The Relationship Between Gifted Students' Readiness to Learn and their Attitudes Towards Research/Inquiry in Connectivist Learning Environments

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The aim of this study is to determine the relationship between the readiness of gifted students to learn in connective learning environments and their attitudes towards research/inquiry. The research was designed with the relational survey model, one of the quantitative research methods. The study group of the research consists of 227 gifted students who attend Çorum Science and Art Center, Türkiye. "Readiness for Learning in Connective Environments Scale" and "Attitude Scale Towards Research/Inquiry for Secondary School Students" were used as data collection tools. Descriptive statistics, Pearson Correlation Coefficient and multiple linear regression analysis were performed using SPSS program in the analysis of the data. The findings show that there is a low-level, positive and significant relationship between the readiness of gifted students to learn in connective environments and their attitudes towards research/inquiry. It was concluded that their attitudes towards research/inquiry have a low-level, positive and significant relationship with contextualization and navigation skills, which are the sub-dimensions of readiness for learning in connective environments. In addition, a low-level, positive and significant relationship was found between curiosity and contextualization and navigation skills, between avoidance and resource management, and between valuing and navigation skills. In the study, it was found that the levels of readiness to learn in a connective environment of gifted students and all sub-dimensions of this structure significantly predicted "curiosity", which is a sub-dimension of attitudes towards research/inquiry.

Instruction

Gifted students, who are an important human resource for the development and progress of countries, should be actively supported in their education. Gifted students are individuals who need differentiated and enriched learning environments with their superior cognitive abilities, high learning potential and in-depth thinking skills (Avcı Doğan & Tamul, 2024). Gifted students are defined as "individuals who learn faster than their peers, show high potential in areas such as creativity, artistic abilities and leadership, exhibit special academic abilities,

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have a developed ability to grasp abstract ideas, like to work independently in their areas of interest and show high level performance" (MoNE, 2018; 2024). Gifted students are individuals who learn quickly, have developed language and thinking skills, have high curiosity and motivation, can solve creative problems and have abstract thinking capacities (Avcı Doğan & Tamul, 2024). Therefore, gifted students need to receive education in an environment that is suitable for these innate characteristics of theirs, where they can realize their abilities and develop their abilities (Kaya, Mertol, Turhan, Araz & Uçar, 2022). The connectivist learning theory developed by Siemens (2004) and Downes (2007) suggests that individuals can access the information they need through technology and social interaction, and that in digital environments where this information is dispersed across networks, learning occurs through the individual's skills to navigate networks, find, share, and structure information meaningfully. In this context, in the rapidly changing information age, where learning is supported by technology and students manage their own learning process, the connectivist learning theory can be considered a highly functional learning approach for gifted students (Kaya et al., 2022; Siemens, 2005; Türegün Çoban & Çeviker Ay, 2023). The connectivism theory supports the development of students' skills such as research orientation, producing and managing information, critical thinking, digital literacy, and learning to learn (Kop & Hill, 2008; Pandya, Buettner, & Linder, 2024). Research/Inquiry-based learning is a student-centered teaching approach in which students play an active role in the learning process and reach knowledge through asking questions, conducting research, discovering, and evaluating rather than receiving ready-made information (Justice et al., 2009). Therefore, it can be thought that connective learning environments enable students to carry out research/inquiry-based learning processes more effectively and that these two approaches complement each other (Baque, Mas'ud & Ningsih, 2020; Justice et al., 2009; Yıldırım & Türker Altan, 2017). Therefore, the study aims to examine the relationship between gifted students' readiness to learn in a connectivist learning environment and their attitudes towards research/inquiry.

Theoretical Frameworks

Connectivism Theory

In today's information age, knowing where and who has information has become as important as what it is. Therefore, it is necessary for learners to have the skills to see, use and create new connections for effective learning. Siemens (2004) and Downes (2012) brought Connectivism Theory to the agenda by proposing a learning theory in which students access the necessary information by surfing on networks and interact by joining online communities and social networks. Connectivism Theory is gaining importance as a contemporary learning model that defines the processes of individuals acquiring, sharing and producing information, especially in online and network-based learning environments (Downes, 2012; Siemens, 2005). In the connective learning process, the student discovers new information by accessing information networks and synthesizes and interprets this information and restructures it. Then, they reconnect to the networks to start a new learning process. The student starts with a search for new information by constantly returning to the beginning in a cyclical learning process and continues to share (Goldie, 2016). Information is usually a node within a larger learning network and is connected to other information (Siemens, 2004). Learning takes place through nodes formed between networks. The theory of connectivism argues that rather than learners accessing information from a single source of information, students who come together around common interests access information through various digital nodes, share this information, and provide feedback to each other (Kop & Hill, 2008). The information in networks has a constantly renewed and changing structure. Therefore, accessing up-to-date and accurate

information is one of the most important points emphasized by the theory. At this point, being able to distinguish important information from unimportant information is a part of the learning process (Bağdat Kılıç & Somuncuoğlu Özerbaş, 2022). The "making connections" process, which is considered one of the basic elements of learning, requires the student to navigate through digital resources on a topic they are curious about, conduct research, evaluate information by questioning it, and construct new meanings from the information they reach. While this process supports the development of skills such as critical thinking, problem solving and information synthesis, it is also the basic prerequisites for the individual to be able to navigate effectively between networks, filter and evaluate information, and perform meaningful learning (Chatti et al., 2012; Goldie, 2016; Siemens, 2005). The fact that information is now located in digital networks rather than in person, providing great flexibility and accessibility in relationships, and being able to use information in these networks effectively requires having important therapies and digital skills. If the reproduction of research, questioning of information, evaluation and production of information by establishing new changes is sufficiently developed, the potential operation of the information in the network and the surface learning process continues. The effective functioning of these flexible, connective learning environments can be found directly in those who are aimed at these broad areas in their countries with their readiness positions (Atay, 2019). While these environments can stimulate information chaos for students with low readiness, those with sufficient readiness can transform learning into meaningful learning. Especially being gifted, strong curiosity skills, high-level problem-solving ability, analytical thinking and the intrinsic motivation they develop towards solving are outlined in a holistic manner, not in detail (Avcı Doğan & Tamul, 2024; Kaya et al., 2022). With these features, it is seen that the theorization of the transfer of specially talented people has become widespread towards learning styles. The natural potential of the people of these countries is directed by supporting technological opportunities; You will allow them to become active learners who not only acquire their characteristics but also structure, question and share the structure. In addition, these data can become individuals who learn and provide information effectively in connective learning environments with their independent mobility capacities in the process of acceleration and following it. Therefore, the connective theory offers an important theoretical framework not only for the technological learning processes of the age, but also for revealing the potential of specially talented people.

Research/Inquiry-Based Learning

Research/Inquiry Based Learning (RIBL) is a learning approach in which students actively participate by asking questions, doing research and discovering new information, removing learning from teacher-focused knowledge transfer (Yıldırım & Türker Altan, 2017). Research/Inquiry-based learning is the process of learning by asking questions, researching and analyzing information, and transforming what they have learned into information that can be used in daily life (Perry & Richardson, 2001). Research/Inquiry-based learning is a method based on students asking questions to learn and obtain information. In the inquiry-based learning process, students see themselves as active participants, willingly participating in the discovery process, asking questions, making observations, planning their tasks and learning activities, and they use different ways of communication, analyzing and criticizing their learning processes (Davis, 2005). In other words, in research/inquiry-based learning, students need to ask their own questions, do research and actively participate in the problem-solving process. This approach encourages students to play an active role in their own learning processes, and to develop their skills in gathering, analyzing and drawing conclusions. In addition to their individual efforts in research/inquiry-based learning, learners reveal the

importance of social interaction in learning by sharing information through social interactions and learning together. Students try to perceive their environment by questioning and investigating; this process can be considered as an important skill for students not only in school learning but also for their lifelong development (Ozan et al., 2016; Wang, Kinzie & McGuire, 2010).

Research/Inquiry-based learning involves the process of students being curious about a subject, generating questions to satisfy this curiosity, researching resources and evaluating the information they obtain (Justice et al., 2009). Especially in the digital age, where accessing information has become easier but distinguishing the validity of information has become difficult, students need to not only access information but also gain the ability to approach it with a critical eye and direct their own learning. This makes research and inquiry skills an integral part of learning.

Interaction Between Connectivism Theory and Research/Inquiry-Based Learning

Connectivism theory is based on students accessing different sources of information on networks, navigating between these sources, and meaningfully evaluating the information they access. However, for this process to be functional, individuals need to establish a critical and constructive relationship with information, not a superficial one. This is possible not only with the ability to make connections, but also with developed cognitive behaviors based on research and inquiry. In this respect, it can be stated that research and inquiry skills are a basic prerequisite for the active and autonomous learning process defined in connectivism theory. In a study conducted at the higher education level by Pandya et al. (2024), it was shown that connectivism-based learning environments increased students' information-seeking behaviors, digital literacy, and willingness to learn.

Connectivism theory aims to prevent students from being passive recipients of information in their learning processes; It enables students to undertake active learning roles such as accessing information, evaluating, reconstructing and sharing information (Chatti et al., 2007; Kop & Hill, 2008). In this respect, research/inquiry-based learning can be considered not only a complementary but also an integrative element of connectivism. Because students' connection skills are directly related to their capacity to conduct research and criticize information. In particular, behaviors such as questioning the ways to access information, evaluating sources and reconstructing information are at the center of connectivism theory. In a study conducted by Justice et al. (2009) in the context of higher education, it was determined that inquiry-based learning significantly improved students' skills in searching for, analyzing and interpreting information. This finding reveals that connectivist learning is similarly not limited to accessing information but also prioritizes the meaningful and critical reconstruction of information.

The basis of the connectivism theory is that individuals involved in the learning process are in constant interaction with each other (Downes, 2008). This process is directly related not only to the ability of individuals to establish connections, but also to their competence in questioning, conducting research, and critically evaluating information sources. In particular, inquiry-based behaviors such as questioning the ways to access information, evaluating information sources, and reconstructing information are at the center of connectivism theory. Students are expected not only to access accurate information, but also to be producers of information. In this sense, connectivist environments allow learners to participate in self-directed inquiry processes (Dunaway, 2011). As a result, it is seen that there is a strong interaction between connectivist learning theory and inquiry-based learning. Therefore, students' active participation in inquiry-

based thinking processes in a connectivist learning environment can be considered an indispensable prerequisite for the depth and permanence of learning. These skills largely overlap with the innate strengths of gifted individuals (Dunaway, 2011). In this context, the study aims to contribute to the design of effective digital learning environments and the development of directed teaching strategies for these students by clarifying the level of readiness of gifted students for connective learning environments and how their research/inquiry tendencies are related to this readiness.

There are many studies on connectionist learning in the literature (Atay, 2019; Baldan, Hamzaj, & Çardak, 2018; Boyraz, 2021; Bozkurt, 2014, 2015, 2016; Çoban & Ay, 2023; Eren, 2018; Has Erdoğan, 2022; Karaduman, 2018; Ozan, 2013; Özerbaş & Bağdat Kılıç, 2022) and attitude towards investigation (Babadoğan & Gürkan, 2002; Çalışkan & Turan, 2008; Karamustafaoğlu & Havuz, 2016; Yaşar & Duban, 2009). However, there is no original study in the literature examining the relationship between the readiness levels of gifted students for connectivist learning environments and their attitudes towards research/inquiry. However, before a learning design based on connectivist theory, which is one of the prominent learning models of the digital age, is made, it is of great importance to determine to what extent these students are ready for these environments. This study aims to provide guiding data to educators and program developers who want to design a connectivist learning environment as an enriched educational environment for gifted students. In addition, considering research and inquiry-based skills as one of the basic building blocks of connectivist theory, it is necessary to reveal how these skills are related to students' readiness for connectivist learning environments. In this context, the study is important in terms of contributing to the literature by establishing scientific foundations for why these skills should be acquired.

Aim of the Study

This study aims to determine the relationship between gifted students' readiness for a connective learning environment and their attitudes towards research/inquiry. In this context, answers were sought to the following questions:

- What are the levels of gifted students' readiness for learning in a connective environment and their attitudes towards research/inquiry?
- Is there a significant relationship between gifted students' readiness for learning in a connective environment and their attitudes towards research/inquiry?
- Is "curiosity", one of the sub-factors that constitute the attitude of gifted students towards research/inquiry, predicted by the variables of readiness for learning in a connective environment, contextualization, meaning-making and sharing, social networks, navigation skills and social networks?
- Is "avoidance", one of the sub-factors that constitute the attitude of gifted students towards research/inquiry, predicted by the variables of readiness for learning in a connective environment, contextualization, meaning-making and sharing, social networks, navigation skills and social networks?
- Is "valuing", one of the sub-factors that constitute the attitude of gifted students towards research/inquiry, predicted by the variables of readiness for learning in a connective environment, contextualization, meaning-making and sharing, social networks, navigation skills and social networks? Is readiness to learn in a connectivist environment predicted by the variables of contextualization, meaning making and sharing, social networks, navigation skills and social networks?

Method

The research design, working group details, data collecting tools and data analysis are all covered in this section.

Research design

This study was designed with the relational survey model, which is one of the quantitative research methods, because it aims to determine the relationship between the readiness of gifted students to learn in a connective learning environment and their attitudes towards research/inquiry. In studies conducted with the relational (correlational) screening model, the relationship between at least two quantitative variables is tried to be explained (Fraenkel et al., 2012).

Working Group

In this study, criterion sampling, which is a non-random purposeful sampling method, was used. In a study, observation units can be composed of people, events, objects or situations with certain qualities (Büyüköztürk, 2021). The criterion in this study was that the students were gifted students who were attending the science and art center (BİLSEM) and that they would learn in a connective learning environment after the study. Gifted students are identified by the Ministry of National Education in the 1st, 2nd and 3rd grades of primary school, first by participating in the 'Group Screening' and then, if the student passes, by participating in the 'Individual Assessment'. Students gain the right to register to BİLSEMs after passing the criteria, intelligence tests and art/music talent assessments determined by the Ministry of National Education in the fields of general talent, art and music. Students who gain the right to register to BİLSEM are subjected to a training program consisting of five stages: adaptation training, support training, individual talent realization (BYF), special talent development (ÖYG), project production and management (Köksal, 2021). In Science and Art Centers (BİLSEM), students go through a project-based and differentiated education process in collaboration with different disciplines in line with their interests and talents. The ÖYG program aims to enable students to deepen their skills in the areas of talent they have determined and to take their skills to an advanced level through artistic and scientific activities (MoNE, 2018). 7th grade students in the ÖYG program continue as ÖYG-1, and 8th grade students continue as ÖYG-2.

In the power analysis conducted for the research, the sample size required to be reached was calculated as 160 students. The study group of this research consists of a total of 227 specially gifted secondary school students studying at the 7th and 8th grade level, who are attending the ÖYG-1 and ÖYG-2 programs at the Çorum Science and Art Center in the second semester of the 2024–2025 academic year. Information about the students in the study group is given in Table 1.

Table 1. Characteristics of the working group.

Grade Level	Boy	Girl	Total
ÖYG-1 (7th grade)	68	45	113
ÖYG-2 (8th grade)	49	65	114
Total	117	110	227

As seen in Table 1, a total of 227 gifted middle school students, including 113 seventh graders, and 114 eighth graders, took part in the study. 110 of the participants were girls, and 117 were boys.

Data Collection Tools

The study used the 'Readiness to Learn in a Connectionist Environment Scale' and the 'Attitude towards Research/Inquiry Scale' as data collection tools.

Readiness Scale for Learning in a Connective Environment

This scale, developed by Has Erdoğan (2022) and using a five-point scaling method, consists of a total of 35 items. The scale consists of five sub-dimensions: 'Contextualisation', 'Creating and Sharing Meaning', 'Social Networks', 'Navigation Skills' and 'Resource Management'. In the development phase, the Cronbach Alpha coefficient of the scale was calculated as .76, and the internal consistency coefficients for the sub-dimensions were determined as .86, .83, .83, .68 and .61, respectively. As a result of the analysis conducted in this study, the Cronbach Alpha value of the scale was calculated as .87 and the internal consistency coefficients of the sub-dimensions were found as .90, .89, .92, .82 and .81, respectively. These values show that the scale is a reliable measurement tool.

Attitude Towards Inquiry Scale for Secondary School Students

This scale, developed by Korkmaz, Ozan, and Karamustafaoğlu (2016) and using a five-point scaling method, consists of a total of 13 items. The scale has three sub-dimensions: 'Curiosity', 'Avoidance' and 'Valuing'. In the development phase, the Cronbach Alpha coefficient of the scale was calculated as .76, and the internal consistency coefficients for the sub-dimensions were determined as .64, .70 and .64, respectively. As a result of the analysis conducted in this study, the Cronbach Alpha value of the scale was again calculated as .74, and the internal consistency coefficients of the sub-dimensions were found to be .90, .76 and .77, respectively. These values show that the measurement tool has a reliable structure.

Data Collection

One of the researchers actively participated in the data collection process. The research was informed to the gifted students studying at the institution where the researcher worked, permission was obtained from the students and their families, and the scales were applied face to face. The data collection process was carried out within the first twenty minutes of the researcher's class, over a total of three weeks.

Data Analysis

In the study, the descriptive statistics of the scale scores were examined in order to determine the readiness of special gifted students for learning in a connective environment and their attitudes towards research/inquiry. These values were interpreted as 'between 1-1.79' as very low, 'between 1.80-2.59' as low, 'between 2.60-3.39' as medium, 'between 3.40-4.19' as high and 'between 4.20-5.00' as very high. In the study, the kurtosis and skewness coefficients were examined to determine whether the data showed a normal distribution. In addition, the distribution of the data was examined through a histogram graph.
In order to understand whether the variables are normally distributed, skewness and kurtosis values were analyzed and are given in Table 2.

Table 2. Skewness and Kurtosis Values for Study Variables.

Scales	Factors	Skewness	Kurtosis
Readiness to Learn in a Connectionist Environment	Contextualization	-.647	.054
	Meaning making and sharing	-.991	.056
	Social networks	-.327	-.623
	Navigation skills	-.972	.993
	Resource management factor	-.955	.973
	Total	-.851	-.916
Attitudes Towards Research and Inquiry	Curiosity	-.490	-.580
	Avoidance	-.988	.349
	Value	-.987	.525
	Total	-.866	.870

Although it is seen that the values related to kurtosis and skewness are evaluated in different ranges in the literature, it can be accepted that the values in the range of ±1 are a reflection of the normal distribution (Kalaycı, 2010). Accordingly, it was determined that the obtained data showed a normal distribution. Since the data showed a normal distribution, Pearson correlation coefficients were examined in order to examine the relationships between the dependent and independent variables. These coefficients were as follows: '0.00-0.29' was interpreted as low, '0.30-0.69' as medium and '0.70 and above' as high level of relationship (Büyüköztürk et al., 2021). Multiple linear regression analysis was used, in which the attitudes of gifted students towards research/inquiry were taken as predictors and their readiness to learn in a connective environment was taken as predictors. Before performing multiple regression analysis, it was concluded that there was normality and linearity. Then, the relationship between the variables was examined for the multiple linear connection test. It was determined that the factor correlation values (between -.01 and .79) were less than .90. In addition, since the VIF values between each predicted variable and the predictor variables (between 1.62 and 4.02) were less than 5, the tolerance values (between .28 and .616) were greater than .20, and the Durbin-Watson values (between 1.81 and 1.94) were less than 2, it can be stated that there was no multi-collinearity problem regarding the data. SPSS 21 package program was used for the analyses.

Findings

For the first sub-problem of the study, 'What is the level of gifted students' readiness to learn in a connectionist environment and their attitudes towards inquiry research', the descriptive statistics calculated according to the gifted students' responses to the scales are provided in Table 2.

Table 3. Descriptive Statistics Calculated According to the Responses of Gifted Students to The Scales

Scales	Subscales	$\overline{X}$	sd
Readiness to Learn in a Connectionist Environment	Contextualisation	3,94	,03
	Creating and Sharing Meaning	4,10	,02
	Social Networks	3,94	,03
	Navigation Skills	4,14	,03
	Resource Management	4,03	,03
	Total	4,02	,02
Attitudes Towards Research and Inquiry	Curiosity	4,33	,02
	Avoidance	4,18	,02
	Appreciation	4,21	,03
	Total	4,24	,01

When Table 3 is examined, the total score that gifted students received from the scale of readiness to learn in a connective environment was revealed as ($\overline{X}$ =4.02). The sub-dimensions of the scale were determined as contextualization ($\overline{X}$ =3.94), creating and sharing meaning ($\overline{X}$ =4.10), social networks ($\overline{X}$ =3.94), navigation skills ($\overline{X}$ =4.14) and resource management ($\overline{X}$ =4.03).

In addition, the total score that gifted students received from the scale of attitudes towards inquiry was revealed as ($\overline{X}$= 4.24). The sub-dimensions of the scale were determined as curiosity ($\overline{X}$= 4.33), avoidance ($\overline{X}$ = 4.18) and appreciation ($\overline{X}$ =4.21).

Pearson Product Moment Correlation Coefficients to determine the relationship between the variables of 'readiness to learn in a connectionist environment' and 'attitude towards inquiry' related to the second sub-problem of the research, 'Is there a significant relationship between gifted students' readiness to learn in a connectionist environment and their attitudes towards inquiry?' are presented in Table 4, Table 5 and Table 6.

Table 4. Pearson Product Moment Correlation Coefficients of Readiness to Learn in a Connectionist Environment Score with Attitude towards Research/Inquiry and its Sub-Dimensions

Variables	(1)	(2)	(3)	(4)	(5)
1. Readiness to Learn in a Connective Environment (Total Score)	1.000	.139[*]	.105	.077	.093
2. Attitude towards research and enquiry (Total Score)		1.000	.450[**]	.683[**]	.760[**]
3. Curiosity			1.000	-.112	.194[*]
4. Avoidance				1.000	.245[**]
5. Valuing					1.000

**p <.01, *p <.05.

According to the data in Table 4, there is a positive, low-level and significant relationship between the readiness of gifted students to learn in a connective environment and their attitudes towards research and inquiry (r = .14, p < .05). In addition, although there was no statistically significant relationship between the levels of readiness of gifted students to learn in a connective environment and the sub-dimensions of their attitudes towards research and inquiry, a low-level positive trend was observed.

Table 5. Pearson Product Moment Correlation Coefficients of Attitudes towards Research/Inquiry Score with Readiness to Learn in a Connectionist Environment and its Sub-Dimensions

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Attitude towards research and enquiry (Total Score)	1.000	.139[*]	.154[*]	-.018	.044	.197[**]	.084
2. Readiness to Learn in a Connective Environment (Total Score)		1.000	.795[**]	.705[**]	.651[**]	.511[**]	.529[**]
3. Contextualisation			1.000	.396[**]	.384[**]	.230[**]	.239[**]
4. Creating and Sharing Meaning				1.000	.294[**]	.288[**]	.338[**]
5. Social Networks					1.000	.134[**]	.191[**]
6. Navigation Skills						1.000	.272[**]
7. Resource Management							1.000

**p <.01, *p <.05.

According to the data in Table 5, there is a positive, low-level and significant relationship between the attitudes of gifted students towards research and inquiry and the sub-dimensions of their readiness for learning in a connective environment, namely contextualization (r=.15, p<.05) and navigation skills (r=.20, p<.01). In the same table, although there is no statistically significant relationship between the attitudes of gifted students towards research and inquiry and the sub-dimensions of their readiness for learning in a connective environment, namely social networks (r=.04, p>.05) and resource management (r=.08, p>.05), a low-level positive trend is observed.

Table 6. Pearson Product Moment Correlation Coefficients of Attitudes Towards Research/Inquiry and Readiness to Learn in a Connectivist Environment Sub-Dimensions

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Curiosity	1.000	-.112	.194**	.164**	-.038	.064	.157*	-.070
2. Avoidance		1.000	.245**	.060	-.003	.022	.058	.157*
3. Valuing			1.000	.094	.000	.009	.182**	.036
4. Contextualisation				1.000	.396**	.384**	.230**	.239**
5. Creating and Sharing Meaning					1.000	.294**	.288**	.338**
6. Social Networks						1.000	.134**	.191**
7. Navigation Skills							1.000	.272**
8. Resource Management								1.000

**p <.01, *p <.05.

According to the data in Table 6, it was determined that there was a low-level, positive and significant relationship between curiosity, which is one of the sub-dimensions of the students' attitudes towards research and inquiry, and contextualization (r= .16, p< .05) and navigation skills (r= .16, p< .05) which are the sub-dimensions of their readiness to learn in a connective environment. It was also determined that there was a low-level, positive and significant relationship between avoidance, which is one of the sub-dimensions of their attitudes towards research and inquiry, and resource management, which is one of the sub-dimensions of their readiness to learn in a connective environment (r= .16, p< .05). It was also determined that there was a low-level, positive and significant relationship between valuing, which is one of the sub-dimensions of their attitudes towards research and inquiry, and navigation skills, which is one of the sub-dimensions of their readiness to learn in a connective environment (r= .16, p< .01).

In addition, although there was no statistically significant relationship between curiosity, which is one of the sub-dimensions of the students' attitudes towards research and inquiry, and meaning-making and sharing (r= - .04, p> .05) and resource management (r= - .07, p> .05), it was observed that there was a low-level negative tendency. The results of multiple linear regression analysis are presented in Table 7 to reveal how the readiness to learn in a connective environment and its sub-dimensions predict curiosity, which is a sub-dimension of the attitude scale towards inquiry, for the third sub-problem of the study, "Is curiosity, one of the sub-factors that constitute the attitude of gifted students towards inquiry, predicted by the variables of readiness to learn in a connective environment, contextualization, creating and sharing meaning, social networks, navigation skills and social networks?"

Table 7. Results of Regression Analysis in Which Curiosity Dimension and Its Sub-Dimensions Were Taken as Predictor Variables

Variable	B	Sh	β	t	p	Paired-r	Partial r
Constant	3,891	,323		12,051	,000**		
Contextualization	,162	,062	,194	2,595	,010*	,164	,172
Meaning making and sharing	-,122	,069	-,133	-1,771	,078	-,038	-,118
Social networks	,021	,054	,028	,390	,697	,064	,026
Navigation skills	,140	,053	,182	2,621	,009**	,157	,174
Resource management	-,088	,049	-,126	-1,783	,076	-,070	-,119

R= 0,275 R^2 = 0,076
$F_{(5-221)}$= 3,628 p = 0,004

Note: R=Correlation coefficient, R^2=Explained variance ratio, B= regression coefficient, β = standardized regression coefficient, sh=standard error, **p <.01, *p <.05.

When Table 7 is examined, it is seen that all sub-dimensions of readiness to learn in a connectivist environment (RLCE) are predictors of curiosity (R=0.275, R^2=0.076, p<0.01). All sub-dimensions of readiness to learn in a connectivist environment explain 7% of the variance of curiosity. The order of importance of the sub-dimensions of the predictor variable RLCE in explaining curiosity is as follows: contextualization (β=0.194), navigation skills (β=0.182), meaning creation and sharing (β=-0.133), resource management (β=-0.126) and social networks (β=0.028). When the values related to the significance of the regression coefficients are examined, it is seen that contextualization (p< .05) and navigation skills sub-dimension (p< .01) explain curiosity significantly. When the binary correlation and partial correlation between the sub-dimensions, which are the predictor variables of readiness to learn in a connective environment, and the predicted variable curiosity are examined, it is seen that there is a low-level positive relationship (r=0.16) between the contextualization sub-dimension and curiosity. When the effects of other sub-dimensions are controlled, it is seen that this relationship increases (r=0.17). When the effects of other sub-dimensions are controlled, it is seen that there is a low-level negative relationship (r=-0.04) between the meaning-making and sharing sub-dimension and curiosity. When the effects of other sub-dimensions are controlled, it is seen that this relationship increases (r=-0.12). When the effects of other sub-dimensions are controlled, it is seen that there is a low-level positive relationship (r=-0.06) between the social networks sub-dimension and curiosity. When the effects of other sub-dimensions are controlled, it is seen that this relationship decreases even more (r=0.03). When the effects of navigation skills sub-dimension and curiosity are controlled, it is seen that this relationship increases (r=0.17). There is a low-level negative relationship (r=-0.07) between the resource management sub-dimension and curiosity. When the effects of the other sub-dimensions are controlled, it is seen that this relationship increases (r=-0.12).

In addition, readiness to learn in a connective environment was added to the model but was removed from the analysis because it was not found significant by the regression model.
The results of the multiple linear regression analysis to reveal how readiness to learn in a connective environment and its sub-dimensions predict avoidance, which is a sub-dimension of the attitude scale towards inquiry, are shown in Table 8 for the fourth sub-problem of the research, "Is "avoidance" among the sub-factors that constitute the attitude of gifted students towards inquiry predicted by the variables of readiness to learn in a connective environment,

contextualization, meaning creation and sharing, social networks, navigation skills and social networks?"

Table 8. Results of Regression Analysis in Which Avoidance Dimension and Its Sub-Dimensions Were Taken as Predictor Variables

Variable	B	Sh	β	t	p	Paired-r	Partial r
Constant	3,745	,383		9,766	,000**		
Contextualization	,049	,074	,051	,664	,507	,060	,045
Meaning making and sharing	-,090	,082	-,085	-1,105	,270	-,003	-,074
Social networks	-,007	,064	-,008	-,116	,908	,022	-,008
Navigation skills	,023	,063	,026	,367	,714	,058	,025
Resource management	,136	,059	,168	2,326	,021*	,157	,155
R= 0,176	R² = 0,031						
F₍₅₋₂₂₁₎= 1,414	p = 0,220						

*Note: R=Correlation coefficient, R²=Explained variance ratio, B= regression coefficient, β = standardized regression coefficient, sh=standard error, **p <.01, *p <.05.*

When Table 8 is examined, it is seen that all sub-dimensions of readiness to learn in a connectivist environment (RLCE) are not statistically predictive of avoidance (R=0.176, R^2=0.031, p> 0.05). All sub-dimensions of readiness to learn in a connectivist environment explain 3% of the variance of avoidance. The order of importance of the sub-dimensions of the predictor variable LLE in explaining avoidance is as follows: resource management (β=0.168), meaning-making and sharing (β=-0.085), contextualization (β=0.051), navigation skills (β=0.026), and social networks (β=-0.008). When the values related to the significance of the regression coefficients are examined, it is seen that the resource management sub-dimension (p< .05) explains avoidance significantly. When the binary correlation and partial correlation between the sub-dimensions that are the predictor variables of readiness to learn in a connective environment and the predicted variable avoidance are examined, it is seen that there is a low-level positive relationship (r=0.06) between the contextualization sub-dimension and avoidance. When the effects of other sub-dimensions are controlled, it is seen that this relationship decreases even more (r=0.05). When the effects of other sub-dimensions are controlled, it is seen that there is a low-level negative relationship (r=-0.03) between the meaning-making and sharing sub-dimension and avoidance. When the effects of other sub-dimensions are controlled, it is seen that this relationship increases (r=-0.07). When the effects of other sub-dimensions are controlled, it is seen that there is a low-level positive relationship (r=0.02) between the social networks sub-dimension and avoidance. When the effects of other sub-dimensions are controlled, it is seen that this relationship decreases even more and changes direction (r=-0.01). When the effects of navigation skills sub-dimension and avoidance are controlled, it is seen that this relationship decreases even more (r=0.03). There is a low-level positive relationship (r=0.16) between the resource management sub-dimension and avoidance. When the effects of the other sub-dimensions are controlled, it is seen that this relationship does not change (r=0.16).
In addition, readiness to learn in a connectionist environment was added to the model but was removed from the analysis because it was not found significant by the regression model.

The results of the multiple linear regression analysis to reveal how the readiness to learn in a connectionist environment and its sub-dimensions predict the value, which is the sub-dimension of the attitude scale towards inquiry, is the "valuing" sub-factor that constitutes the attitude of gifted students towards inquiry in a connectionist environment predicted by the variables of

contextualization, meaning creation and sharing, social networks, navigation skills and social networks?" are shown in Table 9.

Table 9. Results of Regression Analysis in Which the Predicted Readiness to Learn in a Connectivist Environment and Its Sub-Dimensions of the Valuing Dimension Were Taken as Predictor Variables

Variable	B	Sh	β	t	p	Paired-r	Partial r
Constant	3,560	,425		8,383	,000**		
Contextualization	,103	,082	,095	1,254	,211	,094	,084
Meaning making and sharing	-,099	,091	-,083	-1,087	,278	,000	-,073
Social networks	-,027	,070	-,028	-,387	,699	,009	-,026
Navigation skills	,189	,070	,189	2,683	,008*	,182	,178
Resource management	-,004	,065	- ,005	-,063	,950	,036	-,004

R= 0,207 R^2 = 0,043
$F_{(5-221)}$= 1,988   p = 0,081

*Note: R=Correlation coefficient, R^2=Explained variance ratio, B= regression coefficient, β = standardized regression coefficient, sh=standard error, **p <.01, *p <.05.*

When Table 9 is examined, it is seen that all sub-dimensions of readiness to learn in a connectivist environment (RLCE) are not statistically predictive of valuing (R=0.207, R^2=0.043, p> 0.05). All sub-dimensions of readiness to learn in a connectivist environment explain 4% of the variance of avoidance. The order of importance of the sub-dimensions of the predictor variable RLCE in explaining valuing is as follows: navigation skills (β=0.189), contextualization (β=0.095), meaning creation and sharing (β=-0.083), social networks (β=-0.028) and resource management (β=-0.005). When the values related to the significance of the regression coefficients are examined, it is seen that the navigation skills sub-dimension (p< .01) explains valuing significantly. When the binary correlation and partial correlation between the sub-dimensions that are the predictor variables of readiness to learn in a connective environment and the predicted variable valuing are examined, it is seen that there is a low-level positive relationship (r=0.09) between the contextualization sub-dimension and valuing. When the effects of other sub-dimensions are controlled, it is seen that this relationship decreases even more (r=0.08). It is seen that there is a low-level positive relationship (r=0.00) between the meaning-making and sharing sub-dimension and valuing. When the effects of other sub-dimensions are controlled, it is seen that this relationship increases and changes direction (r=-0.07). It is seen that there is a low-level positive relationship (r=0.01) between the social networks sub-dimension and valuing. When the effects of other sub-dimensions are controlled, it is seen that this relationship increases and changes direction (r=-0.03). It is seen that there is a low-level positive relationship (r=0.18) between the navigation skills sub-dimension and valuing. When the effects of other sub-dimensions are controlled, it is seen that this relationship does not change (r=0.18). There is a low-level positive relationship (r=0.04) between the resource management sub-dimension and avoidance. When the effects of the other sub-dimensions are controlled, it is seen that this relationship decreases even more and changes direction (r=-0.00). In addition, readiness to learn in a connectionist environment was added to the model but was removed from the analysis because it was not found significant by the regression model.

Discussion and Conclusions

In this study, which examined the relationship between the readiness of gifted students to learn in a connective environment and their attitudes towards inquiry, it was concluded that there was a low-level, positive and significant relationship between the readiness to learn in a connective environment and the attitude towards inquiry/inquiry, and that the readiness to learn in a connective environment significantly predicted the attitude towards inquiry. It is seen that this situation supports the view that students are open to learning in digital environments and that they also have a tendency to do research and question. Studies indicate that connective learning environments develop students' digital skills and desire to learn (Kop & Hill, 2008; Siemens, 2005). However, the fact that the correlation remains low suggests that this relationship is at a supportive level rather than a very strong structural bond. In fact, structures such as learning attitudes and digital readiness show that students are shaped not only by the type of relationship they establish with digital environments, but also by multidimensional variables such as self-efficacy, cognitive awareness, learning strategies and environmental support (Schraw, Crippen & Hartley, 2006). Therefore, the low level of correlation obtained is thought to be due to the limiting effects of contextual factors, individual differences, and more complex variables related to learning.

A positive, low-level, and significant relationship was found between the 'Contextualization' and 'Navigation skills' sub-dimensions of readiness for learning in a connectivist environment and attitudes towards inquiry. This finding indicates that individuals with developed contextualization and navigation skills in connectivist learning environments may have stronger research and inquiry tendencies. Eryılmaz and Dikici (2021) reveal in their studies that there is a positive relationship between students' contextual learning skills and their critical thinking and inquiry competencies. Similarly, Ceylan and Elmalı (2021) determined that students' levels of connectivist learning readiness are particularly related to their ability to use social media tools effectively and contextualize information. In addition, Yıldız and Şahin (2020) emphasized in their studies examining the relationships between connectivist learning readiness and ways of accessing information that contextualization skills have positive effects, especially on research and data analysis processes. Studies have shown that navigation skills require students to be able to move effectively between digital environments, find and filter the right resources, and maintain cognitive control during the research process (Atay, 2019; Cormier & Siemens, 2010).

The research results show that all sub-dimensions of readiness to learn in a connective environment significantly predict the "curiosity" attitude, while the "avoidance" attitude is only significantly related to the "resource management" sub-dimension, and the "valuing" attitude is significantly related to the "navigation skills" sub-dimension. This may indicate that the relationship students establish with information in digital environments affects not only their cognitive but also their affective aspects. It can be thought that the presence of multiple ways to access information, especially in connective learning environments, causes students to feel the need to explore more in the learning process, and this situation feeds their sense of curiosity. Jirout and Klahr (2012) emphasize that the cognitive uncertainty that individuals experience when they encounter new information triggers curiosity, and that keeping this uncertainty constantly alive, especially in digital environments, increases the desire for research and questioning in individuals. On the other hand, the fact that the "avoidance" attitude is only related to the resource management skill shows that this skill can be a determining factor for students. Resource management refers to the individual's ability to access digital information, organize it, store it, and reuse it when necessary (Has Erdoğan, 2022). Accordingly, it can be thought that inadequate resource management skills may cause students to have difficulty in

the face of digital information density and therefore tend to avoid research. However, since the "valuing" attitude is associated with "navigation skills", it can be said that students' ability to effectively navigate and access information in digital environments increases the value they attribute to information. Because studies have shown that the effort spent to access information and ownership of the process cause students to perceive the information they access as more valuable and meaningful (Keller, 2010). Especially in connective learning environments, the digital navigation process brings about not only access to information, but also the processes of internalizing, making sense of, and sharing this information (Cormier & Siemens, 2010). In this context, effectively navigating in a digital environment strengthens students' cognitive commitment and contributes to them valuing information more.

In summary, this study has revealed that gifted students not only access information in digital environments but also have the skills to make sense of the information they access, interpret it, and integrate it into their own learning processes. The findings show that connective learning environments offer effective learning spaces that go beyond superficial information transfer for these students, supporting in-depth thinking and keeping a sense of curiosity alive. However, being ready for connective learning alone is not enough for students to exhibit high-level research and questioning behavior. The low-level but significant relationship observed in the study shows that this process should be supported not only by technical competencies, but also by more comprehensive learner characteristics such as self-regulation, intrinsic motivation, and digital information strategies. This situation reveals that access to digital tools is necessary but not sufficient on its own for learning; the real determining factor is the individual's cognitive and affective competencies in accessing, filtering, and making sense of information. In particular, the sense of curiosity stands out as the fundamental driving force of learning, and this feeling is directly related to the student's skills in establishing contextual meaning and effectively navigating the digital environment. On the other hand, it is seen that behind negative attitudes such as avoiding research or not valuing knowledge, there are usually deficiencies related to learning such as inadequately developed resource management skills. In this respect, the study reveals that connective learning is not only a contemporary learning model but also a dynamic process that requires multidimensional learning preparation; it offers important implications on how effective and sustainable learning environments should be structured for specially gifted individuals of the digital age.

Declarations

Conflict of Interest: *The authors declare that they have no conflict of interest regarding the content of this article.*

Informed Consent: *The participants were informed about the purpose of the research, the data collection procedure, and their voluntary participation.*

Data availability:

The raw data obtained in the study will be shared with researchers upon request from the corresponding author.

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