Barriers to Implementing Critical Thinking Exercises in the General Geography Course for the Tenth Preparatory Literary Grade: Views of Geography Teachers in Erbil Governorate

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Abstract:

This study aimed to ascertain the obstacles encountered by geography educators when incorporating critical thinking activities into the Tenth Preparatory Literary Grade curriculum in Erbil Governorate. Employing a descriptive study approach, the inquiry focused on the complete population of geography educators within the specified-grade level for the academic year 2022-2023. The researcher used a stratified random sampling technique, resulting in a sample size of approximately 100 teachers. The process of data collection involved the administration of a structured questionnaire, which was prepared after conducting an extensive assessment of the relevant literature. The questionnaire comprised a combination of closed-ended and open-ended items. The instrument in question completed a process of expert validation and subsequent refinement through a pilot test. Following the distribution, educators were given a period of two weeks to complete the task. The main discoveries brought attention to limitations in the curriculum, a dearth of appropriate resources that prioritize critical thinking, student opposition to novel instructional approaches, and a stated requirement for specialized instruction in critical thinking pedagogy.

Keywords: Geography Teachers, Critical Thinking, Curriculum Constraints, Descriptive Study, Erbil Governorate.

خلاصة:
هدفت هذه الدراسة إلى التأكد من المعوقات التي يواجهها معلمو الجغرافيا عند دمج أنشطة التفكير النقدي في مناهج الصف العاشر الإعدادي الأدبي في محافظة أربيل. باستخدام منهج الدراسة الوصفية، ركز الاستفسار على المجموعة الكاملة لمعلمي الجغرافيا ضمن مستوى الصف المحدد للعام الدراسي ٢٠٢٢-٢٠٢٣. استخدم الباحث أسلوب أخذ العينات العشوائية الطبقية، مما أدى إلى حجم عينة من حوالي ١٠٠ معلم. تضمنت عملية جمع البيانات إدارة استبيان منظم، تم إعداده بعد إجراء تقييم شامل للأدبيات ذات الصلة. يتكون الاستبيان من مجموعة من البنود المغلقة والمفتوحة. أكملت الأداة المعنية عملية التحقق من صحة الخبراء والتحسين اللاحق من خلال اختبار تجريبي. بعد التوزيع، مُنح اختصاصيو التوعية فترة أسبوعين لإكمال المهمة. جلبت الاكتشافات الرئيسية الانتباه إلى القيود في المناهج الدراسية ، وندرة الموارد المناسبة التي تعطي الأولوية للتفكير النقدي، ومعارضة الطلاب للمناهج التعليمية الجديدة، ومتطلبات محددة للتعليم المتخصص في علم أصول التدريس في التفكير النقدي.

الكلمات المفتاحية: مدرس الجغرافيا، التفكير النقدي، معوقات المناهج، دراسة وصفية، محافظة أربيل.

-Introduction

The current state of education highlights the significance of critical thinking as a necessary and vital talent for students to successfully maneuver through the intricate challenges of an ever-evolving global context. Critical thinking is commonly understood as the ability to engage in systematic and reflective analysis, evaluation, and judgment formation. It is widely acknowledged as a fundamental element for achieving academic excellence and actively participating in democratic systems (Paul & Elder, 2006, p. 34). The significance of these skills extends beyond the domains of liberal arts and sciences, and is now widely recognized as an essential across other disciplines, including geography.

The field of geography encompasses more than the examination of the physical features, human populations, locations, and surroundings of the Earth. This study delves into the complex interplay between the human population and the spatial attributes of the Earth's surface, as discussed by Harvey (1969, p. 18). This concept integrates the physical characteristics of the Earth's surface with the diverse human societies that

inhabit. Therefore, geography serves as an intermediary between the realms of natural and social sciences, providing a distinctive perspective for comprehending global phenomena. The field of study can greatly benefit from a focus on critical thinking, which would enable students to engage in questioning, analyzing, and evaluating the complex interactions between physical, political, and cultural phenomena.

The Erbil Governorate situated in the Kurdistan region of Iraq, presents an intriguing framework for the examination of geographical phenomena. The city's extensive historical background, varied population composition, and socio-political importance render it a suitable context for in-depth exploration of geographical complexities (Van Bruinessen, 2000, p. 25). The Governorate characterized by its combination of urban and rural environments, presents a diverse range of geographical phenomena that merit careful analysis.

Nevertheless, the integration of critical thinking activities into geography courses, particularly in secondary education such as the Tenth Preparatory Literary Grade, poses distinct obstacles. The aforementioned difficulties are further exacerbated by limitations in the curriculum, conventional teaching approaches, restricted resources, and occasionally, the educators' personal attitudes and readiness to include these abilities into their teaching repertoire (Lipman, 1991, p. 32).

This comprehensive analysis explores the many obstacles encountered by geography educators in Erbil Governorate as they attempt to incorporate critical thinking activities into the General Geography Course for the Tenth Preparatory Literary Grade. This study explores the obstacles that impede the incorporation of critical thinking into the

geography curriculum, drawing on insights from educators' viewpoints. These barriers encompass structural, pedagogical, and contextual factors.

-Study Problem

The incorporation of critical thinking abilities into educational curricula, specifically in disciplines such as geography, has been universally acknowledged as a basic objective in education. Within the realm of geography, the application of critical thinking skills enables students to effectively identify and analyze patterns, establish meaningful connections, and grasp the intricate nature of human-environment interactions and spatial dynamics (Paul & Elder, 2006, p. 36). The global recognition of the importance of adopting an integrated strategy is well acknowledged. However, the implementation of this method, particularly in regional contexts such as the Erbil Governorate, has posed significant challenges.

The intricacies associated with geography instruction in Erbil, a place characterized by a distinct combination of historical, cultural, and environmental subtleties, underscore the imperative requirement for an educational methodology that cultivates strong analytical and evaluative abilities among students (Van Bruinessen, 2000, p. 27). Nevertheless, despite the urgency of this requirement, there seems to be a noticeable disparity between the concept of comprehensive geographical education and its actual implementation in the classroom.

Numerous studies conducted in various educational contexts have highlighted obstacles that impede the successful incorporation of critical thinking exercises. Barriers frequently involve elements such as restricted resources, deeply rooted conventional teaching methods, and discrepancies between assessment criteria and critical thinking goals

(Bailin et al., 1999, p. 289). Nevertheless, within the specific framework of Erbil Governorate, there may exist supplementary obstacles that are influenced by regional, cultural, and systemic issues, which have not yet been comprehensively investigated.

An essential component in comprehending these problems lies in exploring the viewpoints of the geography educators themselves. Educators, as primary facilitators of educational instruction, hold direct knowledge regarding the limitations and possibilities associated with pedagogical transformations (Pajares, 1992, p. 310). The importance of critical thinking is emphasized in both the theoretical framework and pedagogical research. However, instructors in Erbil may encounter difficulties, whether perceived or real, that could significantly hinder the achievement of this educational objective.

The primary objective of this study is to examine and comprehend the distinct obstacles encountered by geography teachers in Erbil Governorate when endeavoring to integrate critical thinking exercises into the Tenth Preparatory Literary Grade curriculum. Obtaining a comprehensive understanding of this matter is not solely of an intellectual nature; rather, it holds significant importance in determining forthcoming educational initiatives, curriculum creation, and teacher training programs within the region.

-Aims of the study:

1. Know what problems geography teachers in Erbil Governorate's Tenth Preparatory Literary Grade must deal with the implementing critical thinking tasks.
2. Determine what geography teachers think about the importance of critical thought in their classes.

3. Determine how often these teachers use activities that help students think critically.
4. Based on what the teachers have said, evaluate the main problems with introducing critical thinking tasks.

-Study limits

Teachers of Geography in the Tenth Preparatory Literary Grade in Erbil Governorate-Kurdistan-Iraq. For the academic year 2022-2023.

-Literature Review: Barriers to Implementing Critical Thinking in Geography Courses.

Definition and Significance of Critical Thinking

Critical thinking is a way of thinking that requires you to think clearly, logically, and in depth. It is the ability to look at information and ideas in an unbiased way, judge the quality of reasoning, and put together a position or case that makes sense (Paul & Elder, 2007, p. 47). Critical thinking is important in education because it gives students the analytical skills they need to understand what information means and make choices based on that information (Halpern, 1998, p. 32).

Critical thinking can be essential when teaching geography. Geography is more than just knowing where things are and how they look. It is also about knowing how places and the cultural, political, and environmental processes that shape them are connected in complicated ways. Solem and Schlemper (2006, p. 85) state that students who know how to think critically can better evaluate the complicated facts and stories that come with geographical problems.

Teaching Methods that Promote Critical Thinking in Geography Courses

Numerous instructional approaches have been suggested in order to cultivate critical thinking within the realm of geography education. In recent discourses, inquiry-based learning has been widely acclaimed as an effective approach. This educational approach involves students actively developing inquiries, conducting investigations, and deriving findings on geographical subjects. The aforementioned methodology encourages students to actively participate in the learning process, rather than being passive recipients of information (Bednarz & Coughlan, 2019, p. 92).

Another methodology that can be employed is the case study approach, which involves conducting an in-depth analysis of particular geographical concerns or circumstances. Through a meticulous examination of these elements, students are compelled to employ their critical thinking abilities, assess diverse information sources, and develop independent judgments (Lambert & Balderstone, 2010, p. 108).

The incorporation of geographic information systems (GIS) into educational settings has been recognized as a means to cultivate critical thinking skills. The use of Geographic Information Systems (GIS) enables students to visually represent and examine geographical data, stimulating their cognitive abilities to engage in critical analysis of patterns, relationships, and narratives (Kerski, 2003, p. 78).

Previous Research on Barriers to Implementing Critical Thinking Exercises in Geography

The incorporation of critical thinking tasks into geography courses presents certain obstacles. Numerous studies have identified a range of obstacles. One of the main obstacles recognized is the inflexible curriculum that places greater emphasis on memorization rather than the development of analytical abilities (Schul, 2011, p. 115). In certain educational systems, geography courses are characterized by an extensive amount of content that instructors perceive as obligatory, thus limiting the opportunity for engaging in critical thinking activities.

Another obstacle is the lack of preparedness among teachers. According to Roberts (2012, p. 121), there exists a subset of geography teachers who do not possess a sufficient level of training to effectively teach critical thinking skills, or who may lack a comprehensive understanding of the importance of critical thinking within the context of the geography classroom. This phenomenon may be attributed to a dearth of professional development opportunities or the dominant instructional approaches employed throughout their educational experiences.

Finally, one must consider the issue of appraisal. Conventional evaluation techniques, such as standardized examinations, may fail to adequately reflect the intricacies of critical thinking. Consequently, educators may experience a sense of obligation to focus on test-related content rather than on the development of critical thinking skills (Scheffer & Rubenfeld, 2000, p. 133).

- Methodology

1-Research Design

This study used a descriptive research method to investigate the difficulties faced by geography educators in incorporating critical thinking

activities into their instructional practices (Paul & Elder, 2006, p. 35). The present study employed this methodology to provide a comprehensive understanding of the obstacles and potential opportunities for improvement within the Tenth Preparatory Literary Grade in Erbil Governorate.

2-Study Population and Sample

The sample for this study consisted of geography teachers who were instructing the Tenth Preparatory Literary Grade in Erbil Governorate throughout the academic year 2022-2023. A stratified random selection method was employed to choose a sample of about 100 teachers, with the aim of ensuring sufficient representation from various schools and regions within the governorate.

3-Data Collection Instruments

The primary data gathering instrument used zed in this study was a structured questionnaire. The construction of the questionnaire was informed by a comprehensive examination of existing scholarly works, and it encompassed a combination of closed-ended and open-ended inquiries. The survey included closed-ended questions designed to assess the frequency and perception of barriers, whereas open-ended questions were used to provide insights into instructors' personal experiences and the specific issues they encountered.

To establish the credibility of the questionnaire, a group of specialists in the fields of geography education and educational research conducted a thorough evaluation. A preliminary investigation was undertaken using a limited number of educators to enhance the questionnaire through feedback and establish its dependability.

4-Data Collection Procedure

The data collection procedure is a systematic approach employed to gather relevant information for research.

After acquiring the requisite authorization from educational authorities and individual schools, the questionnaires were disseminated to the designated cohort of teachers. The educators were provided with a designated period of fourteen days to complete and submit the questionnaires. To optimize the response rate, follow-up procedures were implemented via telephone conversations or in-person visits.

5-Data Analysis

The data obtained from the surveys were systematically coded and subsequently entered into a statistical software package to facilitate analysis. The data were summarized using descriptive statistics, including frequencies, percentages, means, and standard deviations. To determine any significant links or differences between variables, inferential statistics were utilized, specifically employing chi-square tests and t-tests.

Thematic analysis was employed to analyze the open-ended responses. The process encompassed the coding of responses and the subsequent categorization of such responses into thematic clusters according to the obstacles encountered in the execution of critical thinking tasks.

6-Ethical Considerations

Individuals' involvement in this study was voluntary. The educators were provided with information regarding the objective of the research and were given assurances regarding the preservation of their anonymity and confidentiality of their answers. Participants were also provided with information regarding their entitlement to voluntarily discontinue their involvement in the study at any point, without facing any adverse consequences.

7-Tools Used in the Study

7.1 Structured Questionnaire for Geography Teachers

The structured questionnaire was meticulously designed to obtain precise and consistent responses from the geography teachers, focusing on eliciting specific information. The assessment consisted of various questions.

The Likert scale is a commonly employed method for assessing the degree of agreement or disagreement among teachers reagrding comments on the obstacles encountered in the implementation of critical thinking exercises.

The multiple-choice questions in this study were designed to determine the specific obstacles and barriers encountered by teachers during the teaching process.

Open-ended questions were used to enable teachers to provide detailed accounts of their experiences, viewpoints, and suggestions.

- Validation and refinement: Before its finalization, the questionnaire underwent a rigorous validation process. The researcher sought the input of experts to determine the content validity of the study. Furthermore, the pilot study's input prompted several revisions aimed at improving the clarity and usefulness of the study.

- Distribution and Retrieval: Physical copies of the questionnaire were used for delivery and collection purposes. In addition, teachers were provided with pre-stamped envelopes to expedite the convenient submission of the filled-out documents.

7.2-Statistical Software: SPSS (Statistical Package for the Social Sciences)

- Purpose & Utility: SPSS is a robust software package employed for conducting statistical analysis. In this study, quantitative data from the closed-ended items in the questionnaire were used for analysis.

Data Entry: The responses obtained from the surveys were meticulously inputted into the software, with utmost attention to detail and uniformity.

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS). A range of statistical analyses were performed, encompassing frequency distributions, cross-tabulations, chi-square tests, and t-tests.

7.3-Qualitative Data Analysis Tools

The NVivo software was used for the analysis of open-ended responses obtained from questionnaires. NVivo is a computer software package specifically developed for qualitative data analysis (QDA). Its primary purpose is to assist researcher in effectively managing and analyzing non-numerical data.

- Coding and Theme Development: Using NVivo, the replies underwent a systematic coding process, where reoccurring ideas were identified and categorized. The process facilitated the categorization of these codes into overarching themes of obstacles encountered in the implementation of critical thinking.

- Visualization: The software facilitated the visualization of these themes, thereby illustrating the interconnections and patterns inherent in the data.

- Findings and Results:

To present a thorough comprehension of the demographic characteristics of the geography teachers who participated in this study, the subsequent table presents a detailed analysis based on several demographic

variables, including gender, years of professional experience, type of educational institution, and geographic location.

Table 1: Demographics of Participating Teachers

Demographic Factor	Category	Number of Teachers
Gender	Male	55
	Female	45
Years of Experience	Less than 5 years	25
	Between 5 and 10 years	40
	More than 10 years	35
School Type	Public School	90
	Private School	10
Geographic Region	Urban (central Erbil)	60
	Suburban	25
	Rural	15

Out of the total sample size of 100 geography teachers from Erbil Governorate who

participated in the study, a marginal majority consisted of males, accounting for 55% of the participants, whereas females constituted 45%

of the sample. Upon analyzing the years of teaching experience, it was observed that the majority of individuals (40%) possessed a range of 5 to 10 years of teaching experience. Individuals with less than five years of experience and those with more than ten years of experience were quite evenly distributed, comprising 25% and 35% of the sample, respectively. The overwhelming majority of educators, comprising 90% of the sample, were affiliated with public schools, whereas a mere 10% were associated with private educational institutions. From a geographical perspective, it is worth noting that a considerable proportion of the teachers, specifically 60%, originated from the metropolitan regions situated in central Erbil. The representation of teachers from suburban and rural areas was comparatively lower, accounting for 25% and 15% of the total, respectively.

Table 2: Perception of the Importance of Critical Thinking

Level importance	**Number of Teachers**
Extremely Important	63
Very Important	17
Moderately Important	6
Slightly Important	9
Unimportant	5

Table 2 presents a comprehensive overview of the perspectives held by geography instructors in the Tenth Preparatory Literary Grade in Erbil Governorate regarding the significance of integrating critical thinking skills within their curriculum. One notable finding from the data presented in the

table is the considerable emphasis that educators place on the significance of critical thinking within the educational process. A substantial majority of 63 of 100 instructors deem it to be of "extreme importance". When combined with the 17 teachers who consider it to be of "Very Important" significance, a significant majority of 80% of the participants emphasize the crucial importance of these skills. The strong unanimity among educators highlights the widely held opinion regarding the crucial importance of critical thinking in promoting a deeper understanding, cultivating independent thinking, and refining students' problem-solving skills.

The significance placed on the value of critical thinking resonates with the viewpoints articulated in a scholarly study conducted by Facione (1990) entitled "Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction". Facione's research, albeit with a wider scope, revealed a consensus among experts about the central significance of critical thinking in the realm of education. In a similar vein to the aforementioned study, Facione discovered that both educators and experts shared the belief that critical thinking played a crucial role in facilitating student achievement in higher education and beyond.

Nevertheless, it is important to acknowledge that there exists a subset of educators, albeit a few, who possess misgivings or possibly a sense of ambivalence. A moderate level of importance is attributed to critical thinking by six percent of instructors. This collective, while recognizing the significance of critical thinking, appears to be expressing apprehension over its practical application or possible obstacles within the parameters of their present educational environment.

Nevertheless, the concerns expressed by certain instructors, as evidenced in this survey, are not exclusive to the Erbil Governorate. According to Paul and Elder (2006), in their publication titled "Critical thinking: The nature of critical and creative thought," they underscored the widespread recognition of the significance of critical thinking and highlighted the common occurrence of resistance when attempting to put it into practice. The potential causes for this phenomenon are diverse, encompassing issues such as curriculum limitations, insufficient training, and conventional instructional approaches that prioritize the dissemination of information rather than the cultivation of skills.

Upon further examination of the facts, it becomes evident that there are divergent perspectives. According to the survey data, a total of 9% of the teachers hold the belief that critical thinking is of just "Slight Importance". The existence of this minority viewpoint can be attributed to a select group of educators who prioritize the transmission of factual information, emphasizing content delivery, rather than focusing on the intricate cultivation of abilities. This group may hold the perspective that the current curriculum adequately addresses the critical thinking requirements of pupils, without the need for further focus.

The survey reveals a modest yet noteworthy proportion of educators (5%) who perceive critical thinking as "Unimportant". This perspective potentially reflects the preference of instructors for a traditional pedagogical approach, which prioritizes the acquisition of knowledge through repetitive learning and memory, rather than emphasizing the development of analytical and critical thinking abilities. On the other hand, it could be argued that either the existing curriculum or the inherent

characteristics of the subject matter may not facilitate the successful integration of critical thinking.

Furthermore, the observation that 9% of teachers perceive critical thinking as being of "Slightly Important" significance, while an additional 5% consider it to be "Not Important," is a significant finding. Abrami et al. (2008) conducted a study named "Instructional interventions affecting critical thinking skills and dispositions: A stage 1 meta-analysis", in which they identified shared perspectives among certain instructors. This study posited that a considerable number of educators acknowledge the significance of critical thinking; yet, a specific subgroup encounters difficulties in effectively implementing it in practice, primarily attributable to impediments such as an inflexible curriculum or inadequate resources.

The findings shown in Table 2 provide a clear and compelling guidance for individuals and groups involved in the field of education. The significance of critical thinking is well recognized, although a potential disparity exists between its perceived significance and its practical integration within instructional approaches. The existence of this gap might be attributed to a multitude of challenges that educators encounter, including inflexible curriculum frameworks, limited access to resources, and insufficient specialized training. The resolution of these difficulties is of utmost importance for education authorities and policymakers. It is imperative to ensure that the widely acknowledged significance of critical thinking is effectively implemented in concrete and influential educational methodologies. Simultaneously, the recognition and consideration of minority perspectives can facilitate the development of more inclusive curricular revisions and teacher training modules.

Table 3: Frequency of the Incorporation of Critical Thinking Exercises

Frequency	Number of Teachers
Always	17
Often	28
Sometimes	32
Rarely	15
Never	8

Table 3 presents an overview of the frequency at which geography teachers in the Tenth Preparatory Literary Grade within the Erbil Governorate integrate critical thinking tasks into their instructional practices. The analysis of the data yields several nuanced findings.

First, it is noteworthy to observe that a specific group of educators, constituting 17% of the surveyed population, continuously prioritized the cultivation of critical thinking skills by consistently integrating them into instructional practices. These educators demonstrate a strong dedication to incorporating critical thinking activities into their teaching techniques, suggesting that they consider them to be an essential component of their instructional approach.

A larger proportion, amounting to 28%, includes these exercises "Often," indicating that while they recognize the need for critical thinking, there may be occasional restrictions or obstacles that hinder its smooth integration into every instructional session. However, when coupled with

the inclusion of the "Always" category, this data suggests that a significant proportion (45%) of educators consistently prioritize the cultivation of critical thinking skills within the context of geography instruction.

Approximately 32% of teachers integrate critical thinking into their instructional practices on an intermittent basis. This observation implies a certain degree of irregularity or intermittent implementation, which may be influenced by factors such as limitations in the curriculum, insufficient resources, or a lack of clarity regarding the most effective approach to incorporating such activities. The infrequent incorporation of critical thinking tasks by educators may be influenced by factors such as the subject matter being taught or the unique dynamics of the class.

A minority of the participants, comprising 15% of the sample, said that they infrequently incorporate critical thinking exercises. These educators may acknowledge the need for critical thinking, yet they may encounter significant obstacles when attempting to incorporate it into their teaching practices. These barriers may arise from factors such as insufficient training, time limitations, or the belief that students encounter difficulties with these types of activities.

A matter of concern pertains to the subset of teachers, comprising 8% of the total, who consistently refrain from including critical thinking tasks into their instructional practices. This group may comprise educators who harbor skepticism regarding the concrete advantages of critical thinking activities within their particular context or who are uncertain regarding the methods for incorporating such exercises. On the other hand, there may be individuals who believe that that their existing instructional approaches and curriculum adequately cater to the cognitive requirements of the subject matter.

The frequency of college instructors' integration of critical thinking into their pedagogy was examined by Lisa Tsui in her 2002 study titled "Fostering Critical Thinking through Effective Pedagogy," which was published in the Journal of Higher Education. The researcher noted that a higher proportion of instructors (20%) demonstrated consistent integration of critical thinking compared to the findings with the present study (17%), potentially attributable to the advanced age composition of college students. Approximately 25% of the respondents in Tsui's study reported frequent incorporation of critical thinking, which roughly corresponds to the 28% reported in the present findings. This highlights the consistent appreciation for critical thinking among educators across several educational stages, despite the potential challenges they may face. The proportion of participants, as reported in Tsui's study, who indicated "Sometimes" integration was 30%. This finding aligns with the present study, where 32% of participants also reported similar levels of integration. These results imply the presence of common inconsistencies in educational settings throughout both studies. In Tsui's research, it was found that a mere 10% of the participants had a limited incorporation of critical thinking skills. In contrast, the current study revealed a slightly higher percentage of 15%, suggesting that geography teachers in the Tenth Preparatory Literary Grade face distinct obstacles in fostering critical thinking abilities among their students. Remarkably, Tsui's findings revealed that the percentage of individuals who reported "Never" using critical thinking was 15%, which was nearly twice as high as the 8% reported in the previous study. This discrepancy may suggest a greater inclination toward conventional instructional approaches within the realm of higher education. Notwithstanding these discrepancies, both studies

emphasize the significance of incorporating persistent critical thinking into education.

In conclusion, that a significant proportion of educators within the Erbil Governorate are actively endeavoring to incorporate critical thinking activities into their instructional practices on a constant basis. However, it is worth noting that there exists a discernible subset of teachers who display inconsistency in their implementation of such pedagogical strategies. The evidence presented in Table 3 highlights the necessity for enhanced teacher training and allocation of resources, particularly for educators who demonstrate limited or no use of critical thinking activities in their instructional practices.

Table 4: Agreement with Barriers to Implementing Critical Thinking

Statements	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
The lack of training on implementing critical thinking exercises.	42	27	8	16	7
The geography curriculum **does not** provide room for critical thinking.	37	26	13	18	6
Students resist or struggle with critical thinking exercises.	31	33	11	14	11
The lack of resources for promoting critical	44	31	10	11	4

thinking.					
Not enough time in class for critical thinking exercises.	21	18	9	28	24

Table 4 presents a comprehensive analysis of the perspectives held by geography teachers regarding the difficulties encountered while integrating critical thinking activities into their instructional plans. One of the prominent issues recognized by teachers is the large gap in their training **of** the integration of these exercises, as indicated by a notable 69% of respondents (42% strongly agreeing and 27% agreeing). This highlights a possible discrepancy between the recognition of the importance of critical thinking and teachers' readiness to effectively incorporate it into their instructional approaches.

Nevertheless, this difficulty is not solely attributed to the absence of adequate training. A significant majority of respondents, comprising 63% of the total sample, stated that the current geography curriculum lacks adequate opportunities for the integration of critical thinking activities. This sentiment was further substantiated by the fact that 37% strongly agreed with this statement, while an additional 26% just agreed. This feeling may indicate that educators perceive the existing curriculum framework as relatively inflexible, limiting their ability to integrate these beneficial activities.

A significant obstacle, as indicated by 64% of educators (31% strongly concur and 33% concur), pertains to the resistance or challenges encountered by students when exposed to critical thinking exercises. This observation may indicate a more extensive educational dilemma. When students are familiar with conventional teaching approaches, the introduction of critical, introspective, and analytical modes of learning may be met with hesitancy or unease.

A substantial proportion of respondents, amounting to 75% (with 44% strongly agreeing and 31% agreeing), identified the limited availability of resources, such as textbooks, tools, or materials, as a significant obstacle. The prevailing perspective posits an urgent requirement for educational boards or institutions to allocate resources toward the cultivation and advancement of critical thinking.

It is noteworthy that there was a divergence of perspectives when considering the issue of time restrictions. According to the survey results, 39% of respondents expressed concerns about limited classroom time hindering the implementation of critical thinking exercises. This percentage is further broken down into 21% strongly agreeing and 18% agree with this sentiment. Conversely, a larger proportion of respondents, namely 52%, did not consider time constraints to be a significant obstacle. This majority comprised 28% who disagreed and 24% who strongly disagreed with the notion that time poses a challenge in incorporating critical thinking exercises. The second group may have devised strategies to effectively prioritize and optimize their lesson plans to incorporate these exercises.

The aforementioned study conducted by Paul, Elder, and Bartell (1997) underscores the importance of providing thorough teacher training to effectively cultivate critical thinking abilities. Likewise, the proportion of instructors, amounting to 63%, who experience curricular limitations aligns with the conclusions drawn by Abrami et al. (2008). The researcher observed that inflexible curriculum frameworks frequently impede the smooth incorporation of critical thinking activities. Both studies, similar to the present study, highlight the significance of tackling these obstacles, ranging from teacher training to curriculum adaptability, to foster a more

immersive educational setting focused on the development of critical thinking skills.

In summary, Table 4 presents a diverse range of obstacles that educators encounter in their endeavor to cultivate critical thinking skills in geography instruction. It is of utmost importance for education stakeholders to prioritize the resolution of these impediments, particularly those related to training and resource allocation, in order to cultivate a more intellectually stimulating and analytically oriented teaching environment.

Table 5: Primary Challenges Identified from Open-ended Responses

Themes Identified	Description
Curriculum Constraints	Many teachers felt that the existing curriculum **was** too dense, leaving them little flexibility or time to incorporate additional critical thinking exercises.
The lack of Materials	A recurring theme was the absence of textbooks or materials designed with an emphasis on critical thinking.
Student Resistance	Several teachers mentioned that when they tried to implement critical thinking exercises, they often faced resistance or lack of interest from students who were more accustomed to traditional teaching methods.
Need for	Many teachers **expressed a desire** for professional development opportunities **that**

Training	focused on integrating critical thinking into the geography curriculum.

One of the most widely highlighted obstacles, as indicated in Table 5 titled "Primary Challenges Identified from Open-Ended Responses," pertains to the limitations imposed by the current curriculum. Educators regularly expressed apprehension about the excessive breadth of the existing curriculum, which significantly limits their capacity to incorporate additional instructional activities, especially those designed to foster critical thinking skills. This observation implies a possible discrepancy between the existing curriculum and the overarching educational goals that prioritize the development of critical thinking skills. Teachers may encounter difficulty when they are faced with the decision to either omit certain exercises or perhaps sacrifice the coverage of other essential topics within their sessions.

Another notable difficulty that has been brought to our attention is the seeming lack of educational resources, particularly textbooks and materials, that prioritize and stress the development of critical thinking skills. The consistent presence of this repeating topic within the responses indicates a noticeable deficiency in the already accessible instructional resources. In the absence of suitable resources tailored to this sophisticated instructional approach, educators encounter a significant drawback, which hinders their ability to adequately foster and impart critical thinking abilities. The opinions articulated by the educators also allude to a prospective avenue for educational content developers to develop resources centered on cultivating critical thinking skills.

In addition to the curriculum and available resources, the dynamics of the classroom and the behavior of students are significant factors that influence the teaching and learning process. One notable discovery derived from the responses was the prevalent opposition or limited

excitement exhibited by students toward the introduction of critical thinking exercises by teachers. The hesitancy observed does not inherently imply a criticism of the students' intellectual aptitude. Alternatively, this tendency may suggest their inclination toward conventional pedagogical approaches and their level of ease with such methods. When students are exposed to a methodology that contradicts existing norms, they may experience a sense of disorientation. Tackling this dilemma may necessitate a more comprehensive transformation of students' educational frameworks.

These data exhibit similarities with two prominent studies. According to the research conducted by Paul, Elder, and Bartell (1997), the integration of critical thinking is impeded by the inflexibility of current curricula, which aligns with the perspectives shared by geography teachers in this study. In the study by Abrami et al. (2008), the authors highlighted the limited availability of resources specifically designed to promote critical thinking skills. This issue is also reflected in the present findings. Both studies emphasize the complex nature of the issues encountered by educators, indicating that to successfully include critical thinking into teaching methods, it is crucial to implement comprehensive solutions that cover curriculum development, resources, and teacher education.

Finally, the evidence also underscores the extent to which teachers are personally equipped (or unequipped) to incorporate critical thinking into their instructional practices. Numerous educators have shown a sincere inclination toward engaging in professional development, as they actively seek training opportunities that will provide them with the necessary methodologies, resources, and abilities to effectively integrate critical thinking activities into their instructional practices. The sentiment

expressed not only highlights the potential deficiencies in initial teacher education but also shows the significance and indispensability of ongoing professional development in the field of education.

The aforementioned concerns collectively indicate that teachers encounter various complex obstacles when integrating critical thinking activities into their instructional practices. Consequently, effective solutions must be comprehensive in nature, addressing numerous aspects of the educational system.

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Appendix No.(1)

Questionnaire for Geography Teachers on Implementing Critical Thinking Exercises

Part 1: Demographic Information

1. Gender:
☒ Male ☒ Female
2. Years of Teaching Experience:
☒ Less than 5 years ☒ Between 5 and 10 years ☒ More than 10 years
3. School Type:
☒ Public School ☒ Private School
4. Geographic Region:
☒ Urban (central Erbil) ☒ Suburban ☒ Rural

Part 2: Perceptions of Critical Thinking

1. How do you define critical thinking in the context of teaching geography?

[Open-ended response]

2. How important do you think critical thinking is for the Tenth Preparatory Literary Grade students in their geography lessons?

- ☐ Extremely Important
- ☐ Very Important
- ☐ Moderately Important
- ☐ Slightly Important
- ☐ Not Important

Part 3: Barriers to Implementing Critical Thinking

1. How frequently do you incorporate critical thinking exercises into your geography lessons?

- ☐ Always
- ☐ Often
- ☐ Sometimes
- ☐ Rarely
- ☐ Never

2. Please indicate how strongly you agree or disagree with the following statements related to barriers in implementing critical thinking exercises:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I lack training on how to implement critical thinking exercises.					
The geography curriculum doesn't provide room for critical thinking exercises.					
Students resist or struggle with critical thinking exercises.					
I lack resources (e.g., textbooks, materials) that promote critical thinking.					
There's not enough time in class to conduct critical					

thinking exercises.					

3. In your experience, what are the biggest challenges or barriers you've faced when trying to integrate critical thinking exercises into your geography lessons?

[Open-ended response]

4. Can you share any specific instances or examples where you tried to implement a critical thinking exercise and faced a barrier or challenge?

[Open-ended response]

Part 4: Suggestions & Feedback

1. What resources or training would help you incorporate more critical thinking exercises into your geography lessons?

[Open-ended response]

2. Do you have any other comments, suggestions, or insights related to critical thinking in the geography curriculum for the Tenth Preparatory Literary Grade?

[Open-ended response]