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Developing the Historical Thinking Skill Scale at the Secondary School Level

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Abstract

This research aims to develop a set of scales that will allow the measurement of historical thinking skills of secondary school students. Expert opinion was used for the content and face validity of the scale, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were used for the construct validity. A total of 817 students participated in the study, 497 of which were in the EFA study and 320 in the CFA study. As a result of EFA, a three-factor structure was obtained for each subscale which explained 55.57% of the total variance for the time and chronology perception (TCP) subscale; 52.04% of the total variance for the historical empathy (HE) subscale; and 49.01% of the total variance for the historical inquiry (HI) subscale. Findings from CFA showed that the subscales had sufficient fit indices and their reliability coefficients were within acceptable limits. Findings reveal that the scale can be used as a valid and reliable tool in determining students' historical thinking skills.

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Introduction

In all societies, curricula are developed based on a certain philosophy, considering the socio-cultural infrastructure and skills individuals will need in the future. History is one of the basic fields at every level in these curricula. History learning is a field that includes many different acquisitions such as vocabulary learning, reference, memorization, comprehension, analysis, synthesis, reasoning, evaluation, and communication skills (Coltham & Fines, 1971). Thinking historically is one of the most basic skills acquired through history teaching and shaping the curricula (Demircioğlu, 2009; Keçe, 2015; Seixas, 2017). Although historical thinking is defined as "the process of using historical information, including context, perspective, perspective, and perceived facts, to understand the past" (Chowen, 2006, p. 11), it is a difficult phenomenon to be expressed in a single definition. Therefore, "historical thinking" is usually expressed in terms of the elements it covers or the skills expected to be acquired, rather than a specific definition (Seixas & Peck, 2004). For example, in Canada's education system, according to Seixas and Colyer (2011), the historical thinking skills needed for teaching history include comprehending which events are valuable enough to be historical information (*historical significance*), trying to understand the source and evidence of historical information (*evidence*), change and continuity together with the awareness that there may be progress and regression in some areas (*continuity and change*), being able to see cause and effect relationships (*cause-effect*), being able to empathize with past events and people (*developing perspective*), and being able to develop moral judgments (*the ethical dimension of history*) considering the conditions of that period against the behavior of people in historical events. Historical thinking skills for students aged 4-12 in the American education system at the University of California (National Center for History in the Schools, [NCHS]) can be listed as follows (NCHS, 1996):

- Chronological thinking: Distinguishing concepts, grasping the distance of time, creating a timeline, explaining the change.
- Historical understanding: Being able to understand the information in sources such as historical texts, artifacts, and maps.
- Historical analysis and inference: Being able to ask questions for historical research, distinguish between real and fictional, think about historical events from multiple perspectives, and explain the causes of events.
- Historical research: Being able to obtain historical sources and develop explanations based on sources.
- Historical problem analysis and decision making: Being able to identify the problems experienced in the past, produce alternative solutions to the problems of that period, interpret in regard to the conditions of different people at that time, and evaluate the proposed solutions.

In the German education system, historical thinking is discussed as *asking historical questions, using sources with a methodological approach, making insights into the present based on historical events, synthesizing and organizing historical information, and having a level of historical knowledge to activate all these elements* (Levesque & Clark, 2018). Although a clear scope for historical thinking skills has not been determined in the Turkish education system, skills such as research, perceiving change and continuity, empathy, observation, recognizing

stereotypes and prejudice, using evidence, making decisions, and perceiving time and chronology, which are among the learning objectives of the social studies course for 4th and 7th grade students, include historical thinking skills (Ministry of National Education [MoNE], 2018). Within the framework of the 2018 social studies course curriculum, the *special aims* of the culture and heritage learning area expressed as *"to determine the similarities and differences between people, objects, events, and phenomena by questioning the historical evidence of different periods and places, to perceive change and continuity"* point to historical thinking skills. Similarly, in line with the Turkish Qualifications Framework, suggestions for emphasizing *"reflective inquiry, past-present-future connection, time-continuity-change"* in the social studies course are also aimed at historical thinking skills (MoNE, 2018).

Although historical thinking seems to be an achievement specific to history lessons at advanced grade levels, it has been understood that this thought is wrong and can be systematically taught early (Çulha-Özbaş, 2010). In different countries, it is seen that this skill is expressed as a skill that should be acquired starting from the 4th grade (NCHS, 1996). Since historical thinking is a complex skill that includes many elements, it becomes difficult to evaluate (Ercikan, Seixas, Lyons-Thomas & Gibson, 2015) and requires different approaches for its measurement (Ercikan & Seixas, 2015). Therefore, there is a need for tools that will provide evidence of the extent to which learning has taken place to support observation and other measurement tools. In this direction, while creating a framework for the historical thinking skills that especially secondary school students should have, it was aimed to develop a self-reported scale in line with this framework. The presented framework can also help to guide different measurement tools, observations, and curriculum development processes.

Curricula of different countries and related academic studies were examined in forming the framework of historical thinking skills. Historical thinking skills are associated with historical inquiry, using primary sources, collecting evidence, using evidence, and historical empathy in some studies (Drake & Brown, 2003). Aktın (2017) grouped historical thinking skills as understanding the past (developing perspective), perception of change and continuity, and historical empathy in examining the effects of museum visits on historical thinking skills. In general, chronological thinking (NCHS, 1996), historical comprehension (NCHS, 1996), and change and continuity (Seixas & Colyer, 2011) emphasize the ability to perceive time and chronology. In contrast, using evidence (Seixas, 2017), historical analysis and inference, research and decision making (NCHS, 1996), and synthesizing and organizing information using historical evidence (Levesque & Clark, 2018) points to historical inquiry. Furthermore, developing perspective (Chowen, 2006; Seixas & Colyer, 2011) and understanding perspective and context (Chowen, 2006) can be considered historical empathy. Similarly, in the national literature, historical thinking skills are discussed in a way that covers three basic skills: time and chronology perception, historical inquiry, and historical empathy (Akıncı-Güngör & Dilek, 2012; Çiviler, 2019; Demircioğlu, 2009; Dilek, 2002; Keçe, 2015). However, historical thinking skills, whose framework has been partially determined in the literature, are not expressed as a skill in the education curriculum of our country and are not presented with a unique framework (Demircioğlu, 2009). On the other hand, definitions such as questioning, having high interpretation power, analyzing, perceiving change and continuity, empathizing, and producing information based on historical evidence are frequently included in the social studies program (Yeşil, 2010). Therefore, time and chronology perception, historical inquiry, and historical

empathy, together with its sub-dimensions, formed the conceptual framework of the measurement tool to be developed in this study.

Time and Chronology Perception

In the formation of historical thought, it is expected that the understanding of time should first be developed (Şimşek, 2007). Time is one of the basic components in history teaching, which tells the effect of historical events, beliefs, and thoughts that took place in the past by specifying place and time (Safran & Şimşek, 2006). Students' understanding of the present is possible if they understand the historical time well (Şimşek, 2006a). Understanding historical time helps students form their identity as citizens of a democratic society (Barton & Levstik, 2004). Not knowing the concepts of time and chronology makes history a set of independent phenomena (Demircioğlu, 2009) and prevents students' formation of a healthy historical consciousness (Özen, 2010). It also complicates the permanent and meaningful learning of historical information (Varlıkgörücü & Çalışkan, 2020). At this point, in order to teach history subjects better in the Social Studies course, students should have the ability to perceive time and chronology, and change and continuity (Demircioğlu & Akengin, 2011). The skills of perceiving time and chronology, as well as change and continuity, which are among the basic skills that are tried to be gained by students in social studies courses, support the healthy formation of time perception in children, enabling them to analyze and synthesize the changes that have taken place in history holistically (Şimşek, 2009).

The concept of historical time includes three components reflected in teaching: knowledge of chronology, chronology skill, and perception of change and continuity (Şimşek, 2006b). Chronological knowledge is presented in a sequence of events from the past, making it necessary to understand the cause-effect relationship between change (Sağlam, Tınaz & Hayal, 2015) and systematizes students' structuring of their historical knowledge (Akbaba, Keçe & Erdem, 2012). In other words, chronology is a more comprehensive work than listing historical events, which requires understanding past causes, effects, and change and continuity (Drake & Nelson, 2008). Chronology skill is the ability to position more than one event key to their dates, distance them in a temporal sense, and place the events in accordance with their priority-after status (Şimşek & Kolbasar, 2020). The ability to perceive change and continuity gives people the opportunity to put the time they live in, the events that have occurred in the past and present and the possible events that may occur in the future, in the right place in the history of humanity, and comprehend that humanity is in a constant change and continuity in this timeline (Seixas, 2017). It is very important to gain the ability to perceive change and continuity to create a healthy relationship between the past and the future (Demircioğlu & Akengin, 2011). In this way, individuals are primarily made aware of the change and the existing continuity over time through certain concrete developments (Safran & Şimşek, 2006). In addition, it is possible to understand and explain the facts and concepts much more deeply (Şimşek & Kolbasar, 2020).

Historical Inquiry

Historical inquiry describes historians' process when examining historical sources (Leinhardt & Young, 1996). The skill of historical inquiry requires thinking like a historian (Seixas, 2001). Historians identify and interpret sources textually and historically through classification, verification, sourcing, and contextualization (Leinhardt & Young, 1996). Since teaching

historical subjects aim to reveal the skills of questioning and using evidence rather than content, skills such as empathy, associative thinking, imagination, and imagination can also be developed (Kıcır, 2006). Looking at the MoNE 2018 Social Studies curriculum, although "historical inquiry" is not expressed as a skill, the existence of skills such as observing, using evidence, making decisions, and identifying similarities and differences between people, objects, events, and facts by questioning historical evidence emphasizes the skill of historical inquiry (Çelikkaya & Boyraz, 2018; MoNE, 2018). In addition, historical inquiry can be expressed in diverse ways such as research skills based on historical inquiry (Akıncı-Güngör & Dilek, 2012; Demircioğlu, 2009), question-based history learning (Yeşil, 2010), and evidence-based history learning (Çulha-Özbaş, 2010).

The inquiry process includes planning (planning) and asking questions at the beginning of a research, followed by observation, inference, and explanation (interpretation) (Gutwill & Allen, 2012). In this sense, the skills that need to be developed in students can be questioning the source/evidence, using information, associating, and interpreting (Kıcır, 2006). Students with historical inquiry skills can ask historical questions, obtain data, question historical evidence, identify gaps and inconsistencies in the data they have collected, form a perspective by considering the period and place in which the historical sources were created with a contextual approach, carry out a qualitative analysis process, and compare their inferences with the sources (NCHS, 1996). Hicks and Doolittle (2008) developed a multimedia tool to guide university students to use historical inquiry skills. They presented five stages including, *summarizing* the historical inquiry process (planning, recognizing the source), *contextualizing* (considering the characteristics of the source), *inference* (commenting on the source, understanding the point of view), *monitoring* (determining the place of the sources in the research), and *confirmation* (comparing between the obtained sources, concluding the research).

Historical Empathy

Students need to understand how the past shaped today's world and how the past and present differ from each other (Chapman, 2011; Wineburg, 2007). Historical empathy makes an important contribution to the development of historical understanding (Barton & Levstik, 2004; Seixas, 2012). It is one of the basic concepts in the field of social studies. Historical empathy enables students to criticize and analyze historical sources and to develop perspectives on experiences throughout history (Huijgen, Van Boxtel, Van de Grift, & Holthuis, 2017). The National Council of Social Sciences states that "historical understanding requires developing a sense of empathy with people in the past whose perspectives may be very different from today." (National Council for the Social Studies [NCSS], 2014, p.42). Enabling empathy skills (MoNE, 2018), which is one of the skills that should be gained between the 4^{th} and 7^{th} grade social studies curriculum also includes the phenomenon of the historical empathy (Gürsoylar, 2019). This skill area includes sub-skills such as "looking from a different perspective, being open-minded, understanding the feelings and thoughts of others, respecting differences, gathering around a common goal" (Kabapınar, 2007). In addition, empathy skill was considered as the historical empathy in the 2005 social studies curriculum (MoNE, 2005), and was

described as understanding the thoughts, goals and feelings of people in the past (Çelikkaya & Kürümoğlu, 2017).

Historical empathy is defined as an inclusive process that combines some historical figures cognitively and effectively to support students to understand and contextualize past events, thoughts, and logic (Kohlmeier, 2006). In an alternative definition, historical empathy is expressed as a process in which students try to reconstruct what they thought, the goals they achieved, and the decisions they made, considering the context of the time in which people who were influential in the past lived (Lee & Ashby, 2001). In this process, historical empathy skills make it easier for students to understand history and help them remember key facts and concepts (De Leur, Van Boxtel, & Wilschut, 2015). It also supports students to gain insight into multiple perspectives (Bartelds, Savenije & Van Boxtel, 2020) and develops citizenship competencies (Endacott & Brooks, 2013). In this way, it prepares students for their lives in a democratic society by helping them understand the complexity of forming ideas about the past and present, making decisions, and acting accordingly (Bartelds et al., 2020).

Bray (1905) states that historical empathy is a cognitive skill (cited in Karabağ, 2002). Indeed, historical empathy needs to be based on historical research and evidence (Lee & Ashby, 2001). However, McCully, Pilgrim, Sutherland and McMinn (2002) state that neglecting students' emotional reactions may be insufficient in helping them comprehend the past of their society and surface learning. Beyond this discussion, historical empathy can be expressed as a cognitive and sensory effort to understand history (Barton & Levstik, 2004). According to Endacott and Brooks (2013), historical empathy includes three components: historical contextualization (historical knowledge), affective empathy (construction of feelings of people in the past), and perspective-taking (historical perspective).

The ability to perceive time and chronology: *chronology knowledge, chronology skill,* and *perception of change and continuity* (Şimşek, 2006b); historical empathy: *historical contextualization, affective empathy, and perspective-taking* (Endacott & Brooks, 2013); and because it covers all the mentioned elements of historical inquiry and has more specific boundaries, Hicks and Doolittle's (2008) historical inquiry factors: *summary and planning, contextualizing and source inquiry, inference, monitoring, and confirmation*. While developing subscales those mentioned above, the three basic skills under historical thinking and the literature were considered. Based on this framework, it is aimed to develop a historical thinking skill scale at the secondary school level.

Method

Study Group

The research was conducted with 817 students (students selected from five schools with different socio-economic levels) 497 in the first stage and 320 in the second stage, in the 2021-2022 academic year. In the first stage, data were collected from 128 students receiving education in the fifth grade, 207 in the sixth grade, and 162 in the seventh grade. In the second stage, data were collected from 110 students in the fifth grade, 125 in the sixth grade, and 85 in the seventh grade. Table 1 presents gender and grade distribution of students participating in the study.

Table 1. *Distributions of the sample for EFA and CFA*

Grade level	Gender	First stage (EFA)	Second stage (CFA)
Grade 5	Female	65	50
	Male	63	60
Grade 6	Female	91	62
	Male	116	63
Grade 7	Female	81	39
	Male	81	46
Total		497	320

Scale Development Process

During the development of the historical thinking skill scale set, the principles suggested by DeVellis (2021) for the scale development process were followed. The application principles stated by DeVellis (2021) for the scale development process are presented in Figure 1.

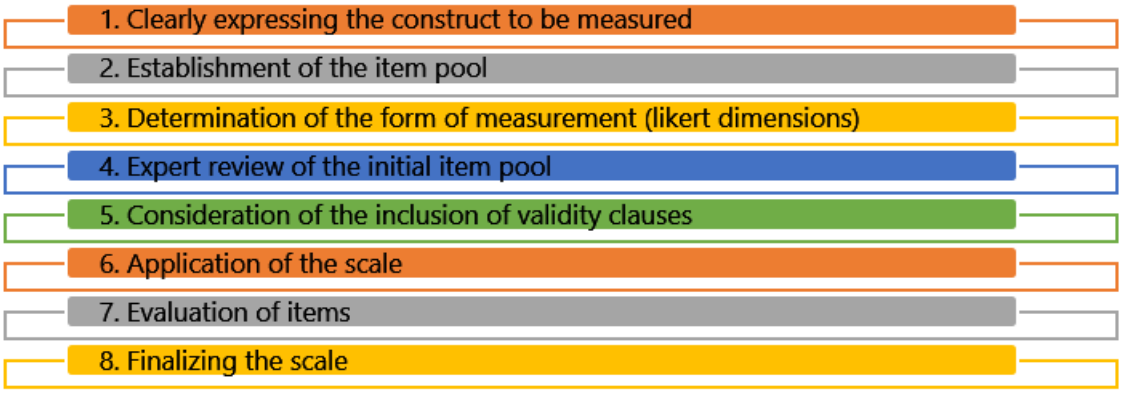

Figure 1. *Scale Development Steps (DeVellis, 2021)*

The historical thinking skill scale aims to measure the cognitive skills in the Culture and Heritage Learning Area related to the historical subjects in the secondary school social studies course. In this context, the scale was revealed within the time and chronology perception, historical inquiry, and historical empathy skills concerning the learning domain. The dimensions considered depending on the literature are presented in Figure 2 for each scale.

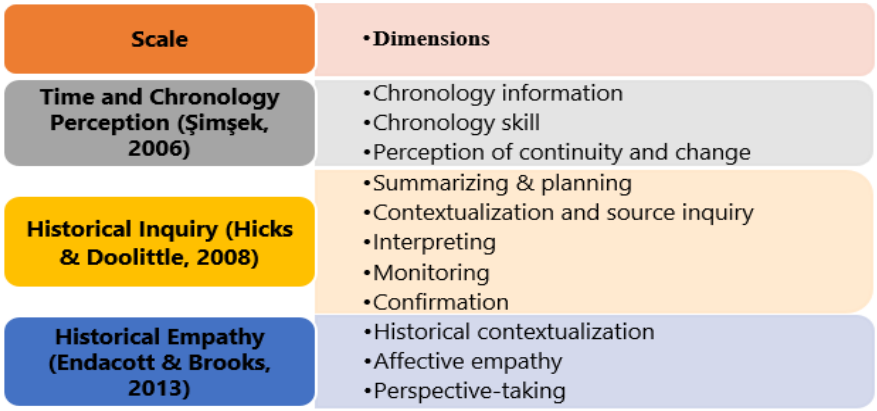

Figure 2. *The Framework of the Subscales in the Scale*

Based on the limited number of scales in the literature (Çalışkan & Demir, 2019) and the specified frameworks (Hicks & Doolittle, 2008; Şimşek, 2006b) for the historical thinking skill

scale set, there are three main themes: time and chronology perception, using historical inquiry and evidence, and historical empathy. An item pool was created for three separate subscales. Opinions of three social studies education experts, two history education experts, and three social studies teachers' opinions were sought regarding the statements in the item pool. A five-point Likert-type rating was used for the statements in the scale: *Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1)*.

A total of eight experts, including one assessment and evaluation, four social studies education, three history education, and seven social studies teachers, were consulted to ensure the content and face validity of the historical thinking skill set. After making the necessary adjustments based on the experts' opinions, a 60-item scale was obtained by adding 9 items in line with the suggestions.

Cognitive interviews were conducted with 10 secondary school students (fifth, sixth, and seventh grades) to get feedback on the items' clarity and the scale's application time. Cognitive interviewing is a technique used to examine the way the target audience understands, mentally processes, and responds to the presented material, with special emphasis on potential problems in this process, and is very important in scale development, especially for young children (Bell, 2007; Willis, 2004). The child answers the items in the cognitive interview process by thinking aloud. In this process, the researcher carefully listens to the child and questions the reasons for their answers while trying to reveal the expressions that are misunderstood, incomprehensible, and cause confusion (Bell, 2007). Cognitive interviews have brought about important changes in the expressions in the scale; more concrete and more appropriate expressions for daily life have been created. The first stage of the study was planned to include fourth graders, and cognitive interviews were conducted with 4 students from this grade level. However, as some scale items were not sufficiently understood at this grade level, fourth graders were not included in the further implementation processes. The scale's application time was calculated by taking the average of the students who answered the longest and the shortest. The process of creating the item pool is presented in Figure 3.

Figure 3. *Change of Scale Items in the Process*

As a result of cognitive interviews, 6 items were removed from the item pool. The 54-item scale was applied with 497 students studying in the fifth, sixth, and seventh grades of two different secondary schools in the first stage, after obtaining the necessary permissions. Before the application, the students were informed about the research purpose, and it was stated that the data would only be used within the scope of the research. In addition, it was stated to the students that participation in the research was not compulsory, and the research group was made up of voluntary participants. Students were informed about how to complete the scale, and it was stated that the items did not contain a correct or incorrect answer.

After the data collection process, the statistical analyzes of the Historical Thinking Skill Scale (HTSS) were carried out. First of all, the scale's construct validity was examined, and Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were performed. The reliability of

the HTSS was examined using the internal consistency reliability method. SPSS 22 was used for reliability and item analyses with EFA. The AMOS program was used for analyses related to CFA. After the statistical analyzes were completed, the scale was given its final form.

In the scale development studies, it is desirable to perform CFA analysis using a different data set from the EFA data set (Schumacker & Lomax, 2010). Morever, Orçan (2018) states that once collecting adequate number of samples to perform both EFA and CFA, some of the collected data (for example 50%) may be randomly selected and used for EFA and the other part may be used for CFA, or one of the data sets collected at two different times may be used for the EFA or CFA independently. In this study, the relevant analyses were conducted using the data set obtained at two independent periods. After the data collection process, the statistical analyzes of the Historical Thinking Skill Scale were carried out. First of all, the scale's construct validity was examined, and Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were performed. The reliability of the HTSS was examined using the internal consistency reliability method. SPSS 22 was used for reliability and item analyses with EFA. The AMOS program was used for analyses related to CFA. After the statistical analyzes were completed, the scale was given its final form.

Results

In this section, the EFA and CFA processes carried out to examine the construct validity of HTSS are explained.

Exploratory Factor Analysis (EFA)

Before EFA was performed, attention was paid to the sample size and the relationship between the items to determine whether the data set was suitable for factor analysis (Pallant, 2005). Theoretically, it was concluded that the sample size was sufficient for factor analysis since there were more than 300 participants in the EFA and CFA stages (Tabachnick & Fidell, 2013), and the sample size was more than 5 times the number of items (Ho, 2006). Statistically, a KMO value above .60 is a desired condition for good analysis (Tabachnick & Fidel, 2013). The KMO values in the historical thinking skillset were .84 for detecting time and chronology, .90 for historical inquiry, and .84 for historical empathy. Again, the Bartlett test (Büyüköztürk, 2015), one of the indicators of the sample size, was statistically significant [Time and chronology perception, X^2 (55, n= 497) = 1181.080, p< .00; Historical inquiry and using evidence, X^2 (105, n= 497) = 1733,397, p< .00; Historical empathy, X^2 (55, n= 497) = 939,845, p< .00].

Another critical issue for factor analysis is to reveal the relationship between the items. For this, the oblique rotation technique, which is used when assumed that the measurement tool's factors are related to each other, was used (Seçer, 2015). With reference to EFA results, some items [*Time and chronology perception* (7, 8, 10, 11, 12); *historical inquiry and using evidence* (4, 6, 11, 12, 13, 14, 15, 17, 18, 21, 22); *Historical empathy* (14)] were excluded from the scale due to factor loadings being below .30 (Büyüköztürk, 2015; Pallant, 2005; Seçer, 2015) and not being placed under the factors theoretically appropriately. The factor structures obtained after removing these items from the scale are presented in Table 2.

Table 2. *Factor Loadings of the Items as a Result of EFA*

Time and chronology perception				Historical Inquiry				Historical Empathy			
Item No	Factor 1 (Ck)	Factor 2 (Cs)	Factor 3 (Pcc)	Item No	Factor 1 (Pr)	Factor 2 (Qs)	Factor 3 (Ic)	Item No	Factor 1 (Hc)	Factor 2 (Ae)	Factor 3
TCP3	.819			HI1	.780			HE3	.783		
TCP2	.757			HI2	.707			HE2	.776		
TCP1	.749			HI10	.695			HE9	.664		
TCP5		.806		HI16	.494			HE5	.545		
TCP4		.745		HI5	.474			HE6	.501		
TCP9		.620		HI20	.341			HE8		.775	
TCP6		.589		HI7		.820		HE10		.735	
TCP15			.799	HI3		.682		HE7		.437	
TCP13			.777	HI8		.639		HE12			.84
TCP14			.623	HI9		.413		HE11			.63
TCP16			.443	HI24			.852	HE13			.58
				HI25			.716				
				HI23			.711				
				HI19			.426				
				HI26			.421				

Depending on the contents of the items collected in the factors and the theoretical structure, the factors of the time and chronology perception (TCP) scale in the historical thinking skill scale set emerged in the form of chronology knowledge (Ck), chronology skills (Cs), perception of continuity and change (Ccp) following the original structure. The TCP scale consists of 11 items, the factor loadings of the items vary between .44 and .81, and the factor variance explains 55.57%. For the historical inquiry (HI) scale, a factor distribution suitable for the original 5-factor structure did not occur, and the items were distributed under the factors of planning the research (Pr), questioning the source (Qs), and inference and confirmation (Ic). The factor loadings of 15 items in the HI scale range from .34 to .85, and the factors explain 49.01% of the total variance. For the Historical Empathy (HE) scale, a three-factor structure was obtained as historical contextualization (Hc), affective empathy (Ae), and perspective-taking (Pt), which are also original factors. Three factors in the HE scale explain 52.04% of the variance, and the scale consists of 11 items with factor loadings ranging from .43 to .84.

Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) was conducted with the data of 320 secondary school students (5th, 6th, and 7th grades) from two different schools to determine whether the structure created from EFA showed sufficient fit indices and support the construct validity of TDBS. The Chi-Square Fit Test (X^2), comparative fit index (CFI), excess fit index (IFI), goodness fit index (GFI), normed fit index (NFI), non-normed fit index (TLI), adjusted goodness fit index (AGFI), tight normed fit index (PNFI), tight goodness fit index (PGFI), standardized root mean square error (SRMR), root mean square of estimation errors (RMSEA) fit indices were examined. Just as there is no definite opinion regarding the criteria to be considered in the fit indices (Weston & Gore, 2006), there is no certainty about which fit indices will be evaluated in the analyses (Karagöz, 2017). CFA results were interpreted by considering the fit index values generally accepted in the literature. The fit indices of the model for each subscale were examined, the X^2 value for TCP (X^2= 66.154, n=320, p=.00); HI (X^2= 152.515, n=320, p=.00); and HE (X^2= 79.233, n=320, p=.00) were significant. The X^2 value is expected to be insignificant in studies, but this value can often be significant in large sample groups. In this respect, the model should have the Chi-square ratio obtained as an alternative divided by the degree of freedom below 2 (Kline, 2016). Acceptable and perfect fit values of the examined fit indices and the values of the subscales are presented in Table 3.

Table 3. *Fit Index Values for Fit Indices and Fit Index Values Obtained from CFA*

Fit Indices	Perfect Fit	Acceptable Fit	Resource	*TCP*	*HI*	*HE*
X^2 / df	0 ≤ χ 2 /df ≤ 2	*2 < X ² /df ≤ 3*	Schermelleh-Engel & Moosbrugger (2003); Kline (2016); Marsh et al, (2006)	1.614	1.753	1.933
AGFI	.90 ≤ AGFI ≤ 1.00	*.85 ≤ AGFI ≤ .90*		.93*	.90*	.92*
CFI	.95≤ CFI ≤ 1.00	*.90 ≤ CFI ≤ .95*		*.94***	*.93***	*.94***
SRMR	.00 ≤ SRMR ≤ .05	*.05 ≤ SRMR ≤ .10*		*.054***	.048*	.044*
NFI	.95 ≤ NFI ≤ 1.00	*.90 ≤ NFI ≤ .95*	Marsh et al. (2006) Schumacker & Lomax (2010)	*.90***	*.92***	*.90***
TLI	.95 ≤ TLI ≤ 1.00	*.90 ≤ TLI ≤ .95*		*.92***	*.92***	*.93***
GFI	.95 ≤ GFI ≤ 1.00	*.90 ≤ GFI ≤ .95*		.95*	*.93***	.95*
IFI	.95 ≤ IFI ≤ 1.00	*.90 ≤ IFI ≤ .95*		*.94***	*.93***	*.94***
PNFI	.95 ≤ PNFI ≤ 1.00	*.50 ≤ PNFI ≤ .95*	Meyers, Gamst & Guarino (2006); Karagöz (2017)	*.65***	*.71***	*.67***
PGFI	.95 ≤ PNFI ≤ 1.00	*.50 ≤ PNFI ≤ .95*		*.59***	*.67***	*.59***
RMSEA	.00 ≤ RMSEA ≤ .050	*.050 ≤ RMSEA ≤ .080*	Schumacker & Lomax, (2010); Meydan & Şeşen (2015)	.047*	*.054***	*.058***

* mean perfect fit**;** ** *mean acceptable fit.*

The perfect and acceptable fit criteria for fit indices in Table 3 and values obtained from CFA reveal that the three-factor model is compatible for each subscale. The factor loadings of the TCP subscale vary between .46 and .67, .43 and .74 for HI, and .51 and .69 for HE (Figure 4).

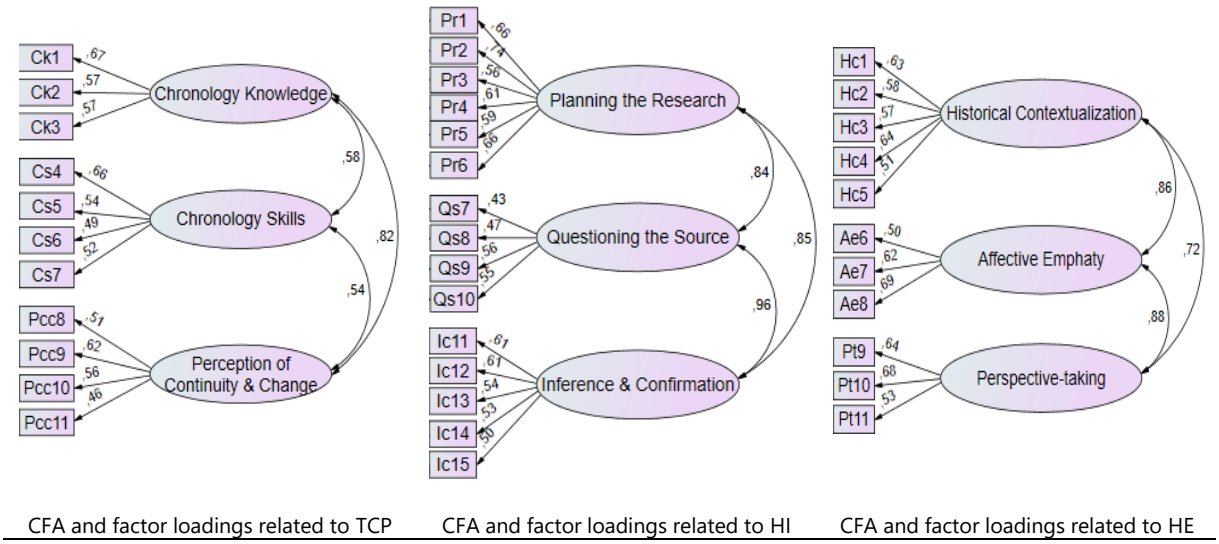

Figure 4. *CFA Results of the Historical Thinking Skills Subscales*

Reliability

The reliability of the HTSS was calculated using the internal consistency reliability coefficient. The internal consistency coefficients for *TCP* were .69 for the Ck sub-dimension, .66 for the Cs sub-dimension, and .65 for the Pcc sub-dimension; .76 for the Pr sub-dimension, .61 for the Qs sub-dimension, and .72 for the Ic sub-dimension of *HI*; .70 for the Hc sub-dimension, .60 for the Ae sub-dimension, and .60 for the Pt sub-dimension of *HE*. The overall reliability of the *TCP* subscale was .79; .86 for *HI*; and .80 for *HE*. .70 and above reliability coefficient is desirable (Fraenkel, Wallen & Hyun, 2012; Pallant, 2005). However, since a reliability coefficient of .60 and above in scales with 10 or fewer items is sufficient for the reliability of the measurements (Sipahi, Yurtkoru & Çinko, 2010), the internal consistency reliability coefficients for both the subscales and subscales sub-dimensions of the HTSS are within acceptable limits.

Evaluation of the HTSS Scores

There are 37 items in HTSS. A 5-point rating was used in the scale: *"Strongly Disagree" (1), "Disagree" (2), "Neutral" (3), "Agree" (4), "Strongly Agree" (5)*. Since all items on the scale are positive, no situation requires reverse scoring. The lowest score that can be obtained from the TCP subscale is 11, and the highest score is 55. The lowest score that can be obtained from the HI subscale is 15, and the highest score is 75. The lowest score that can be obtained from the HE subscale is 11, and the highest score is 55. Although the factor analysis processes are conducted independently of the subscales, since they theoretically constitute the sub-dimension of the same structure, the historical thinking skill score can be obtained by adding the items of all the scales. In such a case, the historical thinking skill score can be calculated as a minimum of 37 and a maximum of 185 points.

Discussion and Conclusion

This study aimed to develop the historical thinking skillset (HTSS), which will enable students to measure *time and chronology perception, historical inquiry, and historical empathy*, the sub-dimensions of historical thinking skills, validly and reliably. A three-factor structure that explained 55.57% of the total variance of the TCP subscale, 49.01% of the total variance of the HI subscale, and 52.04% of the total variance of the HE subscale was determined. For each scale, the variance explained in the EFA is 30% or more (Büyüköztürk, 2015), the item factor loadings are above .30 (Büyüköztürk, 2015; Pallant, 2005; Seçer, 2015), and the fit indexes are accepted as a result of the CFA analysis. Considering that it is within acceptable limits, it reveals that HTSS can be used as a valid and reliable tool to determine the historical thinking skills of fifth, sixth, and seventh grade students.

In developing the scales, dimensions were first determined within the framework of a theoretical structure. As a result of factor analysis, while the sub-dimensions for TCP and HE remained the same, the five-dimensional structure for HI became three-dimensional. The study used the most inclusive framework based on a study on historical inquiry (Hicks & Doolittle, 2008). Here, the "monitoring" step, which means determining the importance of the sources in the study, coincides with the inference step. Currently, many sources deal with historical inquiry within the framework of researching, planning, using the source, and making inferences (Gutwill & Allen, 2012; Kıcır, 2006). Therefore, historical inquiry has emerged in the scale with its most basic dimensions.

It is suggested that the scales prepared to measure the 3 skills that are the basis of historical thinking skills should be analyzed separately. Although the reliability score of all items (37 items in total) is quite high, it would not be appropriate to calculate a single reliability score for the complete set since the subscales were analyzed separately. However, it is possible to add up the scores obtained from the scales to obtain a single score as a historical thinking skill score and use it in the analysis. The scale can form the basis for different assessment tools for teachers due to its theoretical background and the suitability of the validity and reliability process. While "*goal*" expressions have turned into "*learning outcomes*" in the curricula developed in Turkey since 2005, the understanding of alternative evaluation methods have begun to settle (Çobanoğlu & Yıldırım, 2021). Since the scale framework is formed in line with the achievements, it is possible to use it as a readiness scale and convert it into a rubric for observation or material evaluation. However, considering the student's cognitive development, the scale set was suitable for fifth, sixth and seventh grade students. Due to cognitive interviews, it was not suitable for fourth grade students because it included some abstract expressions.

It is a matter of criticism that the acquisitions of history subjects, which were founded with the social studies course and then continued within the scope of the history course at high school, are managed from a very broad framework, and there is uncertainty about how historical thinking skills can be given (Şimşek, 2017). In the same direction, measuring historical thinking skills, a complex thinking skill, is an important problem (Ercikan & Seixas, 2015). In their work that offers a solution to this problem, Ercikan and Seixas (2015) suggest that measuring a thinking skill beyond content knowledge should be taken as a basis for measuring historical thinking skills. In this study, a framework for historical thinking has been proposed beyond the scale development, and an alternative measurement tool aimed at thinking skills

has been presented. The presented framework can be used as a basis for the social studies curriculum framework, or it can also be considered in the curriculum development processes for history courses at further education levels. With new items to be developed following the scale framework, measurement tools can be developed for more advanced classes.

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Author Contributions

The authors contributed equally at all stages of the research.

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TÜRKÇE GENİŞ ÖZET

Ortaokul Düzeyinde Tarihsel Düşünme Beceri Ölçeğinin Geliştirilmesi

Giriş

Tarihsel düşünme becerisi tarih öğretimi aracılığıyla kazanılan ve öğretim programlarına yön veren en temel becerilerin başında gelir (Demircioğlu, 2009; Keçe, 2015; Seixas, 2017). Tarihsel düşünme "geçmişi anlamak için bağlamı, perspektifi, bakış açısını ve algılanan gerçekleri ortaya koymak da dâhil olmak üzere tarihsel bilgileri kullanma süreci" (Chowen, 2006, p. 11) olarak tanımlansa da tek bir tanımla ifade edilmesi zor bir olgudur. Bu nedenle "tarihsel düşünme" belirli bir tanımdan ziyade genellikle kapsadığı unsurlar veya kazanılması beklenen becerilerle ifade edilmektedir (Seixas & Peck, 2004). Bu çalışmada ulusal ve uluslararası literatürden hareketle tarihsel düşünme becerisinin çerçevesi; zaman ve kronolojiyi algılama, tarihsel sorgulama ve tarihsel empati olarak ele alınmıştır.

Her ne kadar tarihsel düşünme, ileri sınıf düzeylerindeki tarih derslerine özgü bir kazanım gibi görünse de bu düşüncenin yanlış olduğu ve küçük yaşlardan itibaren sistematik biçimde kazandırılabileceği anlaşılmıştır (Çulha-Özbaş, 2010). Farklı ülkelerde bu becerinin dördüncü sınıftan itibaren kazandırılması gereken bir beceri olarak ifade edildiği görülmektedir (NCHS, 1996). Tarihsel düşünme becerileri pek çok unsuru barındıran karmaşık bir beceri olması nedeniyle değerlendirme yapmak da zorlaşmakta (Ercikan, Seixas, Lyons-Thomas & Gibson, 2015), ölçümü konusunda çok farklı yaklaşımlar gerektirmektedir (Ercikan & Seixas, 2015). Bu nedenle gözlem ve diğer ölçme araçlarını desteklemek üzere öğrenmenin ne ölçüde gerçekleştiğine kanıt oluşturacak araçlara ihtiyaç vardır. Bu doğrultuda, çalışmada özellikle ortaokul düzeyindeki öğrencilerin sahip olması gereken tarihsel düşünme becerileri için bir çerçeve oluşturulurken, bu çerçeveye göre kişisel bildirime dayalı bir ölçek geliştirilmesi amaçlanmıştır. Sunulan çerçeve aynı zamanda farklı ölçme araçları, gözlemler ve hatta program geliştirme süreçleri için de yol gösterici olabilecektir.

Yöntem

Çalışma Grubu

Araştırma, 2021-2022 eğitim öğretim yılında ilk aşamada 497 ve ikinci aşamada 320 ortaokul öğrencisi olmak üzere toplam 817 öğrenci ile yürütülmüştür.

Ölçek Geliştirme Süreci

Tarihsel düşünme beceri ölçek setinin geliştirilme sürecinde DeVellis (2021)'in ölçek geliştirme süreci için önerdiği ilkeler takip edilmiştir. Tarihsel düşünme beceri ölçeği ile ortaokul sosyal bilgiler dersinde tarih konuları ile ilişkili olan Kültür ve Miras Öğrenme Alanı'nda yer alan bilişsel becerilerin ölçülmesi amaçlanmaktadır. Bu bağlamda, ölçek öğrenme alanına ilişkin

olarak zaman ve kronolojiyi algılama, tarihsel sorgulama ve tarihsel empati becerileri kapsamında ortaya çıkarılmıştır.

Tarihsel düşünme beceri ölçek seti için alanyazında yer alan kısıtlı sayıda ölçeklerden (Çalışkan & Demir, 2019), belirlenmiş çerçevelerden (Hicks & Doolittle, 2008; Şimşek, 2006b) hareketle; zaman ve kronolojiyi algılama, tarihsel sorgulama, tarihsel empati olmak üzere üç ayrı alt ölçek için madde havuzu oluşturulmuştur. Madde havuzunda yer alan ifadelere ilişkin olarak üç sosyal bilgiler eğitimi uzmanının, iki tarih eğitimi uzmanının ve üç sosyal bilgiler öğretmeninin görüşlerine başvurulmuştur. Ölçekte yer alan ifadeler için *Kesinlikle Katılıyorum (5), Katılıyorum (4), Kararsızım (3), Katılmıyorum (2) ve Kesinlikle Katılmıyorum (1)* şeklinde beşli likert tipi bir derecelendirme kullanılmıştır. Ölçeğin madde havuzunun oluşturma süreci Şekil 1'te sunulmuştur.

Şekil 1. *Ölçek Maddelerinin Süreç İçindeki Değişimi*

Sonuçta 54 maddelik ölçeğin uygulaması, gerekli izinler alınarak gerçekleştirilmiştir. Yapı geçerliği için Açımlayıcı Faktör Analizi (AFA) ve Doğrulayıcı Faktör Analizi (DFA) yapılmıştır. TDBÖ'nün güvenirliği iç tutarlık güvenirlik yöntemiyle incelenmiştir. Araştırmada AFA ile güvenirlik ve madde analizleri için SPSS 22, DFA analizleri için AMOS programı kullanılmıştır. Analizler tamamlandıktan sonra ölçeğe son şekli verilmiştir.

Bulgular

Bu araştırmada, öğrencilerin tarihsel düşünme becerilerinin alt boyutları olan *zaman ve kronolojiyi algılama*, *tarihsel sorgulama* ve *tarihsel empati*yi geçerli ve güvenilir şekilde ölçmeye imkân verecek tarihsel düşünme beceri ölçek setinin (TDBÖ) geliştirilmesi amaçlanmıştır. TDBÖ'nün; ZKA alt ölçeği için toplam varyansın %55. 57'sini açıklayan; TS alt ölçeği için toplam varyansın %49.01'ini açıklayan; TE alt ölçeği için toplam varyansın %52.04'ünü açıklayan üçer faktörlü bir yapıya sahip oldukları belirlenmiştir. TDBÖ'nün güvenirliği, iç tutarlılık güvenirlik katsayısı kullanılarak hesaplanmıştır. İç tutarlılık katsayıları *ZKA* alt ölçeğinin Kbi alt boyutu için .69, Kbe alt boyutu için .66, Dsa alt boyutu için .65; *TS* alt ölçeğinin Ap alt boyutu için .76, Ks alt boyutu için .61, Çd alt boyutu için .72; *TE alt ölçeğinin* Tb alt boyutu için .70, De alt boyutu için .60, Pa alt boyutu için .60 olarak bulunmuştur. Bununla birlikte, *ZKA* alt ölçeğinin toplam güvenirliği .79; *TS alt* ölçeğinin toplam güvenirliği .86; *TE* alt ölçeğinin toplam güvenirliği .80 olarak hesaplanmıştır. Her ölçek için AFA'da açıklanan varyansın %30 ve üzerinde bir değer alması (Büyüköztürk, 2015), madde faktör yüklerinin .30'un üzerinde olması (Büyüköztürk, 2015; Seçer, 2015; Pallant, 2005) ve DFA analizi sonucu uyum indekslerinin kabul edilebilir sınırlar içerisinde [*Tarihsel empati* için minimum X^2 değerinin ($\chi2$= 79.233, n=320, p=.00); *Tarihsel sorgulama* için ($\chi2$= 152.515, n=320, p=.00); Zaman ve kronolojiyi *algılama* için ($\chi2$= 66.154, n=320, p=.00); anlamlı olduğu görülmüştür. Uyum indeksi değerleri ise, *Tarihsel empati* için X^2/sd= 1.933, NFI= .90, TLI= .93, GFI= .95, IFI= .94, AGFI= .92, PNFI= .67, PGFI= .59, CFI= .94, SRMR= .044, RMSEA= .058; *Tarihsel sorgulama* için X^2/sd= 1.753, NFI= .92, TLI= .92, GFI= .93, IFI= .93, AGFI= .90, PNFI= .71, PGFI= .67, CFI= .93, SRMR= .048, RMSEA= .054; *Zaman ve kronolojiyi algılama* için X^2/sd= 1.614, NFI= .90, TLI= .92, GFI= .95, IFI= .94, AGFI= .93, PNFI=

.65, PGFI= .59, CFI= .94, SRMR= .054, RMSEA= .047] ve güvenirlik katsayılarının istenilen düzeyde olması göz önünde bulundurulduğunda TDBÖ'nün beşinci, altıncı ve yedinci sınıf öğrencilerinin tarihsel düşünme becerilerini belirlemek amacıyla geçerli ve güvenilir bir araç olarak kullanılabileceğini ortaya koymaktadır.

Tartışma ve Sonuç

Bu araştırmada, öğrencilerin tarihsel düşünme becerilerinin alt boyutları olan zaman ve kronolojiyi algılama, tarihsel sorgulama ve tarihsel empatiyi geçerli ve güvenilir bir biçimde ölçmeye imkân verecek bir tarihsel düşünme beceri ölçek seti (TDBÖ) geliştirilmiştir. Tarihsel düşünme becerilerinin temeli olan üç beceriyi ölçmek amacıyla hazırlanmış olan bu ölçek setindeki ölçeklerin ayrı ayrı analiz edilmesi önerilse de ölçeklerden elde edilen puanların toplanarak tarihsel düşünme becerisi puanı olarak tek bir puanı elde edilmesi ve analizlerde kullanılması mümkündür. Çalışmada ölçek geliştirmenin ötesinde tarihsel düşünme için bir çerçeve önerisi getirilmiş ve düşünme becerisini hedefleyen alternatif bir ölçme aracı sunulmuştur. Sunulan çerçeve Sosyal Bilgiler dersi öğretim programı çerçevesi için bir temel olarak kullanılabileceği gibi, daha ileri eğitim kademelerinde tarih dersleri için program geliştirme süreçlerinde de göz önüne alınabilir. Ölçeğin çerçevesine uygun şekilde geliştirilecek yeni maddelerle daha ileri düzeydeki sınıflar için ölçme araçları geliştirilebilir. Ölçek gerek teorik alt yapısı gerekse yürütülen geçerlik ve güvenirlik sürecinin uygunluğu nedeniyle öğretmenler için farklı değerlendirme araçlarına zemin oluşturabilir.

Appendix

Historical Thinking Skills Scale

Dear students, this scale aims to measure cognitive achievements in the Social Studies Course. There are 37 items in the scale to measure time and chronology perception, historical inquiry, and historical empathy skills. Read each item and tick the appropriate option from "Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree." Please give honest answers to the questions. Thank you for your contribution and participation.

Time and Chronology Perception	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Chronology Knowledge					
1. I can use most time terms correctly (Century, BC, AD, era, prehistory, etc.)					
2. I can use most time expressions correctly (century, generation, millennium, century, etc.)					
3. I can use most temporal concepts correctly (change, chronology, period, etc.)					
Chronology Skills					
4. I can list the periods in which the events took place, even if the dates are not given.					
5. Even if the dates are not given, I can list the periods in which important people lived.					
6. I can place a past event on the timeline.					
7. By looking at the date of an event, I can determine which century it belongs to.					
Perception of Continuity and Change					
8. I am aware that everything around me changes over time.					
9. I know that the outcome of every event in history can cause another event.					
10. I can see the effects of an event that happened in the past on current events.					
11. I think that the solutions to the events in the past can also be solutions to present events.					

Historical Inquiry	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Answer the following items by considering how you behave while researching a historical subject using museum artifacts, written works, internet resources, pictures, etc., related to that subject...					
Planning the Research					
1. I know what kind of documents or resources to use when researching a subject related to history.					
2. I know what questions to ask and gather information while researching any subject.					
3. When researching a subject related to history, I look at what information is in the sources (E.g., scientific information, current information, news, etc.)					
4. When researching a subject related to history, I can understand what is said in the source I find.					
5. I can decide whether I have enough resources to complete my research.					
6. I evaluate the information that may be useful for my research in the sources I find.					
Questioning the Source					
7. When researching a subject related to history, I search for the person or institution that prepared the source.					
8. I examine when, how, and where the sources I find were prepared while researching a subject related to history.					
9. While researching a subject related to history, I check whether the source I found is up-to-date.					
10. When examining the information in the historical source, I pay attention to the period in which the source was prepared.					
Inference & Confirmation					
11. I can identify the importance of the resources I find for my research.					
12. I can distinguish similarities and differences in sources.					
13. I think about the reasons for the similarities and differences in the sources.					
14. I can draw different conclusions by looking at the comments in the sources.					

15. I can explain what I have learned from my research, supporting it with historical sources.					
Historical Empathy	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Historical Contextualization					
1. I can interpret the causes of historical events in line with the conditions of that period.					
2. I can understand the causes of historical events by examining other events in that period.					
3. I can understand the importance of historical sources and objects in their period.					
4. I can understand the importance of some events in history.					
5. I can interpret the decisions of people who have shaped history key to the conditions of that period.					
Affective Empathy					
6. I can understand the reasons for people's actions in the past.					
7. I can understand the feelings and thoughts of people in the past about the events of that period.					
8. I can understand the feelings and thoughts of people in the past that caused their behavior.					
Perspective-taking					
9. I can predict how people who have shaped history can decide in the face of an event.					
10. I can predict how people who have shaped history will react to an event.					
11. I can understand why important people in history resolved an event in that particular way.					

Türkçe Versiyon

Tarihsel Düşünme Becerileri Ölçeği

Değerli öğrenciler, bu ölçek Sosyal Bilgiler Dersi'ndeki bilişsel kazanımların ölçülmesini hedeflemektedir. Ölçekte zaman ve kronolojiyi algılama, tarihsel sorgulama ve tarihsel empati becerilerini ölçmek üzere **37** madde bulunmaktadır. Her bir maddeyi okuyarak "Hiç katılmıyorum, Katılmıyorum, Kararsızım, Katılıyorum, Kesinlikle Katılıyorum" seçeneklerinden size uygun olanı işaretleyiniz. Lütfen sorulara samimi cevaplar veriniz. Katkılarınız ve katılımınız için teşekkür ederiz.

Zaman ve Kronolojiyi Algılama	**Hiç katılmıyorum**	**Katılmıyorum**	**Kararsızım**	**Katılıyorum**	**Kesinlikle Katılıyorum**
Kronoloji Bilgisi					
1. Zaman terimlerinin çoğunu doğru kullanabilirim (milat, MÖ, MS, çağ, tarih öncesi, vb.)					
2. Zaman ifadelerinin çoğunu doğru kullanabilirim (yüzyıl, kuşak, milenyum, asır, vb.)					
3. Zamansal kavramlarının çoğunu doğru kullanabilirim (değişim, kronoloji, dönem, vb.)					
Kronoloji Becerileri					
4. Tarihleri verilmese bile olayların yaşandığı dönemleri sıralayabilirim.					
5. Tarihleri verilmese bile önemli kişilerin yaşadıkları dönemleri sıralayabilirim.					
6. Geçmişteki bir olayı zaman çizelgesine yerleştirebilirim.					
7. Bir olayın tarihine bakarak hangi yüzyıla ait olduğunu belirleyebilirim.					
Değişim ve Sürekliliği Algılama					
8. Çevremdeki her şeyin zaman içerisinde değişime uğradığının farkındayım.					
9. Tarihteki her olayın sonucunun başka bir olaya neden olabileceğini bilirim.					
10. Geçmişte yaşanmış bir olayın bugünkü olaylar üzerindeki etkilerini görebilirim.					
11. Geçmişteki olayların çözümlerinin günümüzdeki olaylarda da çözüm olabileceğini düşünürüm.					

Tarihsel Sorgulama	**Hiç katılmıyorum**	**Katılmıyorum**	**Kararsızım**	**Katılıyorum**	**Kesinlikle Katılıyorum**
Aşağıdaki maddeleri, tarihsel bir konuyu araştırırken o konu ile ilişkili müze eserleri, yazılı eserler, internet kaynakları, resimler vb kullanırken nasıl davrandığınızı düşünerek cevaplayınız.					
Araştırmayı Planlama					
1. Tarihle ilgili bir konuyu araştırırken ne tür belge veya kaynakları kullanmam gerektiğini bilirim.					
2. Herhangi bir konuda araştırma yaparken hangi soruları sormam ve bilgileri toplamam gerektiğini bilirim.					
3. Tarihle ilgili bir konuyu araştırırken kaynaklarda ne tür bilgilerin olduğuna göz atarım (Ör. Bilimsel bilgi, güncel bilgi, haber vb)					
4. Tarihle ilgili bir konuyu araştırırken, bulduğum kaynakta neler anlatıldığını anlayabilirim.					
5. Araştırmamı tamamlamak için yeterince kaynağa ulaşıp ulaşmadığıma karar verebilirim.					
6. Bulduğum kaynaklarda araştırmam için işe yarayabilecek bilgileri değerlendiririm.					
Kaynağı Sorgulama					
7. Tarihle ilgili bir konuyu araştırırken, kaynağı hazırlayan kişi ya da kurumu araştırırım.					
8. Tarihle ilgili bir konuyu araştırırken bulduğum kaynakların ne zaman, nasıl ve nerede hazırlanmış olduğunu incelerim.					
9. Tarihle ilgili bir konuyu araştırırken bulduğum kaynağın güncel olup olmadığını incelerim.					
10. Tarihsel kaynaktaki bilgileri incelerken kaynağın hazırlandığı döneme dikkat ederim.					
Çıkarım yapma					
11. Bulduğum kaynakların araştırmam için önemini belirleyebilirim.					
12. Kaynaklardaki benzerlik ve farklılıkları ayırt edebilirim.					
13. Kaynaklardaki benzerlik ve farklılıkların nedenleri üzerine düşünürüm.					
14. Kaynaklarda yorumlara bakarak farklı sonuçlar çıkarabilirim.					
15. Araştırmamın sonucundan elde ettiklerimi, tarihsel kaynaklarla destekleyerek açıklayabilirim.					

Tarihsel Empati	**Hiç katılmıyorum**	**Katılmıyorum**	**Kararsızım**	**Katılıyorum**	**Kesinlikle Katılıyorum**
Tarihsel bağlamsallaştırma					
1. Tarihi olayların nedenlerini o dönemin şartlarına göre yorumlayabilirim.					
2. Tarihi olayların nedenlerini o dönemdeki diğer olayları inceleyerek anlayabilirim.					
3. Tarihi kaynakların ve nesnelerin ait olduğu dönemdeki önemini anlayabilirim.					
4. Tarihteki bazı olayların önemini anlayabilirim.					
5. Tarihe yön vermiş insanların kararlarını o dönemin şartlarına göre yorumlayabilirim.					
Duyuşsal Empati					
6. Geçmişteki insanların yaptıklarının nedenlerini anlayabilirim.					
7. Geçmişteki insanların o dönemki olaylarla ilgili duygu ve düşüncelerini anlayabilirim.					
8. Geçmiş dönemlerdeki insanların davranışlarına sebep olan duygu ve düşüncelerini anlayabilirim.					
Perspektif Alma					
9. Tarihe yön vermiş insanların bir olay karşısında nasıl bir karar verebileceğini tahmin edebilirim.					
10. Tarihe yön vermiş insanların bir olay karşısında nasıl davranacağını tahmin edebilirim.					
11. Tarihteki önemli kişilerin o dönemdeki olayı neden o şekilde çözdüğünü anlayabilirim.					