

PERCEPTIONS OF TEACHERS ON ENVIRONMENTAL EDUCATION CURRICULUM: A CASE STUDY OF LIBYAN PRIMARY SCHOOLS

PERCEPÇÕES DOS PROFESSORES SOBRE O CURRÍCULO DE EDUCAÇÃO AMBIENTAL: UM ESTUDO DE CASO DAS ESCOLAS PRIMÁRIAS DA LÍBIA

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ABSTRACT

Environmental education like all forms of education is a process of learning that requires an optimally designed teaching curriculum. However, unlike other conventional courses and forms of education, environmental education is not a linear form of learning as it requires complex and place-based designed teaching due to the individuality and diversity of people and their local environment and biodiversity. Libya like most countries of the world has joined the active fight against climate change through the incorporation of environmental education into the traditional system of education and designing a curriculum for the entire school system to ensure uniformity in learning standards. This study carries out an investigation of the efficiency of the Libyan primary school environmental education curriculum from the perspective of primary school teachers. Using open-ended questionnaires designed using an adequate theoretical framework, teachers in Libya were surveyed for their perceptions on satisfaction with the curriculum, their dislikes about the curriculum, what they enjoyed the most in the curriculum, and how they prepared using it and the complementary modifications they carry out on it. The results of this study indicate a finding where the majority of the teachers were happy with its efficiency but have recommended several changes to it to enable it to become optimal.

Keywords: climate change; environmental curriculum; environmental education; Libyan primary schools; teacher perceptions.

RESUMO

A educação ambiental como todas as formas de educação é um processo de aprendizagem que requer um currículo de ensino projetado de forma otimizada. Entretanto, ao contrário de outros cursos e formas convencionais de educação, a educação ambiental não é uma forma linear de aprendizagem, uma vez que requer um ensino complexo e baseado no local, devido à individualidade e diversidade das pessoas e de seu ambiente local e da biodiversidade. A Líbia, como a maioria dos países do mundo, aderiu à luta ativa contra a mudança climática através da incorporação da educação ambiental ao sistema tradicional de educação e do desenho de um currículo para todo o sistema escolar, a fim de garantir uniformidade nos padrões de aprendizagem. Este estudo realiza uma investigação sobre a eficiência do currículo de educação ambiental da escola primária líbia a partir da perspectiva dos professores da escola primária. Usando questionários abertos projetados usando uma estrutura teórica adequada, os professores na Líbia foram pesquisados por suas percepções sobre a satisfação com o currículo, suas aversões sobre o currículo, o que mais gostaram no currículo, e como se prepararam para usá-lo e as modificações complementares que nele realizam. Os resultados deste estudo indicam uma constatação onde a maioria dos professores estava satisfeita com sua eficiência, mas recomendaram várias mudanças para permitir que ele se tornasse ótimo.

Palavras-chave: mudança climática; currículo ambiental; educação ambiental; escolas primárias líbias; percepções dos professores.

Introdução

Environmental education is an educational process that is characterized as being place-based (Ardoin et al., 2020). Environmental education requires the involvement of values, practices, and experiences that are local to the people and individuals being educated. The general approach of environmental education ensures there is robustness in ensuring the diversity of learners is factored into the learning process (Boca & Saraçlı, 2019). The aims and objectives of environmental education are directed at ensuring the following outcomes: leveling up individuals' awareness about the ecology around them, and leveling up society's general awareness about the ecology around it (Georgiou et al., 2021). Environmental education, unlike other conventional education curricula that conform to linear paths, is a kind of education that requires a robust education curriculum to ensure the complexity of environmental knowledge acquisition is simplified and made efficient (Jickling & Wals, 2019).

Environmental education is generally referred to as a place base process of education; the foreground of the learning requires the experiences, practices, and values of the place (Yildiz & Budur, 2019). A place-based approach to environmental education ensures the diversity of a place with regards to its people and biodiversity are all considered in the learning process, this ensures different outcomes of the learning are also considered from the societal broad outcome to the individual narrow outcome of environmental education and learning (Jorgenson et al., 2019). Environmental education has been reported to have grown and evolved from being a linear formatted method of education as the conventional education models into a process of direct knowledge acquisition and direct actions, environmental education emphasizes teaching and learning on the existing dynamics between the behavioral deficits and the ecosystem of a place (Franco et al., 2019).

PROBLEM STATEMENT

Environmental education is a process of teaching and learning that requires an efficient method of imparting knowledge, especially with the looming critical global climate and environmental challenges. Hence, like all forms and dimensions of education, environmental education requires an optimally designed curriculum that will ensure that environmental education teaching institutions are equipped with the right teaching tool to carry out efficient teaching. This study investigates the efficiency of the environmental education curriculum used in Libyan primary school from the perspective of the teachers themselves, the perspectives of teachers on the tools they use is important because they see the level of impact of the tools such as the teaching curriculum first hand through student and teacher interactions. This study is aimed to provide answers to the following research questions:

- Are teachers satisfied with the teaching curriculum?
- What is the level of teacher confidence in teaching with the curriculum?
- How do teachers prepare with the curriculum?
- What modifications do teachers make to the curriculum?

SIGNIFICANCE OF STUDY

The significance of this study lies in the contribution of the study through investigating a dimension of environmental education in Libya at the primary school level. This study provides an insight into the perceptions of Libyan teachers and their use of the environmental education teaching curriculum, the findings of this study can be used for further optimization of the Libyan primary school teaching curriculum.

Literature review

ENVIRONMENTAL EDUCATION IN LIBYA

The Libyan school and education system has, like most of the world, incorporated environmental education into its conventional school system in an effort to mitigate the rising global environmental challenges (Gadour, 2019). The

Libyan school system has incorporated environmental education from primary school institutions to secondary school institutions as a mandatory subject to be taught to students. Like all the school curricula, the environmental education curriculum is designed by the ministry of education to be taught to students using a uniform system of education throughout the country (Aomr et al., 2020). This study is aimed at investigating the efficiency of the primary school environmental education teaching curriculum from the perspective of environmental education teachers in primary schools in Libya. The investigations in this study are motivated by the established complexity of environmental education compared to other subjects and the need to ensure the curriculum used in teaching it is efficient.

TEACHING CURRICULUM

Teaching curriculum is a very important tool for educational systems, a good teaching curriculum enables efficient learning and teaching in educational institutions. However, the inadequate teaching curriculum has a ripple effect throughout educational institutions by making both teachings and learning for teachers and their students (Fogo et al., 2019). Teaching curriculums are required to meet the teaching quality for the aims and objectives of learning institutions. The evaluation of teaching curriculum efficiencies is critical to be done from the perspectives of the people who use them directly with the students they are intended for (Kalinowski et al., 2019), through such evaluations the curriculum can be revised adequately to factor in the required changes and modifications to enable learning and teaching efficiently. Teaching curriculum can be evaluated to highlight the perceptions of teachers on its efficiencies from four main constructs, these constructs dimensions are teacher curriculum satisfaction, teacher confidence with knowledge and curriculum, teacher preparation with curriculum, and teacher modifications to the curriculum (Shipton et al., 2018; Starkey, 2020).

Methodology

PATTERN

This study is designed as an investigative study into the teacher's perspective on the efficiency of the Libyan primary school curriculum on environmental education curriculum. The study is designed as a qualitative study following a comprehensive literature review to provide an efficient theoretical background. The qualitative study was designed to collect primary data for analysis from respondents using an open-ended questionnaire to adequately get perceptions of teachers' perceptions of the curriculum's efficiency. The case study used Libya's primary school teachers as its sample, the designed survey questionnaire has the following items and the corresponding studies they were adopted from illustrated in Table 1 below. The collected open-ended survey responses were ensured to have reliability validation towards the study being carried out, all responses were evaluated for theoretical and perceptual presuppositions as indicated in the aims and objectives of the study, this was then followed by the content analysis data analysis of the respondent data (Hickman et al., 2022).

Table 1 – Questionnaire items

Construct	Item	Reference
Teacher Satisfaction with Curriculum	What do you like about the current curriculum used? Why?	Kalinowski et al. (2019)
	What don't you like about the curriculum? Why?	Kalinowski et al. (2019)
Teacher confidence and knowledge with curriculum	What is the most challenging thing about planning and using the curriculum? Why?	Shipton et al., (2018)
	What part of the curriculum do you feel best about planning and using? why?	Shipton et al., (2018)
Teacher preparation with curriculum	How do you prepare to use the curriculum in teaching?	Starkey (2020)
	What is the most helpful aspect of preparing to teach with the curriculum?	Starkey (2020)
	What additional resources support or help your teaching preparations?	Starkey (2020)
Teacher modifications to curriculum	What additional support do you wish you had? Why?	Fogo et al., (2019)
	If you made any modifications, what did you modify? And did the modifications work?	Fogo et al., (2019)

The collected data is analyzed using thematic coding of the open-ended questions, each respondent's answer is coded according to the underlying theme of

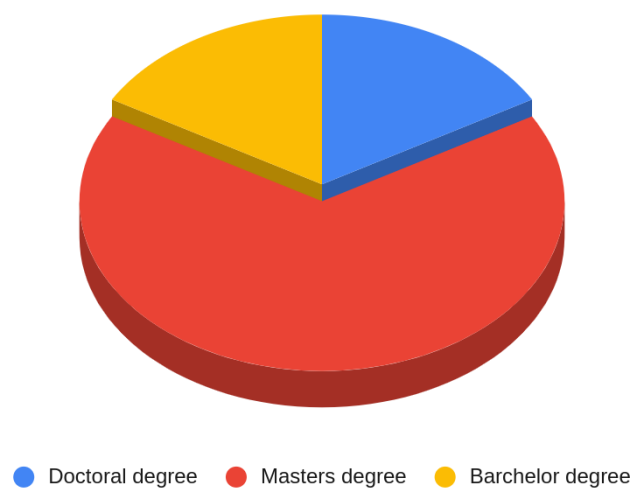
the response, and similar coding in a survey item is grouped for further analysis for the investigation of the study (Kalinowski et al., 2019).

SAMPLE

The designed open-ended as described in the methodology of this study was distributed among sampled teachers in Libyan primary schools. A total of 12 teachers were successfully surveyed and no missing data were recorded for all the survey questionnaire items, each respondent in the study was coded for ease of adequate data analysis and to ensure the anonymity of the survey respondents, the code used of respondents is T1 through T12 (Wakashima et al., 2020). The frequency analysis of the demography of the surveyed teachers showed 58.3% of our respondents were Male teachers with 47.7% of them being female, also the frequency analysis the majority of the respondents have obtained a master's degree as their highest education qualification with 66.7% of the respondents having a master's degree. Figure 1 illustrates the educational qualification distribution of the respondents in our study.

Figure 1 – Distribution of highest level of education

Level of Education



Results

Following the design of the proposed methodology, the data was collected and coded according to the individual themes of the study for proper content analysis. Frequency analysis is implemented for all data themes and their respective codes. Table 2 shows the themes, codes, and frequency count of each coded theme of the data.

Table 2 – Themes, codes, and frequency of data

Themes	Codes	Frequency	Percentage
Positive Views About The Curriculum	Robust teaching efficiency	5	45.5%
	Teaching self-reliance to students	2	18.2%
	Supervision of all activities of students	1	9.1%
	Diversification of teaching methods	1	9.1%
	Modification robustness	1	9.1%
	Too bulky and inefficient	1	9.1%
Negative Views About The Curriculum	Not considerate to student differences	7	58.3%
	Impractical applicability	2	16.6%
	Requires adequate teacher training	1	8.3%
	Impractical applicability	1	8.3%
	Superficial learning	1	8.3%
Challenging Views About The Curriculum	unnecessarily complex	12	100%
The Best Parts About The Curriculum	Teaching it	9	75%
	Planning it	3	25%

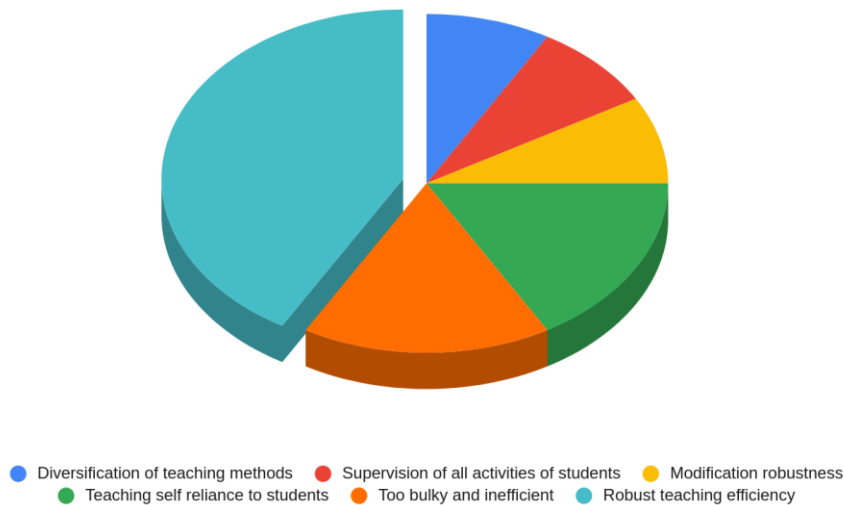
Preparing The Curriculum	Adequate planning	12	100%
The Most Helpful Aspect	Clear objectives	11	91.7%
	Available materials	1	8.3%
Supporting Resources	Practical materials	6	50%
	Experience	5	41.7%
	Student engagement	1	8.3%
Modifications	Practical student engagement	9	75%
	No modifications	2	16.7%
	Removing unimportant materials	1	8.3%

THEME: POSITIVE VIEWS ABOUT THE CURRICULUM

When respondents were asked if they liked the current curriculum, 83% of the respondents said they like the current curriculum and 26% of the respondents expressed they did not like the current curriculum, and their reasons for the underlying coded theme is *too bulky and inefficient*. The expressed opinion of not liking the curriculum was that it was too bulky and inefficient for teaching students effectively. The respondents who expressed their reasons for liking the curriculum were predominantly because they thought the curriculum had robust teaching efficiency (50%), these are observed in respondents T7, T8, T9, T10, T11, and T12. Other reasons expressed for liking the curriculum included diverse teaching methods, inclusion, and supervision of student activities beyond conventional classroom learning. Figure 2 illustrates the distribution of what teachers like about their curriculum according to the coded themes.

Figure 2 – Distribution of what teachers like about their teaching curriculum

What do you like about the curriculum?

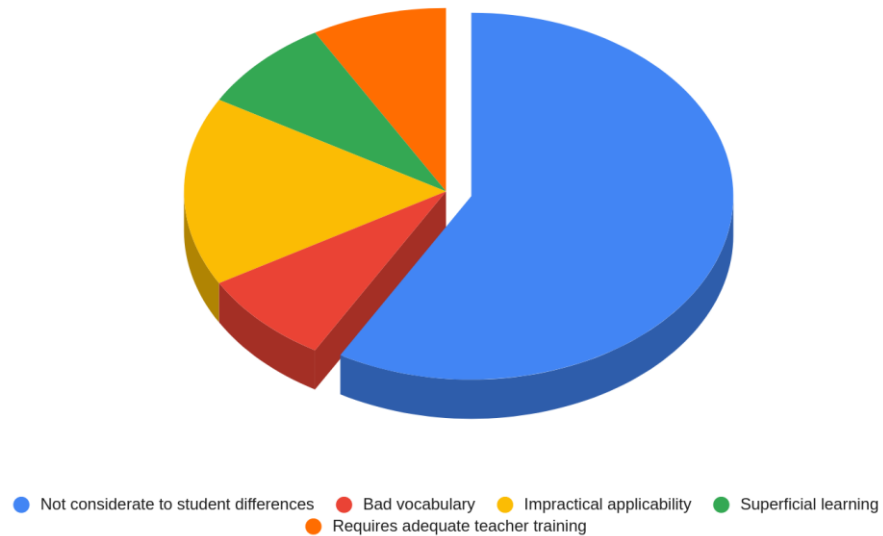


THEME: NEGATIVE VIEWS ABOUT THE CURRICULUM

When the respondents were asked about what part of the curriculum they did not like, all the respondents expressed one or two reasons with regard to what they did not like about the curriculum. The coded themes in this question were *not considerate of student differences, requires training, and were impractical applicability*. The majority of the respondents expressed the curriculum did not consider the individual difference in students and makes it rigid for students to relate to the teaching at an individual level, the respondents with this expressed perception are T1, T2, T3, T8, T10, T11, T12. Figure 3 illustrates the distribution of what teachers don't like about their curriculum according to the coded themes.

Figure 3 – Distribution of what teachers don't like about their teaching curriculum

What dont you like about the curriculum?



THEME: CHALLENGING VIEWS ABOUT THE CURRICULUM

When respondents were asked about the most challenging aspect of the curriculum they are currently using, they 100% agreed on one underlying theme as a challenge to the current curriculum being used, they all indicated the curriculum is unnecessarily complex, and they all wish it was simpler as the complexity is generally perceived as unnecessary.

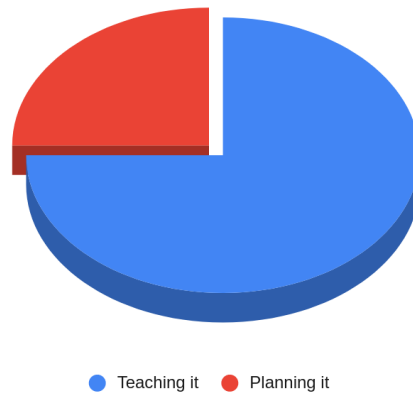
THEME: THE BEST PARTS ABOUT THE CURRICULUM

When the respondents were asked what aspect of the curriculum they enjoyed the most; planning or teaching it. A majority of the respondents indicated the most enjoyable aspect of the curriculum is teaching it. 75% of the total respondents said they enjoyed teaching the curriculum more than planning it. While most of them indicated teaching it as more enjoyable, they all mentioned their reasons why they enjoyed teaching it more, their reasons include liking the part of interacting with the students, impacting the students with the knowledge, and learning from the reactive behaviors of the students during their teaching procedures. Participants T8, T9, and T10 expressed they preferred *Planning it* as the

best part of using the curriculum. Figure 4 illustrates the distribution of what enjoy best about their curriculum according to the coded themes.

Figure 4 – Distribution of what teachers enjoy best about their teaching curriculum

What do you like best about the curriculum?



THEME: PREPARING THE CURRICULUM

When the respondents were asked to indicate how they ensure preparing for teaching using the curriculum, they all indicated the same reason in their response, where adequate planning was the main point they all responded to within the survey. Adequate planning for the respondents was however varying among the teachers, where some teachers associated their adequate planning with selecting the necessary point to emphasize in the curriculum, and others indicated the adoption of the curriculum to suit the need of their students during teaching as adequate planning.

THEME: THE MOST HELPFUL ASPECT

Respondent's answer to the question of what they perceive as the most helpful aspect of the curriculum is predominantly the clarity in the objectives of the curriculum given to them to teach with. 91% of the respondents indicated the clarity of the objectives of the curriculum gave them good directions on how to use the curriculum, and know what to complement it within their teaching techniques to

ensure the objectives of the curriculum are met. Notably only respondent T8 indicated most helpful aspect of the curriculum is the *Available materials*.

THEME: SUPPORTING RESOURCES

The respondents' answer to what they individually use to support the curriculum in their teaching was met with several responses that varied from one another. However, it is noteworthy that 50% of the respondents indicated the use of practical teaching materials as the most useful technique for them to complement the teaching curriculum; T4, T6, T7, T8, T9, and 11. Practical materials as indicated by the respondents included teaching materials such as taking the students outside the classroom to interact with the environment, showing multimedia content on phones to illustrate some points being taught in the classroom, and hardware-based learning materials in the classrooms. 41.6% of the respondents also indicated they relied on their teaching experiences with other students in the past using the same curriculum to know how to approach presenting the teaching of the curriculum to students; T1, T2, T3, T10, and T12.

THEME: ADDITIONAL SUPPORTS

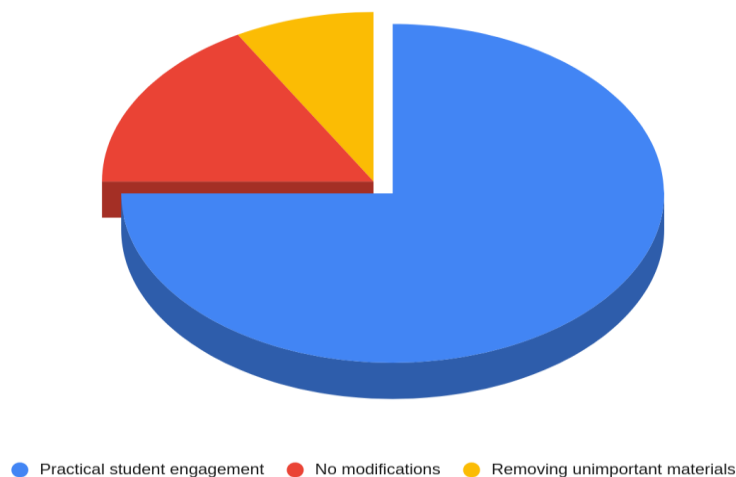
The respondents answers what they wished they had in terms of materials to enable them to carry out efficient teaching and use of the current teaching curriculum, the respondents answered that majorly requiring practical teaching materials, and they mostly indicated they need materials which will enable students comprehend what they are learning such as laboratory sessions with the students, field trips with the students, multimedia materials which the students can interact with during teaching and classroom learning with the teachers. A considerable percentage of the respondents also indicated parental support will be very helpful to enable the curriculum to be more efficient for education because learning extends beyond the traditional school classroom, and parental support will complement the teaching process.

THEME: MODIFICATIONS

When the respondents were asked if they modified the curriculum as they used it, 75% of the respondents indicated they have made modifications to the curriculum using practical engagement teaching methods to enable them to impact more knowledge on the students. A few of the teachers indicated they carried out modifications to the teaching curriculum by removing what they considered unnecessary to the learning experience of the students. While 16% of the teachers indicated they made no modifications to the teaching curriculum and they used it as it is in its current form, the respondents who indicated no modifications are made to the curriculum and they use it as it is are T3, and T9. Figure 5 illustrates the distribution of what is modified in their curriculum according to the coded themes.

Figure 5 – Distribution of what teachers modified in their teaching curriculum

What did you modify?



Discussion

According to the findings in this study, the majority of the teachers have expressed good confidence in the curriculum as it is in their teaching of environmental education to primary school children in Libya. This indicates the Libyan environmental education curriculum from the perspective of the teachers is

on the right track to optimal teaching, and the majority of the respondents in this study did not indicate a significant change in the environmental education curriculum, rather they expressed some complementary changes to the present state of the curriculum. The setbacks of the curriculum in its current state as expressed by the majority of the teachers is in the lack of individual consideration of the teaching curriculum, and according to the definition and principles of environmental education, as being place-based, it is crucial that the curriculum considers the individuality of students (Adroin et al., 2020), all the teachers in this study also agreed the curriculum in its current form is too complex and will be better if simplified.

Another significant observation in this study with regard to the teachers' perceptions is the use of practical materials and the indication of carrying out extra curricula activities to complement the current state of the curriculum for environmental education. It is very crucial for environmental education to have field activities and practical ways to be engaged in environmental education (Stapleton, 2020).

Conclusion

This study was carried out to investigate the level of teacher satisfaction with the Libyan environmental education primary school teaching curriculum. Environmental education is a very complex and critical education that requires efficiency in its teaching curriculum to ensure students have adequate learning experiences from optimal teaching and guidelines from their teachers. The findings in this research have shown the majority of the Libya primary school teachers like the current environmental education teaching curriculum. Still, they do however have some changes they will want to make to the teaching curriculum. The finding of the study has shown the teaching curriculum can be made better with more practical teaching experiences and materials, and also by considering the individuality of students and how they can manage to learn adequately in that context. This study recommends the review of the Libyan primary school

environmental education teaching curriculum with respect to the findings of the study: providing teachers with more practical teaching materials, providing students with more experience-driven educational endeavors, and encouraging parents to support the educational system by extending the curriculum to home-based teaching objectives.

Recommendation

Based on the findings of this investigation and research, this study recommends the Libyan environmental education curriculum be reviewed for an update as indicated by the majority of the teachers surveyed. The requirements and concerns indicated by the teachers are conforming to several works of literature that indicate such changes and tools of environmental education are important to ensure impactful environmental education. Hence, this study recommends the following: The Libyan environmental education curriculum should be simplified, the curriculum should be designed to include the individuality of students, and the curriculum should be complemented with more practical environmental learning activities.

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