

The Degree of Inclusion of Population Education Concepts in the Geography Textbook for the Fifth Year of Primary Education in Algeria

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ABSTRACT

This case study aims to determine the degree of inclusion of population education concepts in the geography textbook for the fifth year of primary education in Algeria. The study sample consisted of the geography textbook for the 2022–2023 school year, which is composed of three fields, each containing three themes. The study focused on the third field of the textbook. To achieve the study's objective, a list of population education concepts was prepared, covering six fields. The descriptive analytical method was adopted. The study found that the geography textbook for the fifth year of primary school has a low level of inclusion of population education concepts, which totaled 578 concepts distributed across the six fields as follows: field 1 (population and environment) included 316 concepts (54.67%), field 2 (demographic characteristics of the population) included 124 concepts (21.45%), field 3 (population dynamics) included 112 concepts (21.10%), field 4 (population and socio-economic development) included 19 concepts (3.28%), field 6 (characteristics of the population, ranked fifth) included 07 concepts (1.21%), whereas field 5 (population, family, and society) showed no inclusion of its concepts in the geography textbook.

Keywords: population education – geography textbook – fifth year of primary school.

Introduction and Problem Statement:

The world, especially the developing one, is witnessing a significant increase in population. In its pursuit of a better life, it has turned to depleting environmental resources and energies, particularly non-renewable ones. Most countries and governmental and international bodies have become aware of the danger of the population explosion. As a result, interest in population issues has increased, and awareness of their importance has spread due to their major role in economic, social, and political development. Consequently, there has been a growing focus on considering the population factor in development and environmental planning to meet individuals' basic needs through what is known as

population education. This has become a fundamental requirement to address the imbalance between the rapid population growth and the slow economic growth. Thus, population education has become central to development plans in order to formulate sound population policies. It works to raise awareness of the various demographic transformations in our societies and contributes to instilling values of social responsibility, spreading reproductive health and family planning awareness, and rationalizing resource consumption, among others.

The importance of population education lies in raising individual awareness of the race between high population growth and the stagnation and backwardness of social structures, especially in developing countries that are unable to achieve economic and social progress for their peoples in terms of providing food, clothing, education, healthcare services, and job opportunities. This is particularly significant given that the population of the developing world constitutes about 80% of the global population, which has reached approximately 8.2 billion people. This has been accompanied by rising rates of poverty, unemployment, migration, illiteracy, and rural-to-urban displacement, as well as pollution, among other issues.

This highlights the important role population education plays in raising awareness, instilling principles of reproductive health, understanding population issues, and making efforts based on pre-planned coordination between available human and material resources in a given environment to ensure a better standard of living in all respects.

Many countries have paid attention to population education. Sweden was the first to advocate for it, establishing the Population Committee in 1935 to address declining birth rates. Similarly, the United States showed interest from 1937 to 1943 (Dweik, 2000, p. 261). UNESCO also became interested in population education in the late 1960s, providing a definition in 1974 that focused on the qualitative and quantitative characteristics of the population and on individuals' responsibility for the quality of life in their environment (Al-Quds Open University, 1997, pp. 14–15).

However, after the second half of the 20th century, the population problem became one of rapid growth, especially in the developing world. Since 1972, attention to the environment has increased due to problems related to the population explosion, food security, acid rain, ozone depletion, groundwater depletion, species extinction, and pollution. The human environment has become increasingly threatened. In developed countries, environmental concerns have grown primarily due to the byproducts of scientific and technological advancement and the excessive use of natural resources for economic growth (Al-Freijat, 2008, p. 15).

Several population conferences have been held, including the Bucharest Conference in 1974, the Mexico Conference in 1984, and the Cairo Conference in 1994. In Arab countries, such as Algeria, interest in population education began in the mid-1970s after the Bucharest Conference, which emphasized the need for educational institutions in all countries to integrate population dynamics and policies into their curricula, including, where necessary, subjects on family life, responsible parenthood, and the relationship between population dynamics on one hand and economic and social development and international relations on the other (Al-Kubaisi, 2015, p. 83). This justifies the need to integrate population education concepts into school curricula to increase awareness and work on modifying attitudes and reinforcing concepts and knowledge at all educational levels, particularly in primary education. In Algeria, the aim is to shape a well-balanced and socially responsible individual

capable of mastering knowledge and skills relevant to the current era and context. Educational curricula reflect this goal, as they include a wide range of scientific and literary knowledge. These build a learner's knowledge base, and the teacher's role is to transmit them in diverse ways to ensure retention and transfer of learning. Teaching population education concepts, especially in geography, is particularly important to instill values and modify negative attitudes regarding population issues. Algeria, like other Arab countries, had its reasons for incorporating population education concepts into its curricula across various educational stages from primary to secondary. Algeria suffers from significant population growth. The National Office of Statistics conducted a prospective study (2019–2040), predicting that Algeria's population would reach 57 million. The United Nations Population Fund (United Nations, 2019) estimated that Algeria's population would reach 61 million by 2050.

There is no doubt that this increase has implications for the environment, the economy, society, and individuals' quality of life. Algeria has a large active population. Every year, unemployment rates rise as more people enter the labor market, and there is an increase in the elderly population and their pensions. Algeria's population was about 12 million in its first census in 1966 (Boulahrik, 2008, p. 11), 34.08 million in the 2008 census, and 44.244 million as of July 1, 2020.

Geography is one of the subjects that most heavily includes population education programs in order to understand the population phenomenon, raise awareness of the resulting problems, and spread reproductive health culture, among others.

Many studies have pointed to the importance of incorporating population education concepts into textbooks, such as the study by Al-Titi and Jaradat (2009) on the degree of inclusion of population education concepts in social and national education books for the first four grades. There is also the study by Al-Zubaidi (2005) on the availability of population education concepts in social studies books for basic education and how well students acquire them (unpublished master's thesis,

University of Aden, Yemen). Al-Kubaisi (2009) also noted shortcomings in the population content of geography books. His study aimed to determine the availability of population education concepts in secondary-level geography books. Likewise, Marwan Mohammed Dakhil (2004) conducted a study on the reality of including population education concepts in geography textbooks and their effect on learners at the intermediate level in schools in Kirkuk, Iraq. Halawa (2005) studied the environmental values included in fifth and sixth-grade geography books in several Arab countries (Syria, Saudi Arabia, Sudan, Tunisia). Maha Walid Al-Qutati (2016) examined the population education concepts that should be included in geography books for upper basic education in Palestine and how well ninth-grade students acquired them. All these and other studies highlight the importance of the subject, which drew our attention to investigating the status of population education in our curricula specifically the geography textbook by addressing the following questions:

- What population education concepts are proposed to be included in the fifth-year primary geography textbook in Algeria?
- What population education concepts are currently included in the fifth-year primary geography textbook?

- **Study Objectives:**

The current study aims to identify the population education concepts proposed to be included in the geography textbook for the fifth year of primary education in Algeria, as well as the population education concepts currently included in the geography textbook for the fifth year of primary education.

- **Study Significance:**

Learning population education concepts is considered one of the important topics in educational studies, especially at the primary education level, as it greatly contributes to the development of learners' scientific and intellectual abilities and enhances their awareness in this field, which has become one of the pressing issues of our time due to the significant population explosion witnessed globally in general and particularly in developing countries. This explosion has led to negative consequences for the environment and the economic and social life of individuals and communities.

The study also seeks to determine the extent to which the geography textbook for fifth-year primary students in Algeria includes population education concepts.

This study is also beneficial to teachers, members of the National Curriculum Committee, and those interested in educational affairs.

Operational Concepts of the Study

A concept is an abstract mental perception that gives a name or term to denote a scientific phenomenon. It is formed by collecting the facts and common characteristics of the elements of this phenomenon (Badeer, 2008, p. 20).

According to learning theories, concepts are stimuli and triggers to which the learner responds in a specific way using mental processes. The cognitive structure is built at a level of abstraction and is given logical and psychological meaning (Yassine & Raji, 2012, pp. 45–46).

According to "Meeril" 1977: it is a group of specific objects, symbols, or events that are grouped together based on common characteristics that can be referred to by a specific name or symbol (Meeril, 1977, p. 3).

That is, the concept is abstract mental perceptions and terms to which the pupil responds and which form their cognitive structure.

- **The Concept of Population Education:**

According to Kuppuswamy: it is the efforts of the educational system to make children, youth, and adults aware of population changes and their consequences. As part of social processes, population education occurs in both formal and non-formal education (Kuppuswamy, 1971, pp. 5–6). Arab countries define it as educational efforts that include knowledge, attitudes, and skills to achieve responsible and positive stances regarding human settlement issues, through understanding the interrelations between population growth and social and economic development in order to achieve a good quality of life for the individual at the family, community, global, and human levels (Dweik et al., 2000, p. 264).

That is, population education is an educational effort that aims to develop positive skills and attitudes in pupils toward the relationship between population and social, economic, and environmental aspects, and seeks to create awareness around population-related issues. It involves knowledge, information, and principles that deal with population issues and their relationship to economic growth and the quality of social life, enabling pupils to understand and assess the existing population situation and its implications.

- **Population Education Concepts:**

These are the set of concepts, i.e., the cognitive formulations included in the fifth-grade geography textbook, which consist of all the concepts in the book such as facts, ideas, terms, principles, and generalizations related to human beings and related issues. That is, they are abstract mental perceptions and terms formed by the pupil in population education after experiencing certain tasks and learning activities.

- **Geography Textbook:**

It is a textbook prepared by the Ministry of National Education directed to fifth-grade pupils in Algerian primary education for the academic year 2022/2023.

The Importance and Objectives of Teaching Geography

Geography is the science concerned with the study of the Earth, its surface, and the atmosphere, and it focuses on the mutual relationships between the natural environment and humans (Al-Tayti, 2002, p. 14). Therefore, geography deals with both the environment and the population i.e., the natural and human domains. According to Misbah Mahmoud et al. (2002, pp. 15–18), there are three objectives:

- **Cognitive objectives:** These aim to provide the pupil with information, facts, concepts, principles, and laws about the environment and its manifestations, the universe, the shape of the Earth, the interaction between humans and the environment, the identification of environmental problems, and the search for solutions.
- **Affective objectives:** These involve the pupil acquiring attitudes and values by reinforcing belief in God's will and wisdom, developing feelings of love and appreciation for everything in the universe, fostering patriotism, and enhancing the pupil's awareness.
- **Psychomotor (skill-related) objectives:** These involve enabling the pupil to use skills such as chart and table presentations, drawing graphs, summarizing, organizing, applying geographical concepts, using maps and globes, and understanding spatial distributions (Al-Qatati, 2016, pp. 21–22).

General Objectives of Geography Education:

- Enabling the learner to understand geographical phenomena and the interaction between human and natural factors.
- Raising the learner's awareness of environmental problems related to humans, such as environmental pollution.

- Strengthening the learner's sense of belonging to their homeland through knowledge of its natural and human resources.
- Contributing to finding solutions to issues arising from the interaction between population, environment, and development at both local and global levels (Mahmoud Jumaa, 2011, p. 64).

Objectives of Teaching Geography at the Primary Level:

- Strengthening identity and belonging.
- Providing the pupil with geographical knowledge and linking the relationship between humans, the environment, development, and the use of natural resources.
- Instilling concepts of environmental preservation and awareness of major risks.

In the third unit of the geography textbook on the population in Algeria, the objective is to:

Establish the relationship between population and development in Algeria, population density, the distribution of the population in Algeria and the controlling factors, and the various types of economic activities, in order to propose suitable solutions to environmental problems.

It can be said that the objectives of teaching geography in the fifth year of primary education are:

- **In the cognitive domain:**

Providing the pupil with concepts and facts about Algeria's location locally, regionally, and globally, and knowledge about the geography of Algeria, including surface features, climate, vegetation, as well as knowledge about Algeria's natural resources, and understanding of the population in Algeria, their geographical distribution, density, the controlling factors, and the relationship between population and economy.

- **In the affective domain:**

Instilling in the fifth-grade pupil awareness and a sense of belonging and love for their homeland, reflecting on all that God has created, affirming loyalty to the nation, and developing a sense of responsibility toward the country and the preservation of its wealth and resources.

- **In the skill domain:**

The ability to use maps, charts, and the globe, understand spatial population distributions, and develop the pupil's thinking abilities.

Applied Aspect:

- **Study Methodology:**

The descriptive analytical method was adopted due to its suitability to the nature of our current study.

Content analysis was also used to analyze the content of the fifth-grade geography textbook, in order to identify the degree to which population education concepts are included.

- **Study Population and Sample:**

The study population consisted of the content of the fifth-grade geography textbook, specifically its third unit on the population in Algeria, which was approved by the Ministry of National Education in Algeria for the academic year 2022–2023.

The following table shows the characteristics of the study sample.

Number of Lessons Analyzed	Total Pages of the Book	Edition	Pages	Number of Lessons	Domains	Year
Domain 3 3 Lessons	105	2023-2022	29/21/14	03	Location of Algeria	Fifth Grade – Primary
			63/51/42	03	Geography of Algeria	
			92/83/76	03	Population in Algeria	

It appears from the table that the third domain is the one that was analyzed, which consists of 3 lessons from page 76 to page 105, i.e., 29 pages.

Methodological Steps in Content Analysis:

- **Categories of Analysis:** The current study aims to identify the degree of inclusion of population education concepts in the fifth-grade geography textbook prescribed for the third semester. The categories were defined as the measurement of inclusion or non-inclusion of population education concepts and the frequency of their occurrence.
- **Objective of the Analysis:** Through this analysis, we aim to determine the degree of inclusion of population education concepts in the fifth-grade geography textbook.
- **Unit of Analysis:** The concept was chosen as the unit for analyzing the content of the textbook.

Psychometric Properties of the Study Tool

- **Validity of the Content Analysis Form:** The list of population education concepts and their domains was presented to a group of six (06) expert judges. They were asked to give their opinions regarding the clarity of the concepts, their relevance to the domain, the correctness of the linguistic formulation, and the appropriateness of the tool for the study. Some judges suggested shortening the list and removing some repeated concepts, while other concepts were added to the list. After that, the final list was established.

The validity of the tool was calculated based on content validity using the Lawshe formula as follows:

$$CVR = \frac{ne - NE/2}{NE/2}$$

CVR: Content Validity Ratio

Ne: Total number of judges.

NE: Number of judges who responded that the item measures.

After applying the formula, it was found that most of the population education concepts approved by the judges obtained a validity ratio exceeding 0.70.

The initial form of the domains and concepts of population education in the content analysis form.

Domains	Concepts
Domain 1: Population and Environment	<ul style="list-style-type: none"> • Ecosystem • Human–environment relationship • Pollution • Resource depletion • Economic resources • Non-renewable resources
Domain 2: Demographic Characteristics of the Population of Algeria	Demographic characteristics <ul style="list-style-type: none"> • Age – Branch • Family structure or organization – Reproductive health of women and men • Population distribution (urban, youthful society, aging society)
Domain 3: Population Dynamics	<ul style="list-style-type: none"> • Birth rates, death rates, fertility, and population density • Migration (its types and causes)
Domain 4: Economic and Social Development and Population Growth	<ul style="list-style-type: none"> • The relationship between population education and economic and social growth • Rational consumption: family planning – quality of life
Domain 5: Population and Development	<ul style="list-style-type: none"> • Population dynamics • Production dynamics • Wealth and its distribution • Sustainable development, social justice, economic valorization, unemployment, education, health, transportation, housing
Domain 6: Population Characteristics	<ul style="list-style-type: none"> • Educational and cultural level • Health, fertility, social awareness

- **Reliability:** The reliability of the content analysis form was calculated using two methods:
- **Inter-rater reliability:** The content was analyzed independently by the researcher and another analyst. After completing the analysis, they met and identified the points of disagreement regarding parts of the material. The percentage of agreement between the two analyses was calculated using Cooper's formula for reliability as follows:

$$CR = \frac{N1}{N1+N2} \times 100$$

N1: Number of agreements.

N2: Number of disagreements.

The percentage of agreement between the researcher and the other analyst reached:

Reliability Coefficient	Number of Repetitions	Number of Population Education Concept Repetitions According to Analysts' Analysis		The Book
		Second	First	
%98.80	578	585	578	Geography Textbook

It is clear from the table above that the repetitions of population education concepts in the geography textbook reached (578) repetitions according to the first analyst's analysis and (585) repetitions according to the second analyst. The reliability coefficient calculated using Cooper's formula was (98.80%), which is a suitable result for conducting the study.

Test–retest reliability: The first and second analyses were conducted with a time interval of 4 weeks between them. The agreement coefficient and comparison of the results from the first and second analyses were calculated using Holsti’s formula as follows:

$$2(AB) / (A + B)$$

Where:

AB = Number of values agreed upon by both analysts.

A = Number of values recorded in the researcher's analysis (first analyst).

B = Number of values recorded in the second analyst’s analysis.

The percentage of agreement between the researcher and herself was (96%), which is an acceptable reliability coefficient.

Presentation and Discussion of Study Results:

The analysis of the fifth-grade geography textbook in primary education led to the following results:

- **Results of the First Research Question:**

What are the population education concepts proposed to be included in the fifth-grade geography textbook in primary education?

To answer this question, the study developed a list of population education concepts proposed for inclusion in the fifth-grade geography textbook in Algeria. This list was prepared after reviewing several previous studies and theoretical literature related to the current study, including (Qatati, 2016; Halawa, 2005; Al-Kubaisi, 2015, etc.), whether lists were developed in Arab or Western countries. The domains and concepts were then presented to a group of experts in the educational field to give their opinions and observations. Afterward, the final list was established after making the necessary modifications, and it was defined in six domains from which population education concepts are derived.

- **Results of the Second Research Question:**

What are the population education concepts included in the fifth-grade geography textbook in primary education?

To answer this question, we analyzed the content of the fifth-grade geography textbook in primary education, focusing on the third unit of the book.

A table shows the results of the content analysis of the fifth-grade geography textbook (third unit of the book).

Rank	Degree of Inclusion	Percentage %	Frequency	Concepts	No.	Domains
03	Acceptable	%15.05	87	Ecosystem	1	Domain 1: Population and Environment
06	Low	%5.70	33	Resource depletion	3	
09	Low	%2.76	16	Pollution	4	
01	Acceptable	%24.22	140	Economic resources	5	
07	Low	%3.28	19	Non-renewable resources	6	
06	Low	%3.63	21	Water cycle	7	
	High	%54.67	316	Total Concepts		
08	Low	%2.94	17	Gender	2	Domain 2: Demographic Characteristics of the Population
/	Nonexistent	00	00	Age	3	
/	Nonexistent	00	00	Family structure	4	
05	Low	%7.43	43	Population distribution (urban, youthful society...)	5	
/	Low	00	00	Aging of society	6	
10	Low	%1.21	07	Population explosion	7	
04	Low	%9.86	57	Population census	8	
/	Acceptable	%21.45	124	Total Concepts		
/	Nonexistent	00	00	Fertility	1	Domain 3: Population Dynamics
/	Nonexistent	00	00	Birth and death rates	2	
02	Acceptable	%21.10	112	Population density	3	
/	Nonexistent	00	00	Migration (types and causes)	4	
/	Acceptable	%21.10	112	Total Concepts		
/	Nonexistent	00	00	Rational consumption	1	Domain 4: Population and Economic and Social Development
/	Nonexistent	00	00	Family planning	2	
/	Nonexistent	00	10	Quality of life	3	
/	Nonexistent	00	00	Housing	4	
11	Low	%0.86	05	Transportation	5	
12	Low	%0.69	04	Unemployment	6	
/	Nonexistent	00	00	Wealth and its distribution	7	
/	Nonexistent	00	00	Sustainable development	8	
/	Nonexistent	00	00	Social justice	9	
/	Low	%3.28	19	Total Concepts		
/	Nonexistent	00	00	Socialization institutions	1	Domain 5: Population, Family, and Society
/	Nonexistent	00	00	Family	2	

/	Nonexistent	00	00	Extended family	3	
/	Nonexistent	00	00	Nuclear family	4	
/	Nonexistent	00	00	Total Concepts		
/	Nonexistent	00	00	Educational and cultural level	1	Domain 6: Population Characteristics
10	Low	%1.21	07	Education and health	2	
/	Nonexistent	00	00	Reproductive health	3	
/	Nonexistent	00	00	Social awareness	4	
/	Low	%1.21	07	Total Concepts		
%100			578	Total Sum		

The results show that the fifth-grade geography textbook in primary education included 578 concepts of population education, distributed across six domains with varying percentages as follows: Ranked first was Domain 1: Population and Environment, which included 316 concepts, representing 54.67%, a very acceptable percentage compared to the other domains. The concept of economic resources accounted for 24.22% of the total concepts and was repeated 140 times, confirming the importance of economic activity and its resources as the foundation of a country's development. Algeria is rich in its resources; therefore, population education must promote their rational use and preservation. The concept of the ecosystem accounted for 15.05% and was repeated 87 times, with the textbook focusing on some components of both the natural and built environment.

In second place, Domain 2: Demographic Characteristics of the Population included 124 concepts, representing 21.45%, with the concepts of population census and population distribution being the most frequently repeated, ranking fourth and fifth, respectively, in the frequency of concepts.

Domain 3: Population Dynamics came third, with 112 concepts, representing 21.10%. The concept of population density ranked second among all concepts, with a frequency of 112 times. However, other important concepts in this domain, such as migration, fertility, births, and deaths, were not included in the textbook despite their significance.

Domain 4: Population and Economic and Social Development included 19 concepts, representing 3.28%, ranking fourth.

Domain 6: Population Characteristics ranked fifth, with 07 concepts, representing 1.21%.

Domain 5: Population, Family, and Society had no included concepts in the geography textbook.

The most frequently included concepts were from Domain 1, such as economic resources and the ecosystem. There was an acceptable level of inclusion for Domains 2 and 3, and a lower degree of inclusion for Domains 4 and 6, while Domain 5 was entirely absent from the textbook, despite its importance especially the concept of the family.

It was also observed that there was visual representation of the concepts through illustrative drawings and maps related to the Algerian context and local environment, which carry within them the spirit of promoting population responsibility and environmental awareness. Additionally, there were questions aimed at developing critical thinking about population issues in the geography textbook.

Accordingly, it can be said that the degree of inclusion of population education concepts in the fifth-grade geography textbook was low for Domains 4 and 6, nonexistent for Domain 5, and acceptable for Domains 1, 2, and 3.

CONCLUSION AND RECOMMENDATIONS:

Population education is linked to all aspects of an individual's life and significantly contributes to raising awareness of the negative effects of increasing population growth on the environment, the economic and social life of the population, and the quality of life of the individual. It also increases individuals' awareness of the negative impacts of population concentration in urban areas in Algeria and helps promote healthy and sound practices toward the environment. Therefore, its integration into educational curricula and other subjects not just geography must be expanded, given the importance of raising awareness about the danger of population explosion, which is the root cause of all other environmental problems and can only be addressed through population education for school pupils in particular.

Accordingly, the current study aimed to identify the degree of inclusion of population education concepts in the fifth-grade geography textbook in primary education. It concluded that the degree of inclusion was low for Domain 4 and Domain 6, nonexistent for Domain 5, and acceptable for Domains 1, 2, and 3. Thus, there is a need for further integration of population education concepts into the geography textbook.

The recommendations derived from the study are as follows:

- Develop a national guide or reference for integrating population education concepts into school curricula.
- Conduct analytical studies of geography textbooks at different educational stages.
- Conduct analytical studies of other textbooks.
- Carry out field research on methods of concept acquisition.

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