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Challenges to High School Geography Education in Türkiye: An Analysis from the Teachers' Perspective*

Ramazan Çimen[1]

Meram Science High School
Konya, Türkiye

Abstract

The purpose of this research is to examine the challenges to high school geography education from the perspective of teachers. The study was carried out in a way that included 260 public, and 2 private high schools affiliated to the Ministry of National Education and 508 geography teachers randomly selected from Konya, Antalya, İzmir, İstanbul and Gaziantep provinces throughout Turkey. The research was conducted using mixed method of explanatory design and the data were analyzed in the SPSS program. In addition, "ANOVA" and "T test" statistical techniques were used. The research findings revealed that female teachers showed significant differences in terms of the adequacy of in-service training, courses and seminars organized by the Ministry of National Education and adaptation to technology and innovations according to the gender variable. On the other hand, it was observed that male teachers expressed more positive views on the adequacy of elements such as the use of various resources and tools for geography lessons, digital map archives and special classroom areas. In addition, the decreasing importance of geography lessons, inadequacy of geographical trips and material shortages were still identified as the most important challenges. The inadequacy of in-service training, courses and seminars organized by the Ministry of National Education is also among the biggest problems. In conclusion, this study presents an analysis of the main challenges faced by high school geography education and how teachers try to cope with these challenges. According to the results of the study, it is recommended that the number of lesson hours be increased, material deficiencies be eliminated and geographical excursions be encouraged.

Keywords: Educational Challenges, Teachers' Views, In-Service Training, Geography Education

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[1] Dr., Meram Fen Lisesi, Geography Teacher, Konya, Türkiye. Mail: cimenramazan@gmail.com

Geography education provides students with the ability to understand and analyze both natural and human environments, as well as enabling them to understand social, economic and environmental issues at global and local levels. Geography not only teaches space-human interactions and their consequences but also enables individuals to have a broader perspective (Bednarz, 2020). Girgin (2001), who revealed how necessary it is to learn geography, expressed the importance of geography education as a branch of science that investigates the cultures of countries as well as their natural elements, enables the analysis of land use status, facilitates the perception of regions, countries, natural and human environments, supports the organization and dissemination of information about the world we live in, indicates the importance of economic life, planned development and sophistication, investigates ways to combat natural disasters and explains their effects.

It is widely accepted that geography education helps students develop critical thinking and problem-solving skills. Geography courses encourage students to understand the relationships and interactions between different regions of the world, while also creating a forward-looking awareness of global issues such as environmental problems, climate change, and sustainability (Tobin & Carr, 2020). For example, while issues such as climate change and natural disasters are among the greatest global threats facing today's societies, geography education provides students with an important foundation in understanding the causes and consequences of such problems (Marshall et al., 2021).

Geography contributes to the efficient use of resources and environmental balance by enabling individuals to gain awareness of environmental protection (Baker et al., 2021). In addition, geography education helps students better understand the economic, social and environmental problems in society and develop solutions. In this context, geography education provides the basis for a more sustainable future by enabling individuals, societies and countries to make more conscious decisions.

Challenges to High School Geography Education in Türkiye

High school geography education aims to provide students with geographic knowledge and skills, as well as to make them individuals who are sensitive to global and local problems and environmentally conscious (Ministry of National Education, (MoNE), 2018). However, geography education often faces various difficulties in Türkiye, as in many countries. These challenges are encountered by teachers at different stages of the education-teaching process and are generally related to educational policies, school infrastructure, course content and teaching methods (Artvinli, 2010a). If we need to address the problems encountered in geography education under general headings; they can be classified as problems originating from the geography curriculum, problems originating from the teaching material, problems originating from the education and teaching environment, and problems originating from teachers and students. In addition, among the most fundamental problems of geography science is the lack of knowledge of why geography education should be given in Türkiye and the lack of full understanding of how it affects the development of countries and regions. In this context, understanding the challenges encountered by geographical education and evaluating these challenges from the teacher's perspective can contribute to the improvement of educational policies and the development of more effective teaching strategies.

In the article titled "A Historical Perspective on In-Service Training Activities for Geography Teachers" by Kaya, Ünaldı and Artvinli (2013), the in-service training activities

organized for geography teachers between 1923-2012 and the purposes, necessity and benefits of in-service training activities to be given to teachers were evaluated. It was emphasized that in-service training for teachers should be provided not in case of any problems, but also in normal times for reasons such as adapting to the changing world and increasing the efficiency and motivation of the staff.

In addition, Babacan and Özey (2016) emphasized the necessity of determining the in-service needs to be given to teachers in their study titled "In-Service Training Needs of Geography Teachers". According to the results obtained from the study conducted with 210 geography teachers in İstanbul in the 2014-2015 academic year, it was emphasized that in-service training was given to teachers in general subjects, sufficient training was not given in the field, teachers viewed in-service training positively and found it necessary, participation in in-service training in the field of geography was not sufficient, more in-service training was needed and the quality of training should be increased, there was a high demand for in-service training in subjects such as GIS, project preparation, tablet use, animation, and teachers' demand for more in-service training.

According to the study conducted by Artvinli (2010b), it is possible to say that studies to increase the quality of teachers have not received sufficient attention compared to other educational studies in our country. In fact, although the teaching programs have been changed, textbooks have been developed accordingly and both elements are updated almost every academic year, teacher education or in-service training activities are still being tried to be continued with old methods and methods.

In his master's thesis titled "Basic Problems of Secondary School Geography Education (Kartal district example)", Elmas (2006) reached the following conclusions: textbooks are inadequate, the geography curriculum is intensive and heavy, educational environments are inadequate in terms of providing quality education, students' readiness levels are inadequate, the importance of geography lessons is not sufficiently understood, all professions need to have geographical knowledge, textbooks are not prepared by experts in the field, geography curriculum and textbooks are not compatible, geography curriculums are changed a lot, permanent changes are not made, sufficient space is not given to the use of materials and geographical trips in geography education.

Kaya, Artvinli, Bulut (2008) in their study titled "The level of implementation of the 2005 geography course curriculum: An example of a 9th grade curriculum" investigated the level of applicability of the 9th grade geography curriculum, which has been in effect since 2005, in terms of teachers in terms of general objectives, achievements, learning-teaching process, and measurement and evaluation dimensions, and found this level to be "low".

In short, based on the above explanations, the main problem statement of this research was determined as "What are the opportunities and challenges faced by high school geography education from the perspective of geography teachers?" The following sub-problems were created to seek answers to the problem in question:

1. What are the main problems encountered by geography teachers in the process of geography education and their views on these problems?
2. Are there significant differences in the views of geography teachers regarding the problems encountered in the process of geography education according to demographic variables such as gender, age, professional experience and level of education?

3. According to the views of geography teachers, under what headings can the problems encountered in geography education be grouped?
4. In what categories can the work carried out by teachers to develop students' geographic skills be classified?
5. Under what themes can the topics suggested by geography teachers to be included in the geography curriculum be grouped?
6. According to geography teachers, how should an ideal curriculum for geography education be structured?
7. What are the professional concerns of geography teachers and under what basic headings can these concerns be examined?

Method

This research was conducted using a mixed method design to evaluate the challenges to high school geography education from the teacher's perspective. The details of the research are discussed under the following subheadings.

Research Design

The explanatory design, which is a mixed method design, was used in the study. The explanatory design is based on the principle of starting with quantitative data and supporting these data with qualitative data for a better understanding (Creswell & Plano Clark, 2018; Karasar, 2019). While the quantitative dimension of the study was carried out by analyzing the survey data obtained from a large sample group, the qualitative dimension was carried out based on semi-structured interviews to understand the views of the teachers in more depth. This design allowed more comprehensive results to be reached by evaluating the quantitative and qualitative findings of the study together. In fact, in this study, in order to analyze and interpret the challenges to high school geography education according to the views of the teachers, as stated by Büyüköztürk et al. (2008) and Robson (2022), the “explanatory design” was used, which is based on the collection and analysis of qualitative data after the collection and interpretation of quantitative data, where priority is generally given to quantitative data and the study is integrated with qualitative data.

Universe and Sample

The universe of the study consists of high school geography teachers throughout Turkey. The sample was determined by stratified random sampling method and included 508 geography teachers working in Konya, Antalya, Izmir, Istanbul and Gaziantep provinces from different geographical regions of Turkey. 260 of these teachers work in state high schools and 2 in private high schools. The demographic characteristics of the sample were designed to vary in terms of factors such as gender, age, professional experience and level of education. In the qualitative dimension, in-depth interviews were conducted with 30 teachers using the purposive sampling method. These participants were selected from among teachers who had experience and perspectives that could provide meaningful data regarding the sub-problems of the study.

Data Collection Tools

Quantitative data was collected with a survey developed by researcher and updated with expert opinions. The survey consists of 5-point Likert-type questions that evaluate the professional experiences of geography teachers, the problems they encounter, and their solution suggestions. The survey form applied to teachers consists of three sections: a

professional development and equipment usage survey, which resembles the "Likert-type question" and "Likert-type scale" pattern, a survey on the competence of the education-training environment, and a survey on the competence of the geography program and books.

The answers to the questions in the survey form applied to the teachers in the study were determined using a survey like a 4-point Likert-type scale as follows: "Insufficient" (1), "Undecided" (2), "Partially sufficient" (3), "Sufficient" (4). In addition, a survey form like a 4-point Likert-type scale was developed in which the answers to the survey questions were Always (1), Sometimes (2), Rarely (3), Never (4). The distribution and number of the survey questions prepared were determined by considering the consultant and expert opinions, and the survey was applied to the teachers after these stages.

Qualitative data were obtained through a semi-structured interview form. The interview form included open-ended questions aimed at understanding teachers' detailed thoughts on geography education. Three expert opinions were consulted, and a pilot application was conducted to ensure the validity of the data collection tools. As a result of the pilot application, necessary adjustments were made to the tools.

Data Collection

Quantitative data were collected via an online survey platform. The purpose of the survey was explained to the participants, necessary information was provided to ensure voluntary participation, and the principle of anonymity was observed. A total of 508 geography teachers, 224 female and 284 males, working in 262 public and private high schools affiliated with the Ministry of National Education in Konya, İzmir, İstanbul, Gaziantep, and Antalya were given a fifteen-day period to answer the surveys, and the survey forms were collected in person after this period.

Qualitative data was obtained through face-to-face interviews. The interviews were conducted in a semi-structured format to allow participants to express their thoughts in a relaxed environment and were audio-recorded and transcribed. The duration of the responses to the 8 open-ended questions posed to the geography teachers varied between 30-45 minutes.

Analysis of Data

After the survey forms were collected, they were put in order and coded by giving them numbers. After this stage, the teacher opinions obtained from the surveys were evaluated and analyzed in the SPSS statistics program.

Quantitative data were analyzed using SPSS 26.0. In the analysis of the data, the answers given by the teachers to the questions were analyzed using various groupings and multiple comparison tests such as frequency, percentage distributions, correlation, arithmetic mean, standard deviation, "t test", one-way variance analysis (ANOVA).

Qualitative data were analyzed using the content analysis method. Data obtained from interview records were divided into themes and categories and coded. Three researchers worked independently during the coding process and the coefficient of agreement (Cohen's Kappa) between the codes was calculated as 0.85, indicating a high level of agreement. Qualitative and quantitative findings were combined and interpreted in line with the sub-problems of the research.

Findings

Quantitative and qualitative findings related to seven sub-problems are presented under this heading.

Geography Teachers' Views on the Main Problems They Encounter in the Process of Geography Education

This section includes the findings regarding geography teachers' professional development and use of tools and equipment, the findings regarding the adequacy of the education and training environment, and the evaluation of the findings regarding the adequacy of the geography curriculum and books.

Tabl 1

Lisans Findings Regarding the Adequacy of Undergraduate Education

Status	Frequency	Percentage
Insufficient	71	14
Partially Sufficient	221	43,5
Sufficient	216	42,5
Total	**508**	**100**

It is known that the education provided at universities varies from region to region and from university to university. According to the research results, the distribution of the opinions of 508 geography teachers who participated in the research to the question "Do you find the education you received at the undergraduate level sufficient in terms of profession?" is as follows: 221 (43.5%) of the teachers stated their opinions as "Partially sufficient", 216 (42.5%) as "Sufficient", and 71 (14%) as "Insufficient" (Table 1). It is seen that the education provided at universities is not fully sufficient. This situation is among the important problems in geography education in Turkey. As can be seen, the teachers stated that the education received at the undergraduate level is partially sufficient. Although those who stated their opinions as "Insufficient" are in the minority, since the total rate of those who stated their opinions as "Partially sufficient" and "Insufficient" constitutes a rate of 57.5%, it can be said that the professional adequacy of the education received at the undergraduate level is not at the desired level.

Table 2

Findings Regarding Professional Competence

Status	Frequency	Percentage
Inadequate	6	1,2
Partially Adequate	102	20,1
Adequate	400	78,7
Total	**508**	**100**

The study has attempted to reveal whether there is a professional competence problem among the problems of geography education. According to the results of the study, in response to the question "Do you find yourself professionally competent?", 400 (78.7%) of

the 508 geography teachers who participated in the study responded as "Competent", 102 (20.1%) as "Partially competent", and 6 (1.2%) as "Incompetent" (Table 2). As can be understood from these data, the majority of teachers do not have a professional competence problem.

Table 3

Findings Regarding Teaching Methods Used in Geography Classes

Method	Frequency	Percentage
Narration	258	50,8
Question-Answer	156	30,7
Writing-Taking notes	31	6,1
Excursion-Observation	10	2
Total	**508**	**100**

Considering the results of many studies, the most used teaching method in geography courses is the "Narration" technique. The narration method is followed by the question-answer method. According to the research results, the distribution of the opinions of 508 geography teachers who participated in the research to the question "Which of the following teaching methods do you use the most in geography lessons?" is as follows; 258 (50.8%) of the teachers stated their opinions as "narration", 156 (30.7%) as "question-answer", 31 (6.1%) as "writing-taking notes", and 10 (2%) as "excursion-observation" (Table 3). It is seen that geography education is generally carried out with narration and question-answer methods. However, in geography education, which is one of the applied sciences, in addition to these two methods, the field study method should be used more and supported with technological tools. In addition, it is necessary to adopt a constructivist approach in geography education and to make the student more active. Geography lessons conducted in this way are seriously effective in achieving more permanent, more efficient and more effective learning.

Table 4

Findings on the Adequacy of In-Service Training, Courses and Seminars Conducted by the Ministry of National Education

Status	Frequency	Percentage
Inadequate	217	42,7
Partially Adequate	237	46,7
Adequate	54	10,6
Total	**508**	**100**

According to the results of the research, the distribution of the opinions of 508 geography teachers who participated in the research to the question “Do you find the in-service training, courses and seminars provided by the Ministry of National Education sufficient?” is as follows: 237 (46.7%) of the teachers stated their opinions as “Partially Sufficient”, 217 (42.7%) as “Insufficient” and 54 (10.6%) as “Sufficient”. Almost half of the teachers, 46.7%, stated that the in-service trainings were “Insufficient” (Table 4). According

to the table, a large portion of geography teachers stated their opinions as "Partially Sufficient" and "Insufficient". This situation has led to the conclusion that the in-service trainings provided by the Ministry of National Education in Türkiye are not at the desired level. With the in-service trainings provided by the Ministry of National Education; first of all, teachers are provided with the opportunity to update themselves. Another important contribution of in-service training is that it increases efficiency and improves the adaptation process of teachers. In fact, in-service training activities, courses and seminars do not actually increase the quality of teachers but the quality of education. For this reason, in-service training should be carried out effectively and systematically at certain periods.

Table 5

Findings on the Effect of Trips Made Within the Scope of Geography Course on Learning and Educational Trips

Status	Frequency	Percentage
It doesn't affect - I don't do it	14	2,8
It partially affects - I do it from time to time	37	7,3
It affects - I can't do it	301	59,3
It affects a lot - I do it very little	156	30,7
Total	**508**	**100**

According to the research results, the distribution of the opinions of 508 geography teachers who participated in the research to the questions "Do trips made within the scope of geography lessons affect learning?" and "Do you organize educational trips?" is as follows: 301 of the teachers (59.3%) stated their opinions as "It affects-I can't do it", 156 (30.7%) stated their opinions as "It affects a lot-I do it very little", 37 (7.3%) stated their opinions as "It affects partly-I do it from time to time", and 14 (2.8%) stated their opinions as "It doesn't affect-I don't do it" (Table 5).

As can be seen, although geography teachers are aware that field trips (field work) within the scope of geography lessons affect learning, they cannot carry out field work for various reasons.

Table 6

Findings on the Adequacy of School Equipment for Geography Lessons

Status	Frequency	Percentage
Inadequate	145	28,5
Partially Adequate	261	51,4
Adequate	102	20,1
Total	**508**	**100**

In response to the question "Are the tools and equipment in your school sufficient for geography lessons?", 261 (51.4%) of the 508 geography teachers who participated in the study responded as "Partially sufficient", 145 (28.5%) as "Insufficient", and 102 (20.1%) as

"Sufficient" (Table 6). It was observed that half of the teachers responded as "Partially sufficient" and nearly one third (28.5%) as "Insufficient" to the question "Are the tools and equipment in your school sufficient for geography lessons?". It was concluded from these answers that the tools and equipment in schools were not sufficient. Materials are very important not only for geography education but also for all other lessons. Especially in geography lessons, materials are of great importance in terms of learning being permanent, education being efficient, and the ability to adapt the information learned to the world we live in. Research shows that the problem of tools and equipment in schools continues from past to present. The need for updated, renewed and diversified course materials in line with the requirements of the age range is increasing. Maps, graphics, drawings, digital maps are indispensable elements of geography education. However, studies show that even these materials are still not available at the desired level in schools. The majority of geography teachers state that the materials in schools are not complete, and many materials are missing.

Table 7

Findings on the Adequacy of Digital Map Archives in Schools

Status	Frequency	Percentage
Insufficient	303	59,6
Undecided	18	3,5
Partially Sufficient	115	22,6
Sufficient	72	14,2
Total	**508**	**100**

According to the research results, in response to the question "Is the digital map archive in your school sufficient?", 303 (59.6%) of the 508 geography teachers who participated in the research answered "Insufficient", 115 (22.6%) answered "Partially sufficient", 72 (14.2%) answered "Sufficient", and 18 (3.5%) answered "Undecided" (Table 7).

Table 8

Findings on the Adequacy of Geography-Related Resources in School Libraries

Status	Frequency	Percentage
Insufficient	339	66,7
Undecided	16	3,1
Partially Sufficient	127	25
Sufficient	26	5,1
Total	**508**	**100**

According to the research results, in response to the question "Are the geography resources in your school library sufficient?", 339 (66.7%) of the 508 geography teachers who participated in the research responded as "Insufficient", 127 (25.0%) as "Partially sufficient", 26 (5.1%) as "Sufficient", and 16 (3.1%) as "Undecided" (Table 8).

"It was observed that most teachers answered "Insufficient" to the question "Are the geography resources in your school library sufficient?". It was concluded that the geography resources in the school libraries were not sufficient from the answers.

Table 9

Findings Regarding the Adequacy of the Geography Curriculum When Evaluated in All Aspects

Status	Frequency	Percentage
Insufficient	96	18,9
Undecided	6	1,2
Partially Sufficient	275	54,1
Sufficient	131	25,8
Total	**508**	**100**

The distribution of the opinions of 508 geography teachers who participated in the study to the question "Is the geography curriculum sufficient when evaluated in all aspects?" is as follows; 275 (54.1%) of the teachers stated their opinions as "Partially sufficient", 131 (25.8%) "Sufficient", 96 (18.9%) "Insufficient", and 6 (1.2%) "Undecided" (Table 9).

It was observed that more than half of the teachers gave the answer "Partially sufficient" to the question "Is the geography curriculum sufficient when evaluated in all aspects?". It was concluded from these answers that the geography curriculum was partially sufficient. Although there were some deficiencies when evaluated in all aspects, the geography curriculum was found to be partially sufficient. Both the achievements and content in the program and the distribution of learning areas and units to the classes were found to be partially sufficient.

Table 10

Findings on the Compatibility of Geography Programs Implemented by Universities and High School Geography Programs

Status	Frequency	Percentage
Insufficient	248	48,8
Undecided	22	4,3
Partially Sufficient	195	38,4
Sufficient	43	8,5
Total	**508**	**100**

In response to the question "Do you think the compatibility between the geography programs implemented by universities and the high school geography program is sufficient?" 248 (48.8%) of the teachers responded as "Insufficient", 195 (38.4%) as "Partially sufficient", 43 (8.5%) as "Sufficient", and 22 (4.3%) as "Undecided" (Table 10).

In response to the question "Do you think the compatibility between the geography programs implemented by universities and the high school geography program is

sufficient?", it was observed that almost half of the teachers responded as "Insufficient". From these answers, it was concluded that the compatibility between the geography programs implemented by universities and the high school geography program is insufficient.

Table 11

Findings on the Adequacy of Geography Textbooks for Students in Terms of Scope

Status	Frequency	Percentage
Insufficient	132	26
Undecided	6	1,2
Partially Sufficient	256	50,4
Sufficient	114	22,4
Total	**508**	**100**

"In response to the question "Are geography textbooks sufficient for students in terms of scope?", 256 (50.4%) of the 508 geography teachers who participated in the study responded as "Partially sufficient", 132 (26.0%) as "Insufficient", 114 (22.4%) as "Sufficient", and 6 (1.2%) as "Undecided" (Table 11).

In response to the question "Are geography textbooks sufficient for students in terms of scope?", half of the teachers responded as "Partially sufficient" and one fourth as "Insufficient". From these responses, it was concluded that geography textbooks are partially sufficient for students in terms of scope.

Geography Teachers' Views on Problems Encountered in the Process of Geography Education According to Demographic Variables

Table 12

Areas with Significant Differences in Geography Teachers' Views on Problems Encountered in Geography Education According to Gender Variable

Group		Total	X	Std. deviation	Std. error	Sig.
Do you find the in-service training, courses and seminars provided by the Ministry of National Education sufficient?	Female	224	1,71	0,623	0,042	0,0170378
	Male	284	1,66	0,683	0,041	
Is the digital map archive in your school sufficient?	Female	224	1,75	1,075	0,072	0,0000007
	Male	284	2,04	1,239	0,074	
Is the library in your school sufficient for geography-related resources?	Female	224	1,63	0,98	0,032	0,0295974
	Male	284	1,73	1,037	0,025	

There was no significant difference in the views of geography teachers on the problems encountered in geography education according to the gender variable in the areas of "professional adequacy of undergraduate education, the most commonly used teaching methods related to geography courses, the use of CBA (Geographic Information Network) throughout Türkiye in order to make geography courses more effective, the adequacy of teacher education and professional development processes in our country, the most prioritized issue to be changed in the geography course program, the impact of trips made within the scope of geography courses on learning, the status of educational trips, the status of participation in seminars and studies required in professional terms, the status of effective use of EBA (Education Informatics Network) in courses, the adequacy of geography textbooks for students". However, according to the analysis results, female teachers are significantly significant in determining the rate of whether the in-service training, courses and seminars conducted by the Ministry of National Education are sufficient or not. Accordingly, female teachers (x = 1.71) do not find the in-service training, courses and seminars conducted by the Ministry of National Education sufficient compared to male teachers (x = 1.66).

Today, the use of digital maps has increased in relation to the increased use of technology in geography lessons. Digital maps have eliminated the problem of transportation and have become a more effective teaching tool. Accordingly, when the adequacy status of digital map archives in schools is evaluated, since the Sig. value is less than $p<0.05$, there is a statistically significant relationship between the "gender variable" and the adequacy status of digital map archives in schools. As a result of the analysis, male teachers are significantly significant in determining the adequacy rate of digital map archives in schools (Table 12). Accordingly, male teachers (x=2.04) were more effective in determining the adequacy rate of digital map archives in schools than female teachers (x=1.75).

According to the analysis results, male teachers are significantly more effective in determining the adequacy rate of geography-related resources in school libraries. Accordingly, male teachers (x=1.73) were more effective in determining the adequacy rate of geography-related resources in school libraries than female teachers (x=1.63) (Table 12).

Geography Teachers' Views on Problems Encountered in the Process of Geography Education According to Age Variable

Table 13

Areas with Significant Differences in Geography Teachers' Views on Problems Encountered in Geography Education According to Age Variable

	Group	N	Meaning x	Standard Deviation	Standard Error	95% Confidence Interval of Mean		Min	Max	Sign
						Bottom	Top			
Do you find yourself professionally competent?	21-30	50	2,3	0,647	0,091	2,12	2,48	1	3	0,011
	31-40	142	2,23	0,649	0,054	2,12	2,34	1	3	
	41-50	224	2,32	0,718	0,048	2,23	2,42	1	3	
	51 and above	92	2,27	0,743	0,077	2,12	2,43	1	3	
	Total	508	2,29	0,696	0,031	2,22	2,35	1	3	
Do you think a new	21-30	50	1,14	0,351	0,05	1,04	1,24	1	2	0,02

course called Geography of Countries should be added to the Geography program?	31-40	142	1,15	0,363	0,03	1,09	1,22	1	2	
	41-50	224	1,26	0,439	0,029	1,2	1,32	1	2	
	51 and above	92	1,14	0,35	0,037	1,07	1,21	1	2	
	Total	508	1,2	0,398	0,018	1,16	1,23	1	2	
I am compatible with technology and the innovations it brings.	21-30	50	1,14	0,495	0,07	1	1,28	1	4	0
	31-40	142	1,27	0,493	0,041	1,19	1,36	1	4	
	41-50	224	1,3	0,487	0,033	1,23	1,36	1	4	
	51 and above	92	1,57	0,803	0,084	1,4	1,73	1	4	
	Total	508	1,32	0,571	0,025	1,28	1,37	1	4	
Are the tools and equipment in your school sufficient for Geography lessons?	21-30	50	2,22	1,183	0,167	1,88	2,56	1	4	0,023
	31-40	142	2,58	1,093	0,092	2,4	2,77	1	4	
	41-50	224	2,74	1,073	0,072	2,6	2,88	1	4	
	51 and above	92	2,65	1,084	0,113	2,43	2,88	1	4	
	Total	508	2,63	1,099	0,049	2,53	2,73	1	4	
Is the private classroom area for Geography lessons in your school sufficient?	21-30	50	1,6	1,125	0,159	1,28	1,92	1	4	0,037
	31-40	142	1,26	0,778	0,065	1,13	1,39	1	4	
	41-50	224	1,36	0,856	0,057	1,24	1,47	1	4	
	51 and above	92	1,21	0,638	0,067	1,07	1,34	1	4	
	Total	508	1,33	0,835	0,037	1,25	1,4	1	4	
Is the level of readiness of the students taking my Geography lesson sufficient?	21-30	50	1,9	1,147	0,162	1,57	2,23	1	4	0,026
	31-40	142	1,87	1,064	0,089	1,7	2,05	1	4	
	41-50	224	2,06	1,109	0,074	1,91	2,2	1	4	
	51 and above	92	2,3	1,146	0,119	2,07	2,54	1	4	
	Total	508	2,04	1,114	0,049	1,94	2,13	1	4	

There was no significant difference in the views of geography teachers on the problems encountered in geography education according to the age variable in the areas of "professional adequacy of undergraduate education, the most commonly used teaching methods related to geography course, adequacy of in-service training, courses and seminars conducted by the Ministry of National Education, use of CBA (Geographic Information Network) throughout Türkiye in order to make geography course more effective, adequacy of teacher education and professional development process in our country, the most prioritized issue to be changed in geography course program, the impact of trips made within the scope of geography course on learning, the status of educational trips, participation in necessary seminars and studies in professional sense, the status of effective use of EBA in courses, adequacy of geography-related resources in school library, adequacy of digital map archive in school, adequacy of in-service training, courses and seminars conducted by the Ministry of National Education, adequacy of geography textbooks for students". However, since Sig. value is less than $p<0.05$, there is a statistically significant relationship between "age variable" and professional adequacy. As can be seen from the table, there is a statistically significant relationship between the "age variable" and the professional competence status of teachers. It has been observed that age variable influences determining the professional competence status of teachers. As a result of the analysis, teachers between the ages of 41-50

(x=2.32) are significantly significant in determining the professional competence rate of teachers.

Since the sig. value is less than p<0.05, there is a statistically significant relationship between the "age variable" and the inclusion of a new course under the name of geography of countries in the geography program. It was observed that the age variable influenced the inclusion of a new course under the name of geography of countries in the geography program. As a result of the analysis, teachers between the ages of 41-50 (x=1.26) showed significant significance in determining the rate of inclusion of a new course under the name of geography of countries in the geography program.

Since the sig. value is less than p<0.05, there is a statistically significant relationship between the “age variable” and compatibility with technology and the innovations it brings. When the “age variable” and the compatibility with technology and the innovations it brings are evaluated, it is seen that the age variable influences determining the compatibility with technology and the innovations it brings. As a result of the analysis, teachers aged 51 and over (x=1.57) show a significant significance in determining the compatibility rate of teachers with technology and the innovations it brings.

Since the sig. value is less than p<0.05, there is a statistically significant relationship between the "age variable" and the adequacy of tools and equipment in schools for geography lessons. It was observed that the age variable has an effect in determining the adequacy of tools and equipment in schools for geography lessons. As a result of the analysis, teachers between the ages of 41-50 (x=2.74) are significantly significant in determining the adequacy rate of tools and equipment in schools for geography lessons. Since the sig. value is less than p<0.05, there is a statistically significant relationship between the "age variable" and the adequacy of private classroom areas for geography lessons in schools. It was observed that the age variable influences determining the adequacy status of private classroom areas for geography lessons in schools. As a result of the analysis, teachers between the ages of 41-50 (x=1.36) are significantly significant in determining the adequacy rate of private classroom areas for geography lessons in schools. Since the sig. value is less than p<0.05, there is a statistically significant relationship between the "age variable" and the level of readiness of students taking geography courses. It was observed that the age variable influences determining the level of readiness of students taking geography courses. As a result of the analysis, teachers aged 51 and over (x=2.3) are significantly significant in determining the rate of readiness of students taking geography courses.

Geography Teachers' Views on Problems Encountered in Geography Education Process According to Professional Experience Variable

Table 14

Areas with Significant Differences in Geography Teachers' Views on Problems Encountered in Geography Education According to Professional Experience Variable

	Group	N	Meaning x	Standard Deviation	Standard Error	95% Confidence Interval of Mean Bottom	Top	Min	Max	Sign
Do field trips as part of geography lessons affect learning? Do you organize educational	1-5 Years	42	2,93	0,513	0,079	2,77	3,09	1	4	0,042
	6-10 Years	59	3,32	0,571	0,074	3,17	3,47	2	4	
	11-15 Years	62	3,23	0,711	0,09	3,05	3,41	1	4	

trips?	16-20 Years	110	3,12	0,763	0,073	2,97	3,26	1	4	
	More than 20 Years	235	3,2	0,667	0,044	3,12	3,29	1	4	
	Total	508	3,18	0,677	0,03	3,12	3,24	1	4	
Are the materials in your school sufficient for geography lessons?	1-5 Years	42	2,14	1,201	0,185	1,77	2,52	1	4	0,002
	6-10 Years	59	2,42	1,117	0,145	2,13	2,71	1	4	
	11-15 Years	62	2,44	1,125	0,143	2,15	2,72	1	4	
	16-20 Years	110	2,8	1,012	0,096	2,61	2,99	1	4	
	More than 20 Years	235	2,74	1,076	0,07	2,6	2,88	1	4	
	Total	508	2,63	1,099	0,049	2,53	2,73	1	4	
	31-40 Years	142	1,87	1,064	0,089	1,7	2,05	1	4	
	41-50 Years	224	2,06	1,109	0,074	1,91	2,2	1	4	
	51 and above	92	2,3	1,146	0,119	2,07	2,54	1	4	
	Total	508	2,04	1,114	0,049	1,94	2,13	1	4	

According to the professional experience variable, there was no significant difference in the views of geography teachers on the problems encountered in geography education in the fields of “professional adequacy of the education received at the undergraduate level, adequacy of in-service training, courses and seminars conducted by the Ministry of National Education, use of CBA throughout Türkiye in order to make the geography course more effective, participation in seminars and studies necessary for personal development in a professional sense, follow-up of local, national or international developments related to the profession, sufficient use of tools and equipment other than textbooks, compatibility with technology and innovations it brings, effective use of EBA in lessons, adequacy of resource use and material development in geography education and training, adequacy of the digital map archive in the school, adequacy of the private classroom area for geography courses in the school, adequacy of geography-related resources in the school library, readiness of students for the course, adequacy of geography textbooks in terms of scope, adequacy of the lesson hours allocated to geography courses, adequacy of non-curricular geography materials approved by the Ministry of National Education that can be used as auxiliary resources in lessons”. However, since the Sig. value is less than $p<0.05$, there is a statistically significant relationship between the “professional experience variable” and the adequacy of trips (fieldwork) made within the scope of geography course. As a result of the analysis, professional experience is decisively significant in determining the adequacy rate of trips made within the scope of geography course. It was determined that teachers with 6-10 years of professional experience ($x=3.32$) argued that trips affect learning and carried out educational trips more.

Since the sig. value is less than $p<0.05$, there is a statistically significant relationship between the "professional experience" variable and the adequacy of the tools and equipment in schools for the geography course. As a result of the analysis, professional experience is significantly significant in determining the adequacy rate of the tools and equipment in schools for the geography course. Teachers with 16-20 years of professional experience ($x=2.8$) stated that the tools and equipment in schools are not sufficient.

Geography Teachers' Views on Problems Encountered in Geography Education Process According to Educational Status Variable

Table 15

Areas with Significant Differences in Geography Teachers' Views on Problems Encountered in Geography Education According to Educational Status Variable

	Group	N	Meaning x	Standard Deviation	Standard Error	95% Confidence Interval of Mean Bottom	Top	Min	Max	Sign
Do you think the compatibility between the geography programs implemented by universities and the secondary school geography program is sufficient?	I am a Bachelor's Degree Graduate	369	2,15	1,091	0,057	2,03	2,26	1	4	0,018
	I am doing a Master's Degree	26	1,69	1,123	0,22	1,24	2,15	1	4	
	I have done a Master's Degree	110	1,91	1,097	0,105	1,7	2,12	1	4	
	I am doing a PhD	3	1	0	0	1	1	1	1	
	Total	508	2,06	1,099	0,049	1,97	2,16	1	4	
Are geography textbooks sufficient to guide teachers in the teaching and evaluation of the course?	I am a Bachelor's Degree Graduate	369	2,15	1,091	0,057	2,03	2,26	1	4	0,001
	I am doing a Master's Degree	369	2,65	1,042	0,054	2,55	2,76	1	4	
	I have done a Master's Degree	26	2,35	1,129	0,221	1,89	2,8	1	4	
	I am doing a PhD	110	2,22	1,087	0,104	2,01	2,42	1	4	
	Total	3	1,67	1,155	0,667	-1,2	4,54	1	3	
	I am a Bachelor's Degree Graduate	508	2,54	1,072	0,048	2,44	2,63	1	4	

According to the variable of education level of geography teachers, there was no significant difference in their opinions about the problems encountered in geography education in terms of; “professional adequacy of the education received at the undergraduate level, adequacy of in-service training, courses and seminars conducted by the Ministry of National Education, use of CBA throughout Türkiye in order to make the geography course more effective, participation in seminars and studies necessary for personal development in a professional sense, follow-up of local, national or international developments related to the profession, sufficient use of tools and equipment other than textbooks, compatibility with technology and innovations it brings, effective use of EBA in lessons, adequacy of resource use and material development in geography education and teaching, adequacy of the digital map archive in the school, adequacy of the private classroom area for geography courses in the school, adequacy of geography-related resources in the school library, readiness of students for the course, adequacy of the lesson hours allocated to geography course, adequacy of extracurricular geography materials approved by the Ministry of National Education that can be used as auxiliary resources in lessons”. However, since the Sig. value is less than $p<0.05$, there is a statistically significant relationship between the "educational status variable" and the compatibility of the geography programs implemented by universities and the secondary school geography program. Since there is a significant relationship between the educational background of geography teachers and the compatibility of geography programs implemented by universities and secondary school

geography programs; the opinions of teachers with different educational levels such as undergraduate, graduate, doctorate regarding the compatibility of geography programs implemented by universities and secondary school geography programs also differ. As a result of the analysis, it was seen that the education background variable of teachers had a decisive effect on the compatibility of geography programs implemented by universities and secondary school geography programs. It was seen that teachers with undergraduate degrees (x=2.15) were more effective in determining the compatibility of geography programs implemented by universities and secondary school geography programs.

Findings on the Problems Encountered in Geography Education, according to the Opinions of Geography Teachers

In the study, the answers given by the teachers to the open-ended question "Explain the problems of geography teachers under short headings" directed to 508 geography teachers were evaluated, and the following results were reached. 33.51% of the teachers who participated in the survey stated that the lesson hours were insufficient, 22.16% stated that the lesson tools and equipment were insufficient, 16.15% stated that the importance of geography lesson had decreased, 11.74% stated that geography trips were insufficient, 8.6% stated that the students were disinterested and insufficient, and 7.74% stated that the decrease in the number of questions of ÖSYM (Student Selection and Placement Centre) had a negative effect.

Among the answers given to this open-ended question, the most striking evaluation was about the lesson hours. A significant portion of the teachers, 33.51%, stated that the lesson hours were insufficient. They argued that especially the 9th grade geography course subjects were difficult and therefore the lesson hours should be increased, especially in the 9th grade. In the research conducted, geography teachers generally expressed this problem with the sentences, "I cannot keep up with the subjects because the lesson hours are insufficient, the lesson hours are not sufficient to provide the achievements to the 9th and 10th grades. The lesson hours are not suitable for the weight of the achievements, the lesson hours are insufficient in the 9th grades." 22.16% of geography teachers stated that course materials and equipment are inadequate. Course materials and equipment such as maps, overhead projectors, slide projectors, enriched geography classrooms, model globes, etc. used in geography education in our schools are not used sufficiently in geography education. Geography teachers expressed this situation with sentences such as, "The inadequacy of tools and equipment is the lack of a special classroom for geography lessons in schools. Our books need to have richer content." Regarding the importance of the geography course, teachers summarized the situation with their answers as follows: "Geography should not be a compulsory course at all grade levels, the question and coefficient values in basic proficiency and field proficiency exams should be increased, and the importance of the course will increase as the question and coefficient values increase."

16.15% of geography teachers stated that the importance of geography courses has decreased. The problem expressed as the decrease in the importance of geography course was revealed by the answers given by geography teachers as follows: "Geography questions should be increased in TYT (Core Proficiency Test) and AYT (Advanced Proficiency Test) exams, the importance of the course will increase as the questions increase, the real value of the course is not understood, the meaning and scope of geography is known only as mountain names, country areas, lengths etc., students are perceived as only a course due to their university exam-focused lives, students, parents and other public personnel define

geography only as mountains, plains etc., respect for teachers, there is no interest in the course, geography is not given much importance in vocational high schools, the course is not seen as necessary enough, the biggest problem is that it is perceived as an unimportant course by students since the weight of the course is determined according to the number of questions in the university exam system, the field is made unimportant in university exams."

11.74% of geography teachers stated that geography trips are insufficient, 8.6% that students are disinterested and inadequate, and 7.74% that ÖSYM's reduction of the number of questions in TYT and AYT has a negative effect on geography lessons. It is very well known that the best place to learn geography is nature itself. And for this reason, it is extremely important to conduct geographic trips (field work). However, limited financial resources and excessive legal obligations and procedures are the main reasons why field work cannot be done at the desired level. In addition to this problem, the decrease in the number of questions according to the new exam system is another significant problem of geography lessons. This situation reduces the importance of geography lessons in exams and brings with it a result such as reducing students' interest in the lesson.

Findings Regarding the Activities Conducted by Teachers to Develop Students' Geographical Skills

In the study, the responses given by teachers to the open-ended question "Do you have any activities to develop students' geographical skills and abilities?" were evaluated and the following results were reached. 30.69% of the teachers who participated in the survey stated that they prepared and interpreted materials (tables, graphs, maps, models, etc.), 23.54% stated that they conducted individual studies (projects and performances), 16.38% stated that they conducted trips and observations, 11.86% stated that they used technology, 7.91% stated that they had tests and presentations, 5.27% stated that they had question-answer and knowledge competitions, and 4.33% stated that they did not conduct any activities. The most striking and first-placed activity among the responses given to this open-ended question was "preparing and interpreting materials (tables, graphs, maps, models, etc.)" activities. In order to develop students' geographical skills and abilities, it was observed that geography teachers' most frequently conducted activities with a rate of 30.69% were preparing and interpreting materials (tables, graphics, maps, models, etc.). It is seen that material development studies are frequently carried out in schools. This study is important in terms of developing and encouraging students' skills and abilities, facilitating learning, and creating course materials to be used in later lessons. The main activities carried out by geography teachers in terms of developing students' geographical skills and abilities are material preparation activities. These activities are expressed as "making volcanic mountains related to geography, creating vortexes in water, preparing panels, creating soil layers, making models etc., having model works done, having map activities done, cardboard works".

"Individual studies" (projects and performances) made by students to develop their geographical talents and abilities come in second place with a rate of 23.54%. Project and performance studies are a very effective method in revealing the individual differences of students. For this reason, teachers make students do at least one project per year and at least one performance study every term. Another important work that geography teachers do to develop students' geographical skills and abilities is perhaps the most effective one, "excursion and observation". With excursions (field work), which is one of the most effective

learning models, students demonstrate their ability to witness, analyze events on site, and make comparisons.

Findings on the Topics Recommended to be Included in the Geography Curriculum by Geography Teachers

In the study, the responses of 508 geography teachers to the open-ended question "Do you think there are any topics that should be added to the geography curriculum? Please explain briefly?" were evaluated and the following results were reached. Of the teachers who participated in the survey, 41.72% stated that the subject of country geography should be added, 26.41% stated that no topic should be added, 17.28% stated that the subject of regional geography should be added, 8.64% stated that political, human, physical and economic geography topics should be added, and 5.92% stated that astronomy and space sciences and GIS topics should be added. In response to this question we posed to the teachers in the form of "Are there any topics that should be added to the geography curriculum?", a significant proportion of geography teachers (41.72%) stated that the subject of country geography should be added. With the geography of countries course, the economic, human and physical characteristics of countries located in different continents were explained to students more easily. However, this course was not included in the geography curriculum of 2005 and 2018. Instead, a learning area called global environment regions and countries was included. In this learning area, instead of individual country characteristics, simple characteristics of some countries were given as examples in a very general way. When this is the case, students did not have the opportunity to know the countries of the world and compare them with other countries. For this reason, today's students, for example, have very shallow knowledge on topics such as "Which strait, channel is where?", "What is its importance on a global scale?" The truth is that students who do not have sufficient knowledge about the geography of countries do not fully know their immediate surroundings and cannot establish correlations with the distant surroundings. Most geography teachers are not in favor of adding new subjects to the geography curriculum. They stated that regional geography, physical, human and economic geography, astronomy and space sciences and GIS subjects should be added.

Findings Regarding the Structure of an Ideal Geography Course Curriculum According to Geography Teachers

In the study, the responses given by the teachers to the open-ended question "What do you think the ideal geography course curriculum should be like? (gains, topics, number of lessons, etc.)" were evaluated and the following results were reached. The teachers who participated in the survey stated that "38.62% of the lesson hours should be sufficient, 34.93% of the topics and outcomes should be compatible, 12.01% of the lesson hours should be simple, understandable and flexible, 11.37% of the lesson hours should be up-to-date and the program intensity should be reduced, and 3.04% of the lesson hours should be sufficient and suitable." The most striking evaluation among the answers given to this open-ended question was about the lesson hours. A significant portion of the teachers stated that "(38.62%) lesson hours should be sufficient". When the subject of lesson hours is evaluated on a global scale, differences are noticeable in many countries. There are countries with 2 hours in their curriculum and there are countries with more lesson hours. Based on this, lesson hours in a curriculum are closely related to the value a country gives to that science and the country's education policy. Geography is the science that enables students to know and make sense of the environment they live in and to live in harmony with the environment

they live in. Therefore, the geography program should be designed in accordance with the country's needs and education policy, and lesson hours should be arranged accordingly. In an ideal geography program, the main topics and achievements should be compatible. The geography curriculums prepared in 2005, 2017 and 2018 are programs based on achievements. When these programs are examined, it is seen that the number of achievements, especially in the 2005 geography curriculum, is not at the desired level and the subject headings are not designed exactly as desired.

Geography teachers expressed this situation with the following sentences: "subject headings should be reduced and made compatible with the achievements, the number of lesson hours should be increased, the course program should be prepared by taking the student out of the classroom in a way that general geographic concepts can be comprehended, implemented and opportunities for examination can be provided, the course program should be based primarily on the cooperation of the teacher and the administration, I think that it is important to divide the subject integrity into the right time periods, application and visuality should be increased, the achievements should be reduced a little more and the lesson hours should be increased in the 9th and 10th grades and emphasis should be given to application, there should be integrity with the subjects, the geography of countries should be covered as a separate course, the achievements should be reduced and combined and importance should be given to application, the subject headings sometimes express very general concepts, the subjects should be suitable for readiness, the achievements should support and complement each other, the subjects can be simplified a little more, the achievements can be intertwined with the environment, there should be fewer achievements, more games, animations and similar applications, it should be simple, understandable and applicable." As can be understood from these sentences, when preparing geography teaching programs, the needs of the country should be taken into consideration, education policy should be taken into account, developments in the world should be followed closely, the opinions of teachers and public institutions should be taken into account, and a clear, understandable, simple and applicable program should be prepared by taking into account international geography standards.

Professional Concerns of Geography Teachers and Findings on the Grouping of These Concerns

In the study, the answers given by the teachers to the open-ended question "What are your professional concerns as a geography teacher, do you also feel a lack in professional terms?" were evaluated and the following results were reached. It was seen that the most important concern of the teachers who participated in the survey was the gradual decrease in the importance of the course (ÖSYM and exam question numbers) with a rate of 44.50%. As for other concerns, 28.53% stated that they had career concerns (the value of the norm staff being devalued and discredited), and 26.96% stated that they had concerns about the gradual decrease in student interest and motivation.

As a geography teacher, the most striking evaluation among the answers given to this open-ended question, "What are your professional concerns?", was the gradual decrease in the importance of the course (ÖSYM and the number of exam questions) with a rate of 44.50%. The main reason for this situation is the changes that ÖSYM has recently made to the exam system. In Türkiye, the importance of courses is unfortunately associated with the number of questions asked at universities. Based on this fact, the number of questions in the

geography course has been significantly reduced in the new exam arrangement made by ÖSYM in recent years. As a result of this situation, the interest in geography course of both students preparing for the exam and students continuing formal education has decreased. The decrease in student motivation in geography education due to the decrease in interest in the course has led to serious problems such as students seeing the course as unnecessary, interpreting it as "It would be fine if it were not", and the prevailing thought of "I would not study for a course with 5 questions". When the interaction between human life and the environment is taken into consideration, the place of geography science today is never debatable. Unfortunately, since the perspective of students in Turkey towards geography education is aimed at preparing for exams and getting into universities, reducing the number of questions has reduced the importance of the course and also decreased the interest in the course.

As the importance of the course has decreased, student interest and motivation have also decreased. In our study, 26.96% of geography teachers who expressed their opinions stated that student interest and motivation have gradually decreased. As a result of these two developments, career concerns (standard staff, devaluation, discrediting) have emerged among geography teachers. When these results are taken into consideration, it is certain that geography teachers' concerns are justified.

In the study, the responses of 508 geography teachers to the open-ended question "Do you feel a professional deficiency?" were evaluated and the following results were reached. 91 out of 129 geography teachers (70.54%) stated that they were professionally sufficient, while 38 (29.45%) felt professionally inadequate. The most important reason for professional inadequacy is the lack of years of experience in the profession and the quality of the institution they work in. Geography teachers expressed this with the following statements: "Since I work in vocational high schools, my knowledge is dulling, since I believe that the teaching profession will be enriched with experience, I feel a deficiency because I have only just had teaching experience."

Results and Discussion

In Türkiye, a more effective, more efficient, and more qualified education approach should be created in line with the requirements of the age we live in in geography education. Otherwise, failure, inefficiency, and incompetence will continue in every field. The elimination of negativity such as failure, inefficiency, and incompetence primarily depend on making serious moves in the field of education. For this, first, the problems experienced in the field of education should be determined according to today's conditions and then problem-based solution suggestions should be put forward. Based on this idea, the results regarding "Challenges to High School Geography Education" were grouped and evaluated. First, the results regarding the important problems encountered by geography teachers in geography education were included.

These results are as follows: The undergraduate education received by geography teachers is partially sufficient in terms of profession, most of the teachers do not have professional competence problems, in-service training provided by the Ministry of National Education is partially sufficient, a CBA should be established throughout Türkiye in order to make geography a more effective branch of science, trips made within the scope of geography lessons affect learning and these trips are not sufficiently made, the most effective teaching in conducting an efficient geography lesson can be achieved with enriched geography classrooms, the geography of countries lesson should be included in the geography program,

the most important issue that needs to be changed in the geography lesson program is the rearrangement of lesson hours, geography teachers participate in seminars and studies required to improve themselves professionally at a high rate, they sometimes use EBA, known as the education information network, they do not have sufficient knowledge and equipment in the lessons on using GIS, they do not have sufficient equipment in the subjects of resource use and material development in geography education and teaching, teacher education and professional development process in Turkey is not sufficient, the tools and equipment in schools for geography lessons are partially sufficient, the digital map archive in schools is not sufficient. It has been revealed that the geography course materials (books, question banks, magazines, etc.) that are approved by the Ministry of National Education and that can be used as auxiliary resources in courses are "partially sufficient", the special classroom areas for geography courses in schools are insufficient, the geography resources in the libraries in schools are insufficient, the level of preparedness of the students taking geography courses is insufficient, geographical trips are partially supported by the school administration, the compatibility of the geography curriculum applied by universities with the secondary school geography curriculum is insufficient, the geography textbooks are partially sufficient for the students in terms of scope, the lesson hours allocated to geography courses are insufficient, the extracurricular geography materials (books, question banks, magazines, etc.) that are approved by the Ministry of National Education and can be used as auxiliary resources in courses are "partially sufficient", and the geography textbooks are partially sufficient in guiding teachers in terms of teaching and evaluating the course.

In response to Kurtkaya's (2010) question "Do you find yourself professionally competent?", 70.2% of geography teachers responded yes. These findings indicate that the research results are parallel. In Elmas' (2006) study on professional competence, 30.0% of teachers responded "Yes" and 40.0% responded "Partially" to the question "Did you find the academic education you received sufficient when you started your professional life?" In total, 70% of teachers perceived themselves competent. The similarity in these studies can be interpreted as evidence that teachers perceive themselves professionally competent.

Yli-Panula, Jeronen and Lemmetty (2020) stated the teaching and learning principles and methods that promote sustainability in geography education such as doing group work, planning exhibitions in public places, experiential learning, using information and communication technology, applying a collaborative learning model, outdoor learning and field work. For this reason, the captivity of the narration method in geography science, which is among the applied sciences, should be ended.

In his study, Çimen (2008) revealed that more than half of the geography teachers (61.1%) thought that the seminars and conferences they attended were useful. Kaya, Ünaldı and Artvinli (2013) emphasized that professional development is a long-term process and that there should be development plans.

In their study, Babacan and Özey (2016) determined the participation rate of geography teachers in an in-service training program for the field as (39%). Studies by Çimen (2008), Akkuş (2008), Babacan and Özey (2016) show that approximately half of geography teachers do not participate in in-service training. Unfortunately, the participation rate of geography teachers in in-service training programs is not at the desired rate. In their study titled "1992 International Geography Education Declaration and Its Reflections in Turkey", Artvinli and Kaya (2010) made important evaluations such as the fact that

geography should be taught by experienced expert teachers and that geography teachers should be qualified not only in their professional field but also in geography education.

Elmas (2006) concluded in his study that students were more interested in the geography units of countries (48.9%). The main reason for this situation can be shown as the students' high curiosity and desire to know the world. Babacan and Özey (2016) concluded in their study that geography teachers mostly prefer the subjects of instructional technologies and material development, guidance, classroom management, special teaching methods, speed reading techniques with comprehension, use of interactive boards and geographic information systems to improve themselves professionally. According to this result, teachers mostly want to improve themselves in instructional technologies and material development.

Various courses and seminars that will ensure that education and training activities are carried out in a more desired way should be carried out regularly and in a programmed manner by the Ministry of National Education. Course and seminar activities that are planned and carried out systematically within a certain programme will enable teachers to keep up with the times and will also enable teachers to develop professionally. Kaya, Ünaldı, Artvinli (2013) stated in their studies that courses, seminars, and in-service training activities aimed at ensuring the professional development of geography teachers should be carried out according to a development plan and needs.

EBA, where content is created in almost all branches, is rapidly progressing towards becoming an important portal in Türkiye. The fact that distance education studies were carried out via EBA during the pandemic (covid-19) process experienced in 2020 is an indication of this. If we generally express EBA, it would not be wrong to comment that it is the most important project of “interactive education” in Türkiye. Since EBA, which is a social and interactive education platform, contains a wide variety of content such as various videos, visuals, pictures, lesson explanation videos, subject screening tests, achievement tests, repetition tests, etc. for many courses, it serves as a very important course material for students and teachers.

According to Bilgili (2011), it has been stated that students in schools in France can access digital maps and similar electronic resources from the websites of the Ministry of National Education that provide educational materials. Implementing a similar application in Türkiye will be effective in solving the problem.

Today, it is clearly seen that there are not enough geography classrooms in schools in Türkiye. When the research results are examined, 85.8% of geography teachers stated that geography classrooms in schools are inadequate. The findings regarding this sub-problem are parallel to the research results of Kurtkaya (2010), Dumlu (2006) and Elmas (2006). Kurtkaya (2010) stated that 75% of schools do not have geography classrooms. Again, regarding this sub-problem, Dumlu (2006) asked geography teachers, “Are there geography classrooms or technology classrooms in schools?” and received a “No” response from 84%. Contrary to these views, Bilgili (2011) put forward a different view in his study, stating that there are no classrooms reserved for geography in French schools and that classrooms are generally designed in a classical manner. Although Bilgili stated that there are no special classroom areas in France, studies show that the widespread use and use of enriched geography classrooms that appeal to visuality and facilitate learning will increase the success and quality of education.

Kurtkaya (2010) also stated that geography is a science of description and observation is necessary for description and evaluated that the most important deficiency of geography education in high schools is the lack of field studies. Çetinkaya (2014) stated that geography lessons are given in a classroom environment in Türkiye, and that some geography lessons in Finland are given through field observations, surveys and interviews.

Secondly, the results regarding the views of geography teachers on the problems encountered in geographical education according to the variables of gender, age, professional experience and educational status are given. Accordingly; The results that emerged according to the gender variable; It has been revealed that female teachers are decisively significant in determining the adequacy of in-service training, courses and seminars conducted by the Ministry of National Education, and the compatibility status with technology and the innovations it brings; in determining the necessity of using CBA throughout Türkiye in order to make the geography course more effective, in determining the status of including a new course under the name of geography of countries in the geography program, in determining the sufficient use of tools and equipment other than the textbook, in determining the adequacy of the digital map archive in schools, in determining the adequacy of special classroom areas belonging to geography courses in schools, and in determining the adequacy of the lesson hours allocated to geography courses in order to implement the geography curriculum, male teachers are decisively significant.

The results obtained according to the age variable are as follows; in determining the professional competence status of teachers, in determining the status of adding a new course called geography of countries to the geography program, in determining the adequacy status of the tools and equipment in schools for the geography course of teachers, in determining the adequacy status of the private classroom areas for geography courses in schools, in determining the adequacy status of teachers between the ages of 41-50, in determining the readiness status of students taking the geography course for the course, in determining the status of compliance with technology and the innovations it brings, it was revealed that teachers between the ages of 51 and above showed a decisive significance, in determining the professional competence status of teachers, it was revealed that teachers between the ages of 31-40 showed a decisive significance.

The results obtained according to the professional experience variable revealed that teachers with more than 20 years of professional experience see themselves as more competent in professional terms, are more in favor of including a new course called geography of countries in the geography curriculum, are more effective in determining the adequacy rate of the tools and equipment in schools for the geography course, and teachers with 6-10 years of professional experience discuss that trips affect learning and carry out educational trips more.

The results obtained according to the education status variable show that teachers with a bachelor's degree are more effective in determining the compatibility of the geography programs implemented by universities with the high school geography program, and that geography textbooks are more effective in determining the competence of teachers in terms of teaching and evaluating the course.

Thirdly, the results regarding the problems encountered in geography education according to geography teachers were given with open-ended questions. These results revealed that the lesson hours, lesson tools and equipment, geography trips were inadequate,

students were disinterested and inadequate, and the importance of geography lessons had decreased.

Fourthly, the results of the studies conducted by the students in terms of developing their geographical skills and abilities were evaluated with open-ended questions. These results revealed that material (table, graph, map, model etc.) preparation and interpretation activities were carried out, individual studies (project and performance) were carried out, trip and observation activities were carried out, and the use of technology was encouraged.

Fifthly, the results regarding the subject or subjects that should be added to the curriculum with open-ended questions were included. These results revealed that the geography of countries course, the geography of regions unit, political, human, physical and economic geography, astronomy and space sciences subjects should be added to the curriculum.

Sixthly, the results regarding what the ideal course program should be like were given with open-ended questions. These results were as follows; course hours should be sufficient, simple, understandable and flexible, up-to-date and program intensity should be reduced.

Çetinkaya (2014) also stated that geography teaching programs in Finland are flexible and based on current events, and that no radical program changes have been made.

Seventhly, results regarding professional concerns were included with open-ended questions. These results revealed that the most important concerns of teachers were the gradual decrease in the importance of the course, career concerns (standard staff, devaluation, discrediting, etc.), and student interest and motivation were gradually decreasing.

Regarding this sub-problem, Seremet and Chalkley (2012) stated that the job opportunities of geography graduates in England are more comprehensive and their fields of work are more diverse and more than in Türkiye, and that the higher education geography curriculum in England offers students a wider career range, and that the fact that geography graduates have a wide range of professions and duties reduces professional concerns. It is understood from this explanation that the professional concerns of teachers are directly proportional to the education policies of higher education institutions and countries.

In the National Geography Standards-1994 guide, Bednarz et al. (1994) stated that the areas of use of geography are to plan the future by interpreting the past and present. Based on this sentence, it is seen that geography is a branch of science that builds a bridge between the past and the future and that it plays a very important role in planning the future of countries. When this role is taken into consideration, it is normal for the importance of geography to increase even more in the future.

Suggestions

In line with the feedback provided by this research, a new vision should be created for geography education and the standards of geography education should be determined. In addition, modern geography education classrooms should be created using technology, which is an indispensable element.

Geography teaching programs should be updated to keep up with the innovations of the age, and while these updates are being made, cooperation should be made with the implementers of the program, and it should be ensured that the program has an applicable, universal, acceptable, continuous and flexible structure in every way.

Inadequacy of course materials are among the important problems of geography education. A Geographic Information Network (GBI) enriched with various videos, slides, maps, graphics, pictures, visual and audio materials that will significantly solve this problem and increase the quality of education by providing equal opportunities in education and will be offered to the common use of all teachers. Geographic Information Network (GBA) should be established in Türkiye and made available to all teachers.

The standards, time and subjects of in-service training and seminars carried out by the Ministry of National Education should be determined in advance and teachers should be given in-service training periodically in line with the requirements of age.

The "country geography course" should be reintroduced to the geography curriculum for the purposes of contributing to the development of individuals' correlation and reasoning skills by introducing the values, perspectives, changes and developments of societies, their cultures and many other characteristics to individuals, and developing individuals' spatial analysis skills.

For geography science, whose laboratory is the natural environment, to be realized in accordance with the purpose of the curriculum, sufficient field studies should be allowed, and official procedures in field studies that require excessive documentation should be reduced. To provide effective and efficient geography lessons, especially in the 9th grade, lesson hours should be increased and geography classrooms equipped with lesson tools should be created.

EBA, known as the education information network, is not used enough in lessons. EBA, which includes many contents such as various subject explanation videos and achievement tests, should be developed further and its effective use in lessons should be ensured.

The standards of lesson tools and equipment in schools should be determined and schools should be made equal in terms of tools and equipment. Digital maps, which are one of the most important tools of geography education, should be made widespread in schools and a digital map archive should be created.

In Türkiye, the necessary studies on the quality of geography education have not been carried out yet, and geography education has not reached the position it deserves in a universal sense. Geography science should be given an identity as soon as possible and geography should be used as an applied science in many areas as in other countries of the world. In-service training, courses and seminars provided by the Ministry of National Education for female teachers should be increased.

Since teachers with more than 20 years of professional experience see themselves as more competent in terms of their profession, professional development training should be provided to teachers under this age group.

In line with the results obtained from the research, the opportunities and challenges to geography education should be analyzed well and the problems of geography education should be resolved urgently.

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About the Author

Dr. Ramazan Çimen: He works as a geography teacher in Konya Meram Fen Lisesi at the Ministry of National Education. His academic focus is on geography curriculum, geography textbooks and geography teacher education.

Conflict of Interest

There is no conflict of interest in this study.

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