

RESEARCH ON IMPLEMENTATION OF BEST PRACTICES IN DESIGN AND DEVELOPMENT OF K-12 CURRICULUM IN JORDAN

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ABSTRACT

This study investigates the implementation of best practices in curriculum design and development for K-12 textbook publishing within the curriculum development department of an educational publishing company in Jordan. Drawing on the framework established by Male (2012), the research identifies key aspects of an ideal curriculum design, including subject knowledge, essential skills, and personal development. The study adopts a parallel mixed-method approach, integrating qualitative and quantitative data collection and analysis simultaneously to ensure a comprehensive understanding of current practices. The short-term goal is to analyze the findings to propose procedural improvements within the publishing company's curriculum and development department. The long-term aim, beyond the scope of this research, is to extend the insights gained to other educational publishing companies across Jordan, offering actionable recommendations for enhancing curriculum design and development practices in the region; to be able to contribute towards the achievement of the United Nations Sustainable Development Goal, SDG4 (Quality Education).

Keywords: *Curriculum development, sustainable goals, educational publishing, mixed methods research.*

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1. INTRODUCTION

The United Nations Sustainable Development Goal 4 (SDG 4), is related to education and has an aim to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (UNESCO, 2019). According to a report by the world Economic Forum in 2016, Jordan’s education system has seen a comparative decline in the past ten years. Furthermore, between 1999 and 2011, a reduction of scores by 5 percent was recorded in the Trends in International Mathematics and Science Study (TIMSS) assessment (*EDUCATION for PROSPERITY: DELIVERING RESULTS a National Strategy for Human Resource Development 2016 -2025*, n.d.).

Although not the only solution towards the realization of SDG4, well-designed curriculum resources can have a positive influence on instructional practices for teachers within the classroom (Choppin, Roth McDuffie, Drake and Davis, 2018). UNESCO (2019) further states in a report that in situations where teachers lack the necessary pedagogical skills, have poor teaching environments and have students who lack prior knowledge of subject matter, a well-structured curriculum can help in improving teaching and learning outcomes.

Due to lack of teaching skills, teachers become heavily dependent on using learning materials such as textbooks, lesson plans and other resources in the classroom (El-Kogali and Krafft,

n.d.). Schools in the Middle East stereotypically depend on textbooks to the extent that textbooks and scripted lessons are actually considered to be the curriculum (El-Kogali and Krafft, n.d.). These scripted lessons are also known as prescriptive pedagogy and their purpose is to allow inexperienced and untrained teachers some form of scaffolding when they teach (Westbrook et. al., 2014).

This brings to attention the importance of implementing best practices in curriculum design and development. It becomes an essential aspect in providing quality education to students of public and private schools in Jordan. It can also aid in achieving SDG4 indirectly, while providing long term learning opportunities for children and much needed support to teachers.

The focus of this research is to study whether best practices are being implemented in curriculum design and development within curriculum development departments in publishing companies in Jordan. An ideal curriculum design should incorporate aspects such as subject knowledge, necessary skills and personal development (Male, 2012). The short-term aim of the study is to make inferences from the analysis and improve procedures within the curriculum and development department of a publishing company in Jordan. The long-term aim will be to expand this research context to other educational publishing companies in the Middle East and suggest appropriate solutions for improvement - this is out of the scope of the current research assignment.

The following research questions were established:

- Are authors in the department aware of appropriate pedagogical approaches in design and development of K-12 curriculum?
- Do authors in the department possess necessary skills for design and development of K-12 curriculum?
- Are authors in the department aware of the outcomes of best practices in curriculum design and development?

2. REVIEW OF LITERATURE

Richards (2001) describes curriculum development as stages involved in planning and implementation of new or pre-existing curriculum. According to Mike Schmoker (Schmoker, 2011), in order to have positive impact on learning outcomes for students, it is essential for the taught curriculum to be supported by a clear and well established written curriculum.

A written curriculum is any educational document that has well outlined learning objectives, clear subject related content, meets region-specific examination requirements and has some form of assessment for learning outcome (Seel and Dijkstra, 2004). A written curriculum is perceived differently in different regions – it can be the official curriculum set up by central authorities and can even be the actual content in the form of textbooks and lesson plans (Seel and Dijkstra, 2004).

In this study, the production of written curriculum in the form of textbooks, will be analyzed. The following literature has been

researched to explore necessary factors that have an effect on the implementation of best practices in textbook (curriculum) design and development in Jordan.

2.1 Awareness of Curricular Pedagogy

Research reveals that pedagogical approaches and learning materials used in many MENA classrooms have no contextual connections to students' lives. In addition, written curriculum is presented as information to be memorized, affecting crucial aspects of student learning outcomes such as independent investigation and discovery (Bouhlila, 2011).

If textbooks are designed by developers who lack necessary pedagogical awareness, student engagement and retention of information will suffer (El-Kogali and Krafft, n.d.). This brings forth the first research question:

Are authors in the curriculum and development department aware of appropriate pedagogical approaches in curriculum design and development for K-12 education?

2.2 Possession of Skills Versus Credentials

According to research by (Salehi-Isfahani, 2012), most MENA countries have poorly developed hiring standards, where attention to important skills and technical abilities essential to curriculum development, are overlooked in favor of academic degrees.

An ideal curriculum designer must have the necessary skills for curriculum development. These include analysis of content issues, selection of appropriate subject material, organization of

information in a suitable framework, as well as skills to identify and develop objectives that are suitable for the learner's environment (Posner and Rudnitsky, 2009). This gives rise to the second research question:

Do authors in the curriculum and development department possess necessary skills for curriculum design and development for K-12 education?

2.3 Awareness of Curriculum Outcomes

A document by World Bank (Expectations and Aspirations: A New Framework for Education in the Middle East and North Africa, 2019) showed through an analysis done of over 420 research articles, that for developing countries, a well-designed and structured curriculum had positive impact on student learning outcomes

Other than what teachers can teach, curriculum in the form of learning materials should be analyzed for its intended purpose and the effect that it produces in the classroom (Schwab, 1983). Therefore, it is essential that curriculum developers are aware of the outcomes of the materials they produce, in order to improve the final effect that these materials have in the classroom. This brings forward the third and final research question:

Are authors in the department aware of the outcomes of best practices in curriculum design and development?

3. RESEARCH METHODOLOGY

3.1 Research Philosophies

There is an important connection between the thoughts, aims and philosophy of a researcher to be able to base their research on. For any research question to be answered, it is essential that the philosophy behind it is clear. The two main philosophies in research are that of ontology and epistemology.

Ontology is “the study of reality and what is known about reality” (Porta et al., 2014), while epistemology “helps to define ways of knowing reality, that is, the knowledge of reality” (Porta et al., 2014). According to Grix (2004), an ideal research will have the following components: a well-defined link between what the researcher believes is researchable (ontology) and the knowledge that the researcher has about it (epistemology).

The two philosophies, ontology and epistemology, make up a research paradigm. A paradigm is a common set of ideas between scientists or researchers, and is used to analyze an issue or an inquiry (Mack, 2020). Research paradigms guide the type of research methodology that can be employed. A research methodology is the framework or research method that is adapted to conduct the research. A research methodology guides what type of data collection methods are suitable to carry out the research (Mack, 2020).

3.2 Research paradigms

3.2.1 *The positivist or objective paradigm*

This paradigm asks research questions that can be quantified (Berryman, 2019). Positivists use the scientific method, where

there is observation and comparisons between groups, to prove a theory and come to a conclusion (Berryman, 2019). For a positivist, the ontological position is that reality is something that can be predicted. The epistemological position is that knowledge is something that is objective and can be established from a theory or hypothesis.

3.2.2 The interpretivist or subjective paradigm

This paradigm is the opposite of the positivist paradigm. Interpretivists ask research questions that are qualitative in nature. Researchers in this paradigm seek to understand rather than explain (Berryman, 2019). For an interpretivist, the ontological position is that reality is subjective and can have many perceptive. The epistemological position is that knowledge is something that is gained by personal experience and certain situations (Mack, 2020).

3.2.3. The Critical or Participatory Paradigm

The third paradigm is called critical paradigm or participatory paradigm. The researcher in this paradigm not only seeks to understand an issue, but also aims to find solutions or make changes based on his findings. This paradigm is mainly focused on the effect of power and the impact it has in society for marginalized populations (Mack, 2020). The ontological position of this paradigm is that society is the reality which is established by people within the society itself. The epistemological position is that knowledge is represented more by power than by truth (Mack, 2020).

3.2.4 *The pragmatic paradigm*

According to (Kivunja and Kuyini, 2017), the fourth paradigm is called pragmatic paradigm. This paradigm rejects both the positivist and interpretivist approaches. It instead has a view to approaches that are more practical and that can enable the researcher to use a combination of research methods. This paradigm enables the use of both qualitative and quantitative data collection tools. The ontological position in this paradigm is that reality cannot be specific and can be interpreted differently. The epistemological position is that approaches to knowledge of reality can be based on what the researcher finds most suitable or what works best for the particular situation. The main purpose of adapting this research paradigm is to conduct research that can benefit people in a context.

The choice of paradigm for this research study was pragmatic. This was because the main purpose of research was to analyze and make changes that can benefit people. In addition, it allowed most flexibility in terms of choice of research methodology and data collection tools.

3.3 Research Design

The pragmatic paradigm enables the use of both qualitative and quantitative research methods; therefore, the choice of research methodology was mixed methods research. According to (Coe, 2017) “mixed methods research was based on the fact that if research stems from more than one source and method, it makes the outcome more concrete”. This is known as triangulation, where the use of two or more approaches makes

the analysis from research stronger in terms of validity (Coe, 2017).

Another reason for choosing this methodology was that mixed methods research methodology helps the researcher approach an understanding of both qualitative and quantitative data. In addition, this methodology can help research participants to be more involved through the process of the research.

Although mixed methods research seemed most favorable, using more than one method in a study can make it complicated. It also has more demand on time and resources. Since this was a small-scale pilot study, this problem was not too evident.

3.3.1 Sampling/research context

The context of this research was an educational publishing company in Jordan. The company specialized in production of learning materials for grades K-12, primarily for schools that have English as a second language. The market for these learning materials are public and private schools in the MENA region. However, the current focus of this research context was Jordan.

Since the purpose of research was to analyze implementation of best practices in curriculum design and development, authors in the curriculum and development department were considered ideal research participants. Five authors with experience in writing learning materials, were selected for data collection.

3.3.2 Ethical considerations and procedures

In educational research, or any kind of research for that matter, it is essential to apply the correct code of ethics. This can be written in the form of an official document and should inform participants and the ethics committee of correct moral behavior that will be conducted during the research (Vanclay, Baines and Taylor, 2013). Of some ethical considerations, most important to this research were avoiding any kind of conflict with the participants as well as protecting their anonymity.

In order to obtain ethics approval by the ethics committee at the university, prior to beginning the research, the following procedures were undertaken:

a. Gatekeeper consent

Any organization has completed right to allow or deny a researcher permission to undertake any kind of evaluation or study within their premises. Thus, it is important that a gatekeeper, who is usually the head of the organization, is approached for prior permission (Singh and Wassenaar, 2016).

An email was sent to the gatekeeper, who in this case was the COO of the company. The reason for research was explained, and required permission to proceed with research was obtained by an official email response. One point to note was that the gatekeeper had requested to view the results of the research. Seeing this as a possible chance of breach of ethics for the research participants, the gatekeeper was informed of the implications. However, the gatekeeper was kind enough to understand, and approved to proceed ahead with research.

b. Participant informed consent

In order to get consent from research participants, it is essential to keep in mind that their participation should be voluntary and not forced. Participants should also be informed of the details of the research and the possible implications that it may have for them. This consent form also helps the researcher to keep a record of transactions between participants and the researcher in event of any unforeseen circumstances (Vanclay, Baines and Taylor, 2013). Furthermore, usually participants may agree to participate on condition that they are treated as anonymous and may also request that the information they provide is used in a particular way only (Israel & Hay, 2006).

Keeping all these points in mind, an informed consent form was sent out to the participants to get approval from them. In addition, since data collection included the use of online questionnaires, an informed consent sheet for online data collection was also prepared and sent to them.

c. Risk Assessment

Further analysis of potential risks in the research were considered as well.

- Participant related issues: It is important that consideration is given to the physical and mental well-being of the participants. In addition, it was especially essential to ensure that there was no risk to the participants regarding their jobs. There is a possibility here to consider the bias that might arise since, regardless of assurance of anonymity, participants would give responses that may not be authentic, just to

make sure that their roles in the company are not affected.

- Pressure from upper management: Being the manager of the participants, it is also important to maintain morality and respect boundaries by not allowing upper management or administration staff to pressurize the researcher for access to information that is collected from the research (Israel & Hay, 2006).
- Cost related issues: Any form of research can have its own costs. Since this was a small-scale pilot study the costs were not much in terms of money for the researcher and time for the participants.
- Balancing benefits and risks of research: While the overall goal of the research is to benefit the procedures within the company, there are potential risks as well. Other than risk of participant stress, there is also a chance that upper management may be hesitant to implement changes. This may be due to the systematical implications the results may produce. Instead, there is a possibility that upper management may put the researcher at financial or mental risk for carrying out the research in the first place.

3.3.3 Data Collection Tools

The type of research design (Table 1.1) used in this mixed method research was as follows:

Table 1. Mixed methods research design

<u>Parallel</u> Qualitative and quantitative data collected and analyzed at the same time. Qualitative + Quantitative	Aim: Analyze if best practices are implemented by authors for design and development of K-12 curriculum. Quantitative data collection tool: Questionnaire with Likert based responses Qualitative data collection tool: Open ended survey Synthesis: Independent analysis of both forms of data followed by integration of both, to make the research analysis results stronger and more valid.
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The initial mode of data collection was intended to be paper based. But due to the coronavirus pandemic and work from home procedures, an internet-based mode of data collection was considered. An ethical issue to be considered here was the fear of participant identity being revealed through use of email addresses. However, this was ruled out by using an online platform called Survey Monkey, that enabled participants to respond anonymously. A bias issue to be considered here is lack of control over respondent ethics since they may communicate the questions in surveys with each other, resulting in an inaccurate and biased response.

The rationale for selection of the above data collection tools is as follows:

- Quantitative tool - Online Likert based questionnaire.

Questionnaires are an ideal option for collection of quantitative data. This is because questionnaires have questions that are organized and structured in a way that data is collected in an objective manner, with specific responses that can be evaluated easily (Almeida et al., 2017).

Two important benefits of surveys include the fact that they can represent a larger population easily and that they are quite cost effective to produce. On the other hand, some limitations with these type of surveys is that their reliability depends on how they are designed and whether the participants understand the questions clearly (Male, 2012).

A chance of bias in this situation may arise if the researcher designs questions in such a way that they automatically work in favor of the response that the researcher wants. Hence, it is essential that the questions are neutral and that a scale of response options is given to participants to choose from.

- Qualitative tool -Online open-ended survey

Although surveys in general are considered to be quantitative in nature, open ended surveys serve a more qualitative purpose. This is because they are not structured and provide more room and control to the participants. This enables them to respond freely and voice their opinions more openly (Cohen, Manion and Morrison, 2007).

A potential problem with open ended surveys is that the questions may require responses that are generally time consuming. To avoid this, the questions need to be very specific and should require a brief one or two-line statement only. Another problem to keep in mind is that respondents may not understand the questions completely, and this may affect the quality of the answers. To avoid this, language should be kept simple and specific in the survey.

4. DISCUSSION

According to (van Teijlingen and Hundley, 2002), there are many benefits of conducting a pilot study. The most important aspect of a small-scale pilot study is that it helps to assess how feasible a full-scale research study will be. In addition, it also helps to identify the problems that may arise during full-scale research. Pilot studies give the researcher an opportunity to re-evaluate their choice of data collection tools, and make necessary decisions or changes based on their evaluation. Pilot studies also help the researcher identify the resources and finances that will be required to carry out full-scale research.

Five participants were selected for this pilot study. After receiving approval from the ethics committee at the University of Leicester, the process of data collection was initiated. Below is a short description of the design of both data collection tools.

4.1 Design of online Likert based questionnaire

Ten questions were designed with an aim to analyze and make inferences about participant knowledge and application of best practices in design and development of K-12 curriculum

(Appendix 1). The questionnaire was designed around the three research questions:

Research question 1

Are authors in the curriculum and development department aware of appropriate pedagogical approaches in curriculum design and development for K-12 education? Since the inference to be made was regarding pedagogical knowledge, the following questions were used:

- I am aware of best practices used in curriculum design in international K-12 education.
- I am aware of and I can infer approved international K-12 educational standards for curriculum design.
- The objectives in my curriculum design give educators a clear understanding of what is required from them.
- The objectives in my curriculum design are realistic and attainable by students in K-12 education.
- My curriculum design assesses student progress through formative and summative assessment.

Research question 2

Do authors in the curriculum and development department possess necessary skills for curriculum design and development for K-12 education? In order to obtain further knowledge about use of skills in curriculum design and development, the following questions were structured:

- I design curriculum by structuring objectives using either one or more of the following methods of

organization: by grades, units, strands, sequences or big ideas.

- My curriculum design is clearly supported with design and artwork that is age appropriate and culturally acceptable.
- My curriculum design supports textbooks with other resources to make the objectives achievable (such as teacher's guides, posters, flashcards and digital tools).

Research question 3

Are authors in the department aware of the outcomes of best practices in curriculum design and development? The last two questions of the survey were based on an attempt to analyze responses related to whether authors are aware what the final outcome is of the curricula they design.

- Following best practices in curriculum design gives me satisfaction that I am producing beneficial content for educators and students.
- I need to develop further knowledge and skills to improve the quality of my curriculum design.

In order to make the results specific and provide participants with more response options, each question had a Likert scale of five degrees to choose from. The choice of scale category was that of agreement and the degrees ranged from "strongly agree, agree, neither agree nor disagree, to disagree and strongly disagree".

The questionnaire was designed using an online platform called Survey Monkey. Since the choice of research design for mixed

methodology was parallel, this questionnaire was sent along with the open-ended survey at the same time.

4.2 Design of online open-ended survey

The questions in the open-ended survey were prepared to give more in depth analysis about the perspectives of authors in relation to implementation of best practices in design and development of K-12 curriculum (Appendix 2). The following were the questions of choice for the open- ended survey:

- List specific educational qualifications and experiences you have, that help you in your role as author in curriculum design for K-12 education.
- List at least three steps that you implement prior to writing new curriculum for K-12 education.
- List at least three examples of specific training that your department provided you with, in relation to writing content for K-12 education.
- Has your curriculum design been evaluated by an external administrative or curriculum expert?
- How does knowledge of best practices in curriculum design help you in your role as author? Please write two sentences explaining this.

In order to avoid the risk of having lengthy and generalized responses, the questions were made specific, with three responses that required listing, one yes/no response, and one short statement of personal experience. This survey was also designed using Survey Monkey and it was sent at the same time as the online questionnaire.

4.3 Data analysis

For any curriculum design to reflect implementation of best practices, there should be a well-established connection between three key areas – pedagogical or subject knowledge, implementation of necessary skills and further development based on outcomes analysis (Male, 2012). These are the criteria that were analyzed post data collection.

At first results from each data collection tool was analyzed individually. Following individual analysis an attempt at integrating both results was made, to strengthen the research study.

4.3.1 Individual analysis

- Online Likert based questionnaire results

Since there were five participants who gave responses to ten questions each, the total number of responses was counted as 50 in number (Appendix 3).

The responses for questions 1-5 were tallied to give insight about research question 1 - *are authors in the curriculum and development department aware of appropriate pedagogical approaches in curriculum design and development for K-12 education?*

13 responses indicated strong agreement, 10 responses indicated agreement, and two responses indicated neither agreement nor disagreement. From this it can be inferred that participants believed they possessed awareness of pedagogical approaches.

The responses for questions 6-8 were tallied to give insight about research question 2 - *do authors in the curriculum and development department possess necessary skills for curriculum design and development for K-12 education?*

12 responses indicated strong agreement, and three responses indicated agreement. From this it can be inferred that participants believed they had necessary skills for best practices in curriculum design and development.

The responses for questions 9-10 were tallied to give insight about research question 3 - *are authors in the department aware of the outcomes of best practices in curriculum design and development?*

Seven responses indicated strong agreement, and three responses indicated agreement. From this it can be inferred that participants were aware of curricular outcomes.

4.3.2 Online open-ended survey results

A rubric was designed to analyze responses from the open-ended survey (Appendix 4), in order to support findings from the online questionnaire.

Table 2. Qualitative data evaluation rubric

Research question	Rubric choice
1. Are authors in the curriculum and development department aware of appropriate pedagogical approaches in curriculum design and development for K-12 education?	Master's degree in education. K-12 teaching experience in the classroom for at least 5 years.
2. Do authors in the curriculum and development department possess necessary skills for curriculum design and development for K-12 education?	Awareness of important steps for writing curriculum. Keywords: mapping, curricular standards, objectives, level Training for skills development
3. Are authors in the department aware of the outcomes of best practices in curriculum design and development?	Knowledge of evaluation of curriculum. Desire to improve curriculum.

In relation to research question 1, only two participants had a Master's degree, out of which only one participant had a Master's degree in education. One participant was pursuing a graduate certificate in education. In addition, four out of five

participants had experience teaching English as a Second Language.

In relation to research question 2, only two participants mentioned the word mapping, while three participants mentioned emphasis on standards. In addition, only two participants mentioned consideration of student level. Using learning objectives to design curriculum was mentioned by two participants only. Regarding skills provided by the department, only two participants confirmed receiving some form of training by a fellow author. Two participants emphasized on making use of pre-learned skills, while one participant claimed they did not receive any form of in-house training.

In relation to research question 3, four out of five participants responded saying they were not sure if their materials were being evaluated by any curriculum expert. However, regardless of an awareness of curriculum outcomes, each participant did indicate a desire for professional development.

4.3.3 Integrated analysis

There seems to be conflict in overall outcomes of both the data collection tools. While the questionnaire gave, what appeared to be a biased response (mostly in the category of agreement for the Likert scale), analysis of the open-ended survey revealed information that would require further research.

5. CONCLUSION

This pilot study provided some useful insight into the research topic of choice. The whole process of analyzing one's research philosophies and then selecting an appropriate paradigm and

research methodology enabled the research to be carried out in a proper and systematic manner. Furthermore, applying and reflecting upon research design helped to see the implications and possibilities of improvement in the research process.

Mixed methods research methodology provided flexibility for choice of evaluation method. However, it would have been useful to apply more methods of data collection and not just two. Although the choice of two data collection methods is suitable for small-scale research, if this topic is to be researched further in different contexts, other qualitative and quantitative data collection tools need to be explored.

The key elements that impact quality of education in Jordan are curriculum, assessment methods and trained teachers (*EDUCATION for PROSPERITY: DELIVERING RESULTS a National Strategy for Human Resource Development 2016 -2025*, n.d.). All these elements are important for successful achievement of United Nations Sustainable Development Goal number 4.

This study reflects the presence of a lack of proper awareness and implementation of best practices by authors in curriculum design and development for K-12 education. The research findings enable a valid claim for change in publishing companies. Proposed changes within the department of such companies include in-house training by external professionals, hiring skilled authors and assessing outcomes of learning materials for further improvement.

REFERENCES

- Almeida, F., Faria, D., & Queirós, A. (2017). *Strengths and limitations of qualitative and quantitative research methods*. ResearchGate.
https://www.researchgate.net/publication/319852576_Strengths_and_Limitations_of_Qualitative_and_Quantitative_Research_Methods. Retrieved 10 April, 2023
- Berryman, D. R. (2019). Ontology, Epistemology, Methodology, and Methods: Information for Librarian Researchers. *Medical Reference Services Quarterly*, 38(3), 271–279.
<https://doi.org/10.1080/02763869.2019.1623614>
- Bouhlila, D. S. (2011). The quality of secondary education in the Middle East and North Africa: what can we learn from TIMSS' results? *Compare: A Journal of Comparative and International Education*, 41(3), 327–352.
<https://doi.org/10.1080/03057925.2010.539887>
- Choppin, J., Roth McDuffie, A., Drake, C., & Davis, J. (2018). Curriculum ergonomics: Conceptualizing the interactions between curriculum design and use. *International Journal of Educational Research*, 92, 75–85.
<https://doi.org/10.1016/j.ijer.2018.09.015>
- Coe, R. (2017). *Research methods & methodologies in education* (2nd ed.). Sage., 159-161.
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th ed.). Routledge.
<https://doi.org/10.4324/9780203029053>
- El-Kogali, S., & Krafft, C. (2020). *Expectations and Aspirations: A New Framework for Education in the Middle East and North*

Africa, 171-248. <https://doi.org/10.1596/978-1-4648-1234-7>.

EXPECTATIONS AND ASPIRATIONS A New Framework for Education in the Middle East and North Africa. (n.d.). Retrieved 10 April, 2023, from <https://documents1.worldbank.org/curated/en/527931542039352771/pdf/Overview.pdf>

Israel, M., & Hay, I. (2006). *Research Ethics for Social Scientists*. Sage Publications. 102-127.

Kivunja, C., & Kuyini, A. B. (2017). Understanding and Applying Research Paradigms in Educational Contexts. *International Journal of Higher Education*, 6(5), 26-41. <https://doi.org/10.5430/ijhe.v6n5p26>

Mack, L. (2010). The Philosophical Underpinnings of Educational Research. 5-9.

EDUCATION FOR PROSPERITY: DELIVERING RESULTS A National Strategy for Human Resource Development 2016 -2025. (n.d.). Retrieved April 3, 2023, from https://docs.wixstatic.com/ugd/176e64_5ad5680491ba47deb1579b450950ac46.pdf. 21-24.

Porta, M. S. (2014). *A Dictionary of Epidemiology* (6th ed.). Oxford University Press.

Posner, G. J., & Alan In Rudnitsky. (2009). *Course design: a guide to curriculum development for teachers*. Pearson/Allyn and Bacon. 149.

Richards, J. C. (2001). *Curriculum Development in Language Teaching*. <https://doi.org/10.1017/cbo9780511667220>

Salehi-Isfahani, D. (2012). Education, Jobs, and Equity in the Middle East and North Africa. *Comparative Economic*

- Studies, 54(4), 843–861.
<https://doi.org/10.1057/ces.2012.41>
<https://doi.org/10.1177/003172171109300317>. 70-71.
- Schwab, J. J. (1983). The Practical 4: Something for Curriculum Professors to Do. *Curriculum Inquiry*, 13(3), 239–236.
<https://doi.org/10.2307/1179606>
- Seel, N. M., & Sanne Dijkstra. (2004). *Curriculum, Plans, and Processes in Instructional Design*. Routledge. 150.
- Singh, S., & Wassenaar, D. (2016). Contextualising the role of the gatekeeper in social science research. *South African Journal of Bioethics and Law*, 9(1), 42–46.
<https://doi.org/10.7196/sajbl.2016.v9i1.465>
- UNESCO. (2019). *What Makes a Quality Curriculum?* Unesco.org.
<https://unesdoc.unesco.org/ark:/48223/pf0000243975>
- Vanclay, F., Baines, J. T., & Taylor, C. N. (2013). Principles for ethical research involving humans: ethical professional practice in impact assessment Part I. *Impact Assessment and Project Appraisal*, 31(4), 243–253.
<https://doi.org/10.1080/14615517.2013.850307>
- Male, B. (2012). *The Primary Curriculum Design Handbook: Preparing Our Children for the 21st Century*. Continuum. 13.
- Westbrook, J., Durrani, N., Brown, R., Orr, D., Pryor, J., Boddy, J., & Salvi, F. (2014). *Pedagogy, Curriculum, Teaching Practices and Teacher Education in Developing Countries. Final Report. Education Rigorous Literature Review*.
<https://eppi.ioe.ac.uk/cms/Portals/0/PDF%20reviews%20and%20summaries/Pedagogy%202013%20Westbrook%20report.pdf?ver=2014-04-24-121331-867>.

Appendix 1

Online Likert Based Questionnaire format

Related question in Likert survey	No. of responses				
	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
1. I am aware of best practices used in curriculum design in international K-12 education.					
2. I am aware of and I can infer approved international K-12 educational standards for curriculum design					
3. I design curriculum by structuring objectives using either one or more of the following methods of organization: by grades, units, strands, sequences or big ideas.					
4. The objectives in my curriculum design give educators a clear understanding of what is required from them					
5. The objectives in my curriculum design are realistic and attainable by students in K-12 education.					
6. My curriculum design is clearly supported with design and artwork that is age appropriate and culturally acceptable.					
7. My curriculum design provides appropriate materials and other resources available to make the objectives achievable, such as teacher's guides, posters, flashcards and digital tools.					
8. My curriculum design assesses student progress through formative and summative assessment.					
9. Following best practices in curriculum design gives me satisfaction that I am producing beneficial content for educators and students.					
10. I need to develop further knowledge and skills to improve the quality of my curriculum design.					

Appendix 2

Online open-ended survey format

Number	Questions
1.	List specific educational qualifications and experiences you have, that help you in your role as author in curriculum design for K-12 education.
2.	List at least three steps that you implement prior to writing new curriculum for K-12 education.
3.	List at least three examples of specific training that your department provided you with, in relation to writing content for K-12 education.
4.	Has your curriculum design been evaluated by an external administrative or curriculum expert?
5.	How does knowledge of best practices in curriculum design help you in your role as author? Please write two sentences explaining this.

Appendix 3

Online Likert Based Questionnaire Results

Related question in Likert survey	No. of responses				
	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
1. I am aware of best practices used in curriculum design in international K-12 education.	1	3	1		
2. I am aware of and I can infer approved international K-12 educational standards for curriculum design	1	3	1		
3. I design curriculum by structuring objectives using either one or more of the following methods of organization: by grades, units, strands, sequences or big ideas.	5				
4. The objectives in my curriculum design give educators a clear understanding of what is required from them	4	1			
5. The objectives in my curriculum design are realistic and attainable by students in K-12 education.	4	1			
6. My curriculum design is clearly supported with design and artwork that is age appropriate and culturally acceptable.	3	2			
7. My curriculum design provides appropriate materials and other resources available to make the objectives achievable, such as teacher's guides, posters, flashcards and digital tools.	4	1			
8. My curriculum design assesses student progress through formative and summative assessment.	3	2			
9. Following best practices in curriculum design gives me satisfaction that I am producing beneficial content for educators and students.	4	1			
10. I need to develop further knowledge and skills to improve the quality of my curriculum design.	3	2			

Appendix 4

Online Open-Ended Survey Results

- 1) List specific educational qualifications and experiences you have, that help you in your role as author in curriculum design for K-12 education.



Responses



Bachelor of Health Sciences (Hearing and Speech)
studying subjects such as and Normal Communication
Development and Linguistics.

Teaching ESL for 7 years, with three of them being a
primary subjects coordinator.

Currently studying a Graduate Certificate in Education
(Curriculum and Professional Practice)

4/21/20, 4:04 PM



A Masters in the area that I am writing in. I have also
taught for 4 years and have experience training staff in
the work place

4/20/20, 7:07 AM



I was trained by a TESOL-certified instructor, and I have
been working as an editor for publishing and distributing
company that specializes in educational resources.

4/19/20, 12:20 PM



A bachelor's degree in English Language & Literature
CELTA (Certificate in English Language Teaching
to Adults)

Taught English as a Second Language to college and

4/19/20, 10:23 AM



Master's and Bachelor's degrees in education. CELTA
training and certification.

4/19/20, 7:24 AM

- 2) List at least three steps that you implement prior to writing new curriculum for K-12 education.



Responses

Consider the age/grade group.



Consider the language level- Native English Speakers or ELLs.

Consider the function of the curriculum- main source of learning or supplementary material.

4/21/20, 4:04 PM

1. Research current worldwide standards



2. Compare standards

3. Combine best practice standards

4/20/20, 7:07 AM

1. I map a book or series out based on set objectives, and I will proceed through all grades that I am responsible for.



2. I research more about such objectives to determine the best way to teach each.

3. I determine the best sources of information if more is needed.

4/19/20, 12:20 PM

1) Refer to the Cambridge ESL curriculum framework



2) Plan out the corresponding topics for each unit and how the topic will run through the 4 language skills

3) Coordinate with the structural editor and go over the topics that will be covered and the layout of the units

4/19/20, 10:23 AM

1. Research and compare different applicable standards



2. Research best practices per the subject and level

3. Identify student goal, learning objectives and map the curriculum before writing ensuring that numbers 1 and 2 are implemented as much as possible.

4/19/20, 7:24 AM

- 3) List at least three examples of specific training that your department provided you with, in relation to writing content for K-12 education.



Responses

Not specifically related to writing content, however I attended a few workshops whilst working at a private school regarding assessment for learning, improving teaching practice in the classroom as well as teaching and implementing guided reading.



4/21/20, 4:04 PM

1. Sat with an author who explained the steps in creating curriculum



4/20/20, 7:07 AM

1. I was trained and supervised by a TESOL-certified instructor who also owned and operated a center for teaching English to non-native English speakers.
2. There are courses and organizations given to us to further our skills.
3. Information and training is on-going.



4/19/20, 12:20 PM

1) Sat with authors & learned the different online programs they use to write their work
2) Sat with editors & learned how they edit other people's work and what programs they use
3) Learned how best to incorporate the Cambridge ESL curriculum framework into the books that I author



4/19/20, 10:23 AM

None. No training was given to me other than handing me the company's style guide three times in a row.



4/19/20, 7:24 AM

- 4) Has your curriculum design been evaluated by an external administrative or curriculum expert?



Responses

At my current position as an Author, my supervisor has reviewed the content I have authored, however, I am unaware of her specific qualifications.



4/21/20, 4:04 PM

Management has reviewed and passed on the curriculum to an external expert



4/20/20, 7:07 AM

I am not sure.



4/19/20, 12:20 PM

Yes.



4/19/20, 10:23 AM

Not to my knowledge.



4/19/20, 7:24 AM

- 5) How does knowledge of best practices in curriculum design help you in your role as author? Please write two sentences explaining this.



Responses

My experience in selecting, using and evaluating curriculums to teach at the school I worked at allowed me to gain insight into what the most effective aspects of curriculums to allow for maximum teaching and learning.

4/21/20, 4:04 PM



It helps as getting an idea of what is important and works is necessary to create good content.

4/20/20, 7:07 AM



Authoring can be quite overwhelming. By knowing what to do and the best way to do it makes it possible to achieve better books/resources. It is vital to have direction in order to do what is needed and to do effectively.

4/19/20, 12:20 PM



Knowing the essential ESL teaching practices enables me to choose the appropriate teaching methods and activities that will not only help students learn new language skills, but will provide them with the opportunity to use those skills in various contexts.

4/19/20, 10:23 AM



Best practices guide me in understanding how to make sure my curriculum is interesting and engaging for both students and teachers. It also helps me set clear learning objectives and clear steps and guidelines for the teachers to follow.

4/19/20, 7:24 AM

