. *Behavioral and Brain Sciences*, 22(5), 770-770. <https://doi.org/10.1017/S0140525X99392189>
- Ifenthaler, D., Masduki, I., & Seel, N. M. (2011). The mystery of cognitive structure and how we can detect it: Tracking the development of cognitive structures over time. *Instructional Science*, 39, 41-61. <https://doi.org/10.1007/s11251-009-9097-6>

- İkinci, I. (2016). *Investigation of social studies teachers' perceptions of citizenship and citizenship education* [Unpublished doctoral dissertation]. Dumlupınar University, Kütahya.
- Iverson, S. V., & James, J. H. (2010). Becoming "effective" citizens? Change-oriented service in a teacher education program. *Innov High Educ*, 35, 19-35. <https://doi.org/10.1007/s10755-009-9127-y>
- Jankowicz, D. (2004). *The easy guide to repertory grids*. Chichester, UK: John Wiley & Sons.
- Jonassen, D. H., & Grabowski, B. L. (1993). *Handbook of individual differences, learning and instruction*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Joppke, C. (2007). Transformation of citizenship: Status, rights, identity. *Citizenship Studies*, 11(1), 37-48. <https://doi.org/10.1080/13621020601099831>
- Kadıoğlu, A. (2012a). Vatandaşlık: Kavramın farklı anlamları [Citizenship: The different meanings of the concept]. In A. Kadıoğlu (Ed.), *In Vatandaşlığın dönüşümü: Üyelikten haklara [The transformation of citizenship: from membership to rights]* (pp.21-30). İstanbul: Metis Press.
- Kadıoğlu, A. (2012b). Türkiye'de vatandaşlığın anatomisi [Anatomy of citizenship in Turkey]. In A. Kadıoğlu (Ed.), *In Vatandaşlığın dönüşümü: Üyelikten haklara [The transformation of citizenship: from membership to rights]* (pp. 168-184). İstanbul: Metis Press.
- Kelly, G. A. (1991). *The psychology of personal constructs* (Vol II, Chap. Eleven). New York: Routledge (Original work published 1955).
- Kerr, D. (1999). Citizenship education in the curriculum: An international review. *The School Field*, 10(3/4), 5-32.
- Kesik, S., & Akbulut-Tas, M. (2020). An investigation of secondary school seventh grade students' implicit and explicit knowledge about the concept of citizen. *Education and Science*, 45(203), 91-121. <https://doi.org/10.15390/EB.2020.8559>
- Kılınç, E. (2015). Elementary school and social studies teachers' opinions about the concept of good citizenship. *Route Educational and Social Science Journal*, 2(3), 194-206.
- Knight Abowitz, K., & Harnish, J. (2006). Contemporary discourses of citizenship. *Review of Educational Research*, 76(4), 653-690. <https://doi.org/10.3102/00346543076004653>
- Korthagen, F. A. J., & Kessels, J. P. A. M. (1999). Linking theory and practice: Changing the pedagogy of teacher education. *Educational Researcher*, 28(4), 4-17. <https://doi.org/10.3102/0013189X028004004>
- Kreber, C., & Klampfleitner, M. (2012). Construing the meaning of authenticity in university teaching: Comparing explicit to implicit theories. *Journal of Constructivist Psychology*, 25(1), 34-69. <https://doi.org/10.1080/10720537.2012.629114>
- Kymlicka, W., & Norman, W. (2012). Return of the citizen: A survey of recent work on citizenship theory. (C. Cemgil, Trans.). In A. Kadıoğlu, (Ed.) *Vatandaşlığın dönüşümü: Üyelikten haklara [The transformation of citizenship: from membership to rights]* (pp. 185-217). İstanbul: Metis Press.
- Lawy, R., & Biesta, G. (2006). Citizenship-as-practice: The educational implications of an inclusive and relational understanding of citizenship. *British Journal of Educational Studies*, 54(1), 34-50. <https://doi.org/10.1111/j.1467-8527.2006.00335.x>
- Leung, Y. W., Yuen, W. W. T., & Ngai, S. K. G. (2014). Personal responsible, participatory or justice-oriented citizen: The case of Hong Kong. *Citizenship Teaching & Learning*, 9(3), 279-295. https://doi.org/10.1386/ctl.9.3.279_1

- Li, H., & Tan, C. (2017). Chinese teachers' perceptions of the 'good citizen': A personally-responsible citizen. *Journal of Moral Education*, 46(1), 34-45.
<https://doi.org/10.1080/03057240.2016.1277341>
- Makhlouf-Norris, F., & Jones, H. G. (1971). Conceptual distance indices as measures of alienation in obsessional neurosis. *Psychological medicine*, 1(5), 381-387.
- Martin, L. A. (2008). Elementary and secondary teacher education students' perspectives on citizenship. *Action in Teacher Education*, 30(3), 54-63.
<https://doi.org/10.1080/01626620.2008.10463502>
- Mathews, S. A., & Dilworth, P. P. (2008). Case studies of preservice teachers' ideas about the role of multicultural citizenship education in social studies. *Theory & Research in Social Education*, 36(4), 356-390. <https://doi.org/10.1080/00933104.2008.10473380>
- Matthew, C. T., & Sternberg, R. J. (2009). Developing experience-based (tacit) knowledge through reflection. *Learning and Individual Differences*, 19, 530-540.
<https://doi.org/10.1016/j.lindif.2009.07.001>
- Mayer, B. W. (1996). *Cognitive complexity in group performance and satisfaction*. (Unpublished doctoral dissertation). University of North Texas, Texas.
- Mertins, K. & Finke, I. (2004). Kommunikation impliziten wissens [Communication implicit knowledge]. In R. Reinhardt, & M. J. Eppler (Eds.), *Wissenskommunikation in organisationen [Knowledge communication in organizations]* (pp. 32-49). Berlin: Springer.
- Ministry of National Education [MoNE]. (2015). *İlkokul (4.sınıf) insan hakları, yurttaşlık ve demokrasi dersi (taslak) öğretim programı [Primary school (4th grade) human rights, citizenship and democracy course (draft) curriculum]*. Retrieved from <https://docplayer.biz.tr/3550231-İlkokul-4-sınıf-insan-hakları-yurttaşlık-ve-demokrasi-dersi-taslak-ogretim-programi.html>
- Ministry of National Education [MoNE]. (2018a). *İnsan hakları, yurttaşlık ve demokrasi dersi öğretim programı [Primary school (4th grade) human rights, citizenship and democracy course curriculum]*. Retrieved from <https://mufredat.meb.gov.tr/ProgramDetay.aspx?PID=328>
- Ministry of National Education [MoNE]. (2018b). *Sosyal bilgiler dersi öğretim programı (ilkokul ve ortaokul 4, 5, 6 ve 7. sınıflar) [Social studies curriculum (primary and secondary school grades 4, 5, 6 and 7)]*. Retrieved from <https://mufredat.meb.gov.tr/Dosyalar/201812103847686-SOSYAL%20B%C4%B0LG%C4%B0LER%20%C3%96%C4%99ERET%C4%B0M%20PROGRAMI%20.pdf>.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 5(1), 14-37. <https://doi.org/10.1287/orsc.5.1.14>
- Nonaka, I., & Konno, N. (1998). The concept of "ba": Building a foundation for knowledge creation. *California Management Review*, 40(3). <https://doi.org/10.2307/41165942>
- Nonaka, I., & Toyama, R. (2003). The knowledge-creating theory revisited: Knowledge creation as a synthesizing process. *Knowledge Management Research & Practice*, 1(1), 2-10. <https://doi.org/10.1057/palgrave.kmrp.8500001>
- Norris, H., & Makhlouf-Norris, F. (1976). The measurements of self-identity. In Slater, P. (Ed.), *The measurement of intrapersonal space by grid-technique. Exploration of interpersonal space* (pp. 79-83). London: Wiley.

- Oldfield, A. (2012). Citizenship: An unnatural practice. (C. Cemgil, Trans.) In A. Kadioglu, *Vatandaşlığın dönüşümü: Üyelikten haklara [The transformation of citizenship: from membership to rights]* (pp. 93-106). İstanbul: Metis Press.
- Osler, A. (2011). Teacher interpretations of citizenship education: National identity, cosmopolitan ideals, and political realities. *Journal of Curriculum Studies*, 43(1), 1-24. <https://doi.org/10.1080/00220272.2010.503245>
- Ozbudun, E. (2011). *Otoriter Rejimler, Seçimsel Demokrasiler ve Türkiye [Authoritarian regimes, electoral democracies and Turkey]*. İstanbul: İstanbul Bilgi University Publications.
- Patterson, N., Doppen, F., & Misco, T. (2012). Beyond personally responsible: A study of teacher conceptualizations of citizenship. *Education, Citizenship and Social Justice*, 7(2), 191-206. <https://doi.org/10.1177/1746197912440856>
- Polanyi, M. (2005). *Personal knowledge: Towards a post-critical philosophy*. London: Routledge and Kegan Paul (Original work published 1958).
- Polanyi, M. (1966). The logic of tacit inference. *Philosophy*, 41(155), 1-18. <https://doi.org/10.1017/S0031819100066110>
- Polat-Guzel, E. (2011). Osmanlıdan günümüze vatandaşlık anlayışı [The concept of citizenship from the Ottoman Empire to current times]. *Journal of Ankara Bar Association*, 3, 128-157.
- Rozenszajn, R., & Yarden, A. (2015). Exposing biology teachers' tacit views about the knowledge that is required for teaching using the repertory grid technique. *Studies in Educational Evaluation*, 47, 19-27. <https://doi.org/10.1016/j.stueduc.2015.06.001>
- Ryle, G. (1949). *The concept of mind*. London: Hutchinson's University Library.
- Schoeneich, F., & Klapp, B. F. (1998). Standardization of interelement distances in repertory grid technique and its consequences for psychological interpretation of self-identity plots: An empirical study. *Journal of Constructivist Psychology*, 11(1), 49-58. <https://doi.org/10.1080/10720539808404638>
- Schugurensky, D., & Myers, J. P. (2003). Learning to teach citizenship: A lifelong learning approach. *Encounters on Education*, 4, 145-166. <https://doi.org/10.15572/ENCO2003.08>
- Schulz, W., Fraillon, J., Ainley, J., Losito, B., & Kerr, D. (2008). International civic and citizenship education study: Assessment framework. Amsterdam, Netherlands: International Association for the Evaluation of Educational Achievement (IEA)
- Sen, A. (2019). Changes and continuities in citizenship education: What kind of citizenship education does the 2018 social studies programme of study envisage? *Journal of Qualitative Research in Education*, 7(1), 1-28. <https://doi.org/10.14689/issn.2148-2624.1.7c1s.1m>
- Sim, J. B., Chua, Y. S., & Krishnasamy, M. (2017). Riding the "citizenship wagon": Citizenship conceptions of social studies teachers in Singapore. *Teaching and Teacher Education*, 63, 92-102. <https://doi.org/10.1016/j.tate.2016.12.002>
- Sun, R. (2001). *Duality of mind: A bottom-up approach toward cognition*. Mahwah, NJ: Lawrence Erlbaum.
- Taber, K. S. (2013). *Modelling learners and learning in science education: Developing representations of concepts, conceptual structure and conceptual change to inform teaching and research* (e book). Dordrecht: Springer. <https://doi.org/10.1007/978-94-007-7648-7>

- Tan, F. B., & Hunter, M. G. (2002). The repertory grid technique: A method for the study of cognition in information systems. *MIS Quarterly*, 26(1), 39-57.
<https://doi.org/10.2307/4132340>
- Ten Dam, G., Geijsel, F., Reumerman, R., & Ledoux, G. (2011). Measuring young people's citizenship competences. *European Journal of Education*, 46(3), 354-372.
<https://doi.org/10.1111/j.1465-3435.2011.01485.x>
- Thornberg, R., & Oguz, E. (2016). Moral and citizenship educational goals in values education: A cross-cultural study of Swedish and Turkish student teachers' preferences. *Teaching and Teacher Education*, 55, 110-121.
<https://doi.org/10.1016/j.tate.2016.01.002>
- Tomico, O., Karapanos, E., Lévy, P., Mizutani, N., & Yamanaka, T. (2009). The repertory grid technique as a method for the study of cultural differences. *International Journal of Design*, 3(3), 55-63.
- Tomlinson, P. (1999). Conscious reflection and implicit learning in teacher preparation: II Implications for a balanced approach. *Oxford Review of Education*, 25(4), 533-544.
<https://doi.org/10.1080/030549899103973>
- Torney-Purta, J., & Amadeo, J. A. (2011). Participatory niches for emergent citizenship in early adolescence: An international perspective. *Annals of the American Academy of Political and Social Science*, 633, 180-200. <https://doi.org/10.1177/0002716210384220>
- Ulubey, Ö. (2021). Changes and transformations in the curricula of elementary education citizenship, democracy and human rights from 1926 to 2018. *Pegem Journal of Education and Instruction*, 11(1), 401-446. <https://doi.org/10.14527/pegegog.2021.011>
- Ugazio, V., & Castiglioni, M. (1998). Socialization models and the construction of self. *Journal of Constructivist Psychology*, 11(1), 3-29.
<https://doi.org/10.1080/10720539808404636>
- Ustel, F. (2016). *Makbul vatandaşın peşinde. II. Meşrutiyet'ten bugüne vatandaşlık eğitimi [Following the eligible citizen. Citizenship education since the II. Constitutional Monarchy]* (7th ed.). İstanbul: İletişim Press.
- WEB grid program [Computer software]. (2018). Retrieved from, <https://pages.cpsc.ucalgary.ca/~gaines/repplus/>
- Westheimer, J., & Kahne, J. (2004). What kind of citizen? The politics of educating for democracy. *American Educational Research Journal*, 41(2), 237-269.
<https://doi.org/10.3102/00028312041002237>
- Willemse, T. M., ten Dam, G., Geijsel, F., van Wessum, L., & Volman, M. (2015). Fostering teachers' professional development for citizenship education. *Teaching and Teacher Education*, 49, 118-127. <https://doi.org/10.1016/j.tate.2015.03.008>
- Wittgenstein, L. (2000). *Philosophical investigations [Felsefi Soruşturmalar]*, Trans. by D. Kanıt. İstanbul: Küyerel Press.
- Yesilbursa, C. C. (2015). Turkish pre-service social studies teachers' perceptions of "good" citizenship. *Educational Research and Reviews*, 10(5), 634-640.
<https://doi.org/10.5897/ERR2014.2058>
- Yigit, E. Ö. (2017). Citizenship and Turkish citizenship in views of pre-service social studies teachers. *Elementary Education Online*, 16(2), 406-427.
<https://doi.org/10.17051/ilkonline.2017.304708>
- Ziori, E., & Dienes, Z. (2008). How does prior knowledge affect implicit and explicit concept learning? *The Quarterly Journal of Experimental Psychology*, 61(4), 601-624.
<https://doi.org/10.1080/17470210701255374>

APPENDIX.**Explained variance values of the first and fourth-year student social studies teachers' cognitive complexity**

Class Year	Participants	Components	Eigenvalues	Variance %	Cumulative variance %
First year	Participant1	1	7.12	89.04	89.04
		2	0.47	5.87	94.91
	Participant 2	1	4.96	62.00	62.00
		2	1.08	13.50	75.51
	Participant 3	1	6.60	82.56	82.56
		2	0.86	10.80	93.35
	Participant 4	1	7.41	92.60	92.60
		2	0.30	3.79	96.38
	Participant 5	1	6.19	77.36	77.36
		2	1.29	16.09	93.45
	Participant 6	1	5.32	66.47	66.47
		2	1.49	18.57	85.04
	Participant 7	1	7.58	94.79	94.79
		2	0.28	3.47	98.26
	Participant 8	1	7.60	92.05	92.05
		2	0.24	2.99	98.04
	Participant 9	1	7.36	92.00	92.00
		2	0.32	3.97	95.97
	Participant 10	1	7.54	94.25	94.25
		2	0.30	3.76	98.01
Participant 11	1	7.22	90.25	90.25	
	2	0.44	5.53	95.78	
Fourth year	Participant 12	1	7.24	90.56	90.56
		2	0.41	5.14	95.70
	Participant13	1	7.12	89.01	89.01
		2	0.32	3.97	92.98
	Participant 14	1	7.21	90.07	90.07
		2	0.50	6.21	96.28
	Participant15	1	6.66	83.19	83.19
		2	0.79	9.92	93.11
	Participant 16	1	5.53	69.18	69.18
		2	1.02	12.72	81.89
	Participant 17	1	5.93	74.17	74.17
		2	1.20	15.06	89.23
	Participant 18	1	7.75	96.87	96.87
		2	0.14	1.80	98.67
	Participant 19	1	6.30	78.76	78.76

	2	1.03	12.89	91.64
Participant 20	1	7.51	93.85	93.85
	2	0.29	3.57	97.42
Participant 21	1	7.85	98.12	98.12
	2	0.09	1.15	99.27
Participant 22	1	6.49	81.12	81.12
	2	0.90	11.21	92.33
Participant 23	1	7.26	90.78	90.78
	2	0.37	4.64	95.43

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No potential conflict of interest was reported by the authors. Informed consent was obtained from all individual participants involved in the study.

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