

## **Research Article**

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# Implementation Difficulties of Kuwait National Competency-Based Curriculum

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#### Abstract

The study investigates teachers' understanding and use of competency-based national curriculum in Kuwait's public education schools. A developed questionnaire survey distributed to 317 teachers and 94 supervisors. Findings indicated weaknesses in professional development and training, the assessment process, use of instructional technology, financial supplies, and teacher guides. Recommendations highlight needs of a professional development and training to supervisors and teachers on implementing the national competency-based curriculum, standards-based assessments, instructional technology, instructional strategies, and financial supplies. A future research on effects of the national competency-based curriculum on student learning, teaching performance, and outcomes of educational process is highly recommended.

Keywords: Competency-based curriculum, National Curriculum, Competencies, Kuwait

#### 1. Introduction

Worldwide, many education systems develop and implement competency-based curriculum (CBC) for national purposes, such as the Western countries (Pock, Durning, Gilliland, and Pangaro, 2019; Nodine, 2016; Abner, Bartosh, Ungerleider, and Tiffin, 2014; Paulo, 2014), African (Tilya and Mafumiko, 2018; Makunja, 2016), Middle East (Nasser, 2017). Some research (Wang, 2019; Zitouni, Daho, and Bloufa, 2018) indicates the effectiveness of CBC in making change in education. The CBC has a wide acceptance and enriches the learning experience (Ngussa and Lyimo, 2019). Other research (i.e., Kimaryo, 2011) argued that the implementation of the CBC is a complex process, as the focus of the teaching is on the development of the content rather than skills, which support the implementation of the CBC across different disciplines (Makunja, 2016; Komba and Mwandaji, 2015; Kafyulilo, Rugambuka, and Moses, 2012; Nara, 2011). In addition, adaptation and implementation of the CBC may be delayed due to lack of administrative support, absence of a vision, inadequate planning, low provision of the infrastructure, resistance to teaching, and change (Touchie and Ten Cate, 2016). Other reasons include lack of teaching, absence of guidelines, financial support, poor coordination and inadequate regulatory framework (Walsh, Koppula, Antao, Bethune, Cameron, Cavett, and Dove, 2018). In addition, an inadequate implementation of the CBC is noted due to the ineffective response of the education system to the regional developments as individuals lack the

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skills and knowledge to apply the learned concepts (Mulenga and Kabombwe, 2019). Such inadequate implementation of the CBC leads to the mismatch of the competencies as well as assessments as they lack feasibility (Sharma, Bakshi, and Kumar, 2019).

Nowadays, the CBC plays fundamental roles in recent developments of education in Kuwait. In specifics, the Kuwait ministry of education (KMOE) initiated a new project for the development of such a national CBC for all public education schools that creates problematic issues among all the KMOE personnel, teachers and parents, as well as teacher education institutions. The KMOE and the National Centre for Educational Development (NCED) in cooperation with the National Bank developed a national CBC according the Kuwait's national curriculum framework (MOE, 2013). This national curriculum framework determined the mission, vision, philosophy for education, and curricula contents and types of competencies related to the standards to be applied to all educational levels in Kuwait. Later in 2015, KMOE begum implementing the national CBC in all elementary schools and some selected grades (K6-9) of intermediate schools and high schools (K10-12). However, some inadequate level of competency among the learners as the Kuwaiti teachers experienced difficulty in implementing the national CBC in Kuwait (Alotaibi, Wu, and Alrabah, 2018), and further research on the CBC is recommended (Almanea, 2018).

This study purposes to investigate teachers' understanding and use of the national CBC, and determine difficulties experienced concerning the CBC implementation in Kuwait. The study assumes that the presented solutions and suggestions would contribute to overcome the obstacles and difficulties faced by teachers during the implementation of the national CBC. This would assist in achieving success in the process of educational development in Kuwait.

#### 2. Theoretical Framework: Some Background

## 2.1 Competency-Based Curriculum (CBC)

CBC is initially emerged in France in 2006 (Escalié, Recoules, Chaliès, and Legrain, 2019). Specifically, competencies are an integrated educational experience that achieves cognitive, emotional growth, and skill development for the learner to be able to social adjustment, achieve career success and the ability to make decisions and solve problems (MOE, 2013). It enables the student to know, demonstrate, comprehend, apply, analyse, synthesize, and evaluate a particular topic of instruction from the curriculum (Muñoz and Araya, 2017; Power and Cohen, 2005).

Also, CBC focuses on what students can do, rather than focusing merely on what they know. It encourages students to acquire experiences that require critical thinking rather than memorizing Knowledge (Nikolov, Shoikova, and Kovatcheva, 2014; Frere, 2010; Whiddett and Hollyforde, 2003). In the same context, Nikolov et al. (2014) explains that the proposed systematic methodology for CBC development consists of six phases: conceptualization, planning, data collection, data analysis and creation of a catalogue of competencies, development of a CBC, and development of applications and performance of a pilot test. In principle, such a curriculum is learner-centred and adaptive to the changing needs of students (Escalié et al., 2019). Therefore, the implementation of the competency-based training requires trained teachers as per the curriculum needs (Tampang and Wonggo, 2018). This also stresses facilitation of teacher's teaching practices for the life-long development of the students. In general, CBC is necessary as it helps to overcome the problems faced in the 21st-century (Scott, 2015). However, some teachers confront some challenges and difficulties when implementing a CBC (Makunja, 2016).

#### 2.2 Kuwait National CBC

As the Kuwait national CBC developed in 2013, the plan was to cover the whole education system in Kuwait, including the learning experiences in terms of knowledge, skills, attitudes and values offered to students aged from 3 to 18 years of old. Therefore, this national CBC provides what students should know,

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be able to do, and behave as values-oriented human beings during their learning process in schools. The Kuwait national CBC is also set out of specific vision, mission and philosophy statements, which must assure the development of a new type of human resource, fully equipped for converting Kuwait into a leading international finance, business center, and attractive oil capital of the world (MOE, 2013). This vision guarantees the sustainable well-being of the people of Kuwait. Therefore, this national CBC must prepare citizens to work hard to achieve the national vision by fully acquiring the competencies required to satisfy the needs of Kuwait and meet the challenges of globalization, the knowledge economy, and the digital age. In addition, the mission of the national CBC is to fully equip a new generation with the key competencies needed to make the country a financial and commercial power in the modern world. This mission is illustrated as follows: On the grounds of preserving Islamic, Arabic and national Kuwait values, in the next twenty to thirty years, we should educate citizens who cherish and respect their country, their traditions and their national identity, being at the same time open to acquiring multiple identities as citizens of Kuwait, the Gulf, the larger Arab World, and the World at large (NCED, 2014). The key competencies in Kuwait national CBC that all students will master are as: (1) Islamic religious and ethical competencies, (2) communicative competency in the Arabic language, (3) communicative competency in English and other foreign languages, (4) mathematical competencies, (5) social and civic competencies, (6) scientific, technological, and digital competencies, (7) personal development and learning to learn competencies, and (8) life and work, entrepreneurship, economic, and financial competencies (MOE, 2013).

## 3. Methods

The descriptive-analytical method was adopted to assess the difficulties experienced by the teachers during their implementation of the national CBC in Kuwait. The rationale for choosing this particular study design is based on its' correspondent with the procedures and nature of this study (Alfaki and Khamis, 2018).

#### 3.1 Study Population and Sample

All 500 participants (i.e., n = 250 teachers and n = 250 instructional supervisors) were randomly selected for the study. Only 411 out of 500 participants completed the questionnaire survey (n = 317 teachers, and n = 94 instructional supervisors). All participants are all Kuwaiti male teachers and instructional supervisors who had over 10 years of work experience in Kuwait's public schools.

#### 3.2 Survey Development

A questionnaire survey developed by using literature reviews related to CBC and related instructional practices, which included items focused on the difficulties experienced by teachers during the implementation of the national CBC in Kuwait's public schools. Then, the validity was tested by seven experts in curriculum and instruction at the Faculty of Education in Kuwait University. The coefficient reliability for Cronbach Alpha was 0.891 that is significant and suitable for the study.

This questionnaire consisted of 25 items, which divided into three sections. The first section consisted of ten items (1-10), which focused on CBC by examining specific aspects of the CBC concept and materials related to participants' difficulties. Some representative items from the first dimension included the following: "Lack of CBC-based textbooks and teachers' guides associated with the CBC" and "The developed national CBC does not reflect the intended objectives to be achieved in Kuwait's education system."

The second section consisted of 15 items (11-20), that focused on instructional practices, assessment and technology (IPAT) by examining specific aspects of the actions related to teaching and learning strategies, different types of assessment, and educational technology. Some

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representative items from the second dimension included the following: "Lack of understanding of the Kuwait National CBC-based lesson plans, learning activities, teaching strategies, and assessments" and "Lack of knowing how to use educational technology when implementing the Kuwait national CBC."

The third section consisted of eight items (21-25) that focused on the continuous professional development (CPD) by examining specific aspects of the actions related to providing training programs to all in-service teachers and instructional supervisors on the new National CBC in Kuwait's public schools. Some representative items from the third dimension included the following: "Weak professional development and training for in-service teachers prior to the implementation of Kuwait national CBC" and "Weak engagement of instructional supervisors during the CBC development and implementation".

#### 3.3 Data Collection and Analysis

Prior to the research, approval request was granted by the ethical review board in KMOE. Subsequent to this, all participants of the study were communicated about the research objective, anonymity, and confidentiality of the data. They were also notified of their right to withdraw at any time of the study. Then, the participants received the questionnaire survey via an online application, and their responses collected for four weeks duration in the spring semester of academic year 2019-2020, and then statistically analyzed using the SPSS Version 23.0. All needed tests (i.e., means, standard deviation, and t-test) were calculated to finalize the results in the study.

## 4. Results

This study designed to answer two research questions. First, what is the degree of difficulties when implementing the Kuwait national CBC in public schools according to dependent variables including three dimensions (CBC, IPAT, and CPD)? Second, are there significant differences in the responses of teachers and instructional supervisors towards the difficulties of national CBC related to the CBC, IPAT, and CPD?

Therefore, the study examined relationships between three independent variables (educational qualification, and educational district) and three dependent variables (CBC, IPAT, and CPD). The results are presented as below. First, mean ratings of participants on CBC, IPAT, and CPD are reported. Second, results of the analyses of relationships between the two demographic variables and the three aspects of the dependent variables (CBC, IPAT, and CPD) are reported.

## 4.1 CBC, IPAT, and CPD

As shown in Table 1, the overall mean ratings of participants on the 25 items focusing on the CBC, IPAT, and CPD was considering only the highest mean above 2.99 with a highest standard deviation above 1.000. This means that, although there was a range of views, on average responders considered that they 'medium' complied with the implementation of Kuwait national CBC. The highest mean rating of 4.18 was observed for both item 20 "Lack of understanding of the Kuwait National CBC-based lesson plans, learning activities, teaching strategies, and assessments" and item 21 "Weak professional development and training for in-service teachers prior to the implementation of Kuwait national CBC". The lowest mean rating of 3.00 was obtained for item 10 "Lack of procedures for providing information to parents on the Kuwait national CBC". This means that both the teachers and instructional supervisors face difficulties with the Kuwait national CBC at a high level, specifically on items 20 and 21, which indicated the most problematic issues of difficulty to understanding the Kuwait national CBC and knowing how to implement it in the classrooms.

## Table 1: The Highest Means and Standard Deviations for Items among Three Dimensions

No.	Difficulties	Mean	S.D.	Rank
20	Lack of understanding of the Kuwait National CBC-based lesson plans, learning activities, teaching strategies, assessments.	4.18	1.257	1
21	Weak professional development and training for in-service teachers prior to the implementation of Kuwait national CBC.	4.12	1.023	2
1	Difficulty of understanding the CBC concept and objectives.	3.94	1.268	3
4	Lack of instructional technology necessary to use the CBC.	3.90	1.445	4
5	Learners face a difficulty learning and understanding topics when using CBC.	3.86	1.552	5
11	No clarity and experience on how to use assessments in the Kuwait national CBC.	3.80	1.385	6
7	Lack of CBC guidelines for school administrations to monitor and assess the implementation of CBC.	3.78	1.234	7
8	Lack of CBC-based textbooks and teachers' guides associated with the CBC.	3.56	1.445	8
10	Lack of procedures for providing information to parents on the Kuwait national CBC.	3.00	1.690	9

## 4.2 Relationships between Demographic Variables and Aspects of the Kuwait National CBC

Differences between the two independent variables (educational qualification, and educational district) and the three dependent variables (CBC, IPAT, and CPD) were found that there are no statistically significant differences between participants responses at the significance level of 0.05. However, the results presented in Table 2 shown that there were significant differences between the three dependent variables of dimensions (CBC, IPAT, and CPD) and the position variable (Teachers and instructional supervisors). The teachers reported higher ratings than instructional supervisors at a level of significance of less than 0.05. Specifically, these teachers' responses showed lack of instructional practices, which are likely to impact the effectiveness implementation of the Kuwait national CBC.

**Table 2:** Results of T-test and Level of Significant for CBC, IPAT, and CPD Evaluation according to Position

Participants	Ν	М	SD	T-test	Significance Level
Teachers	317	3.459	.732		
Instructional Supervisors	94	4.086	.815	7.097	.000
*(2= 0.05)					

<sup>(</sup>a= 0.05)

## 5. Discussion

The findings of this study have revealed that the 411 out of 500 participants had a high level of difficulty when implementing the Kuwait national CBC, which is required and outlined for the education in all Kuwait's public schools (MOE, 2013). Each of the highest mean ratings for the selected items among the three dimensions (CBC, IPAT, and CPD) is analyzed according to the results of this study and other research findings as follows.

#### 5.1 First: CBC

Regarding the CBC, the results were shown that both teachers and instructional supervisors had a difficulty of understanding the Kuwait national CBC in terms of the concept and objectives, which is in contrast to what is stated by previous research findings (Kizito, Telesphore, and Rukundo, 2019; Edwards, Sánchez-Ruiz, and Sánchez-Díaz, 2009; Sudsomboon, 2007). Furthermore, the results revealed there was a lack of instructional technology necessary to use when implementing the Kuwait national CBC, as this deficiency was also supported by other research findings (i.e., Buatip,

Chaivisuthangkura, and Khumwong, 2019). This shows a need to have all classrooms fully equipped with all the necessary tools, such as computers, the internet, and technology learning sources.

Also, learners faced difficulties when implementing the Kuwait national CBC, a high percentage of teachers and instructional supervisors mentioned that learners are not familiar with the new of Kuwait national CBC in terms of topics, contents and materials needed to be learned, searched, analyzed, evaluated, and creating new ideas, which is in contrast to what is stated by previous research findings (Wang et al., 2018). In addition, the results indicated that parents also have some difficulties, which can be divided into two categories. The first is the lack of clarity of the concept and importance of the CBC, especially the assessment system. Second, the CBC involves many projects that cost parents money and effort to provide what is needed for their children, which was supported by other research findings Evans and DeMitchell, 2018).

As the teachers and instructional supervisors reported that school administrations faced difficulties in setting appropriate educational environment, technological facilities, libraries, research resources, computers, provided before implementing the Kuwait national CBC requires, which is supported by other research findings (Muñoz and Araya, 2017; Touchie and Ten Cate, 2016; Walsh et al., 2018). This needed some training sessions provided to teachers and instructional supervisors as initial stage prior to the implementation of such new Kuwait national CBC, as supported by research findings (Makunja, 2016). As well, the textbook guidelines for both the teachers and instructional supervisors were noted as another difficulty associated with the implementation of Kuwait national CBC, which is in contrast by other research findings (Muñoz and Araya, 2017; Komba and Mwandaji, 2015; Kafyulilo, Rugambuka, and Moses, 2012; Nara, 2011).

### 5.2 Second: IPAT

The results for the IPAT dimension indicated that both teachers and instructional supervisors had a lack of understanding the Kuwait national CBC in terms of writing lesson plans, preparing learning activities, selecting proper instructional practices for best teaching and learning, suitable assessments. This lack leads to difficulties preventing teachers achieve educational objectives set out in the Kuwait national CBC, as well as instructional supervisors' ineffective response to the development of education system, which is supported by other research results (Mulenga and Kabombwe, 2019; Sharma, Bakshi, and Kumar, 2019).

Also, the inexperience of knowing how to use best assessments when implementing Kuwait national CBC in classrooms made both the teachers and instructional supervisors unsure whether or not their assessments worked best in judging students' performance and achievement, and then led to a confusion among teachers, which is supported by other research results (Sharma, Bakshi, and Kumar, 2019).

## 5.3 Third: CPD

The results for the CPD dimension indicated that both teachers and instructional supervisors were *weak due to not providing training and continuous professional development before the implementation of the Kuwait national CBC*, or had no knowledge and practice well during teacher preparation programs in Kuwait, which was supported by other research findings (Kizito et al., 2019; Du, Kassab, Al-Moslih, Abu-Hijleh, Hamdy, and Cyprian, 2019).

#### 6. Conclusion and Recommendations

This study has highlighted the difficulties for teachers and instructional supervisors in implementation of the Kuwait national CBC in public schools. these difficulties mainly presented in certain areas of CBC, IPAT, and CPD. Some recommendations are provided as follows.

First, teacher education programs in Kuwait should include the CBC in curricula of courses

offering to pre-service teachers. This can be included in both the education and practice components of any teacher education program. So, pre-service teachers get educated and then practice the CBC before enroll in the teaching profession in the future.

Second, KMOE consult experts of curriculum and instruction who work in teacher education programs in the Kuwait university, the basic college of education, and international well-known expert in one of the best university's teacher education in the world. This consultation should focus on evaluating the Kuwait national CBC in terms of its development and design, components of curricula, contents and activities, related teaching and learning strategies best work, assessment and evaluation, and other learning and technology resources needed.

Third, KMOE should offer all needed continuous professional developments programs and training for in-service teachers to enhance knowledge of teachers, instructional supervisors and school administrators on using effectively different types of curriculum, including the CBC, to make improvements in the teachers' performance that would lead to improvements in student learning and achievement.

Fourth, KMOE should make sure that all teachers, instructional supervisors and school administrators have necessary documents, i.e., guidelines or handbooks, for the curriculum intended to be implemented in Kuwait's public schools.

Fifth, KMOE public schools and teacher education programs should work together in educating parents on any kind of curriculum intended to be implemented in the education system. This helps parents understand what it is needed to follow and monitor in their children's education.

Last, KMOE needs to encourage and reinforce researchers to conduct research studies on evaluation and curriculum development to find out weaknesses and strengths, and then provide suggestions for improvements of curriculum, teaching and learning, and outcomes of education system in Kuwait

## References

- Abner, B., Bartosh, O., Ungerleider, C., & Tiffin, R. (2014). Productivity implications of a shift to competency-based education: An environmental scan and review of the relevant literature. The Higher Education Quality Council of Ontario.
- Alfaki, I. M., & Khamis, A. H. A. (2018). Difficulties facing teachers in using interactive whiteboards in their classes.
- Almanea, M. S. (2018). The Effect of using "Competencies Based Curriculum in Teaching" on Acquiring Tendencies towards Science Subjects Among Middle School Students, in the State of Kuwait. European Journal of Social Sciences, 56, 333-347.
- Alotaibi, A. M., Wu, S. H., & Alrabah, S. (2018). Challenges in Learning English Prepositions by Kuwaiti EFL Learners: A Call for Bridging the Gap in Kuwait's New English Language Curriculum. Advances in Social Sciences Research Journal, 5. https://doi.org/10.14738/assrj.511.5659
- Buatip, S., Chaivisuthangkura, P., & Khumwong, P. (2019). Enhancing Science Teaching Competency among Pre-Service Science Teachers through Blended-Mentoring Process. International Journal of Instruction, 12, 289-306. https://doi.org/10.29333/iji.2019.12318a
- Du, X., Kassab, S. E., Al-Moslih, A. M., Abu-Hijleh, M. F., Hamdy, H., & Cyprian, F. S. (2019). Identifying essential competencies for medical students. Journal of Applied Research in Higher Education. https://doi.org/10.1108/jarhe-07-2018-0114
- Edwards, M., Sánchez-Ruiz, L. M., & Sánchez-Díaz, C. (2009). Achieving competency-based curriculum in engineering education in Spain. Ingenio (CSIC-UPV) working paper series 2009/04 (pp. 1-25). Retrieved from http://digital.csic.es/bitstream/10261/14228/1/Achievingcompetency/based curriculum in Engineering Education in Spain [1].pdf
- Escalié, G., Recoules, N., Chaliès, S., & Legrain, P. (2019). Helping students build competency in physical education: theoretical proposals and illustrations. Sport, Education and Society, 24, 390-403. https://doi.org/10.1080/13573322.2017.1397507
- Evans, C. M., & DeMitchell, T. A. (2018). Mapping out the Terrain: Northeast Principals' Perceptions of the Barriers and Facilitators to Implementing K-12 Competency-Based Education.

Frere, C. (2010). Developing a competency-based curriculum. Virginia: West Virginia University. New Jersey: Pearson. Retrieved from www.hsc.wvu.edu/faculty-development//developing-a-competency-basedcurriculu

Kafyulilo, A. C., Rugambuka, I. B., & Moses, I. (2012). The implementation of competency-based teaching approaches in Tanzania: The case of pre-service teachers at Morogoro Teachers Training College. Universal Journal of Education and General Studies, 1, 339-347.

- Kimaryo, L. (2011). Integrating environmental education in primary school education in Tanzania: teachers' perceptions and teaching practices.
- Kizito, N., Telesphore, H. H., & Rukundo, J. C. (2019). Rwandan New Competency Base: Curriculum Implementation and Issues; Sector-Based Trainers. LWATI: A Journal of Contemporary Research, 16, 24-41.
- Komba, S. C., & Mwandanji, M. (2015). Reflections on the implementation of competence based cuurriculum in Tanzanian secondary schools.
- Kouwenhoven, W. (2009). Competence-based curriculum development in higher education: A globalised concept?. Technology education and development, 1-22.
- Makunja, G. (2016). Challenges facing teachers in implementing competence-based curriculum in Tanzania: The case of community secondary schools in morogoro municipality. International Journal of Education and Social Science, 3, 30-37. https://doi.org/10.4314/iijikm.v9i2.4
- MOE [Ministry of Education in Kuwait]. (2013). Kuwait National Curriculum: Primary education, curriculum and standards for English language. State of Kuwait.
- MOER [Ministry of Education Republic of Rwanda]. (2015). Competency-based curriculum. Summary of curriculum framework per-primary to upper secondary. Rwanda Education Board, Republic of Rwanda.
- Mulenga, I. M., & Kabombwe, Y. M. (2019). A Competency-Based Curriculum for Zambian Primary and Secondary Schools: Learning from Theory and Other Countries in the World. International Journal of Education and Research, 7, 117-130.
- Muñoz, D. R., & Araya, D. H. (2017). The challenges of competence-based assessment in the educational field. Educação e Pesquisa, 43, 1073-1086.
- Nara, A. (2011). Assessing the impact of competence-based curriculum on students' learning habits in Tanzania. Unpublished MA dissertation, Dar es Salaam: University of Dar es Salaam.
- Nasser, R. (2017). Qatar's educational reform past and future: challenges in teacher development. Open Review of Educational Research, 4, 1-19. https://doi.org/10.1080/23265507.2016.12666693
- NCED [National Center for Educational Development]. (2014). Kuwait national curriculum and standards for intermediate education. Ministry of Education, State of Kuwait. https://prielt.files.wordpress.com/2011/11/english-curriculum.pdf
- Ngussa, B. M., & Lyimo, N. S. (2019). Correlation between code change strategy, teaching modalities and learners' competency-based abilities: A Case of Arusha Technical College, Tanzania. https://doi.org/10.6007/ijarped/ v4-i2/1726
- Nikolov, R., Shoikova, E., & Kovatcheva, E. (2014). Competency based framework for curriculum development. Za bukvite, O'pismeneh Sofia. Retrieved from: https://unesco.unibit.bg//CBFramework\_TEMPUS-PICTET\_Nikolov\_Shoikova\_Ko. https://doi.org/10.21125/inted.2018.1392
- Nodine, T. R. (2016). How did we get here? A brief history of competency-based higher education in the United States. The Journal of Competency-Based Education, 1, 5-11. https://doi.org/10.1002/cbe2.1004
- Paulo, A. (2014). Pre-service teachers' preparedness to implement competence-based curriculum in secondary schools in Tanzania. International Journal of Education and Research, 2, 219-230.
- Pock, A. R., Durning, S. J., Gilliland, W. R., & Pangaro, L. N. (2019). Post-Carnegie II curricular reform: a north American survey of emerging trends & challenges. BMC medical education, 19, 260. https://doi.org/10.1186/s12909-019-1680-1
- Power, L., & Cohen, J. (2005). Competency-based education and training delivery: Status, analysis and recommendations. Washington, DC: United States Agency for International Development.
- Scott, C. L. (2015). The futures of learning 3: What kind of pedagogies for the 21st century. Education Research and Foresight, 15, 1-21.
- Sharma, R., Bakshi, H., & Kumar, P. (2019). Competency-based undergraduate curriculum: A critical view. Indian Journal of Community Medicine, 44, 77.
- Storrar, N., Hope, D., & Cameron, H. (2019). Student perspective on outcomes and process–Recommendations for implementing competency-based medical education. Medical teacher, 41, 161-166. https://doi.org/10.1080/0142159x.2018.1450496

Sudsomboon, W. (2007). Construction of a competency-based curriculum content framework for mechanical technology education program on automotive technology subjects. In Proceedings of the ICASE Asian Symposium. Pattaya, Thailand. Retrieved from; www.kmutt.ac.th/rippc/pdf/abs50/503003.pdf

Tambwe, M. A. (2019). Challenges Facing the Implementation of a Competency-Based Education and Training (CBET) System in Tanzanian Technical Institutions. Education in Tanzania in the Era of Globalisation: Challenges and Opportunities, 242.

Tampang, B. L. L., & Wonggo, D. (2018). Teacher Professionalism in Technical and Vocational Education. In IOP Conference Series: Materials Science and Engineering (Vol. 306, No. 1, p. 012017). IOP Publishing.

Tilya, F., & Mafumiko, F. (2018). The Compatibility between Teaching Methods and Competence-Based Curriculum in Tanzania. Papers in Education and Development.

Touchie, C., & Ten Cate, O. (2016). The promise, perils, problems and progress of competency-based medical education. Medical education, 50, 93-100.

Walsh, A., Koppula, S., Antao, V., Bethune, C., Cameron, S., Cavett, T., & Dove, M. (2018). Preparing teachers for competency-based medical education: fundamental teaching activities. Medical teacher, 40, 80-85.

Wang, T. (2019). Competency for Students' Future: Curriculum Change and Policy Redesign in China. ECNU Review of Education, 2, 234-245. https://doi.org/10.1177/2096531119850905

- Whiddett, S., & Hollyforde, S. (2003). A practical Guide to competencies: How to enhance individual and organizational performance. London: Chartered Institute of Personnel and Development. https://doi.org/10.1108/cdi.1999.4.7.400.5
- Zitouni, A., Daho, A., & Bloufa, B. (2018). An Analytical Study of reasoning skills according the bloom's taxonomy included in the curriculum of physical education and sport based on competency approach in middle school in Algeria. Sportis, 4, 527-537. https://doi.org/10.17979/sportis.2018.4.3.3502