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The Practice and Challenges of the Implementation of Competency Based Curriculum in Higher Education Institutions of Ethiopia

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Abstract

The general objective of this study was to examine the implementation of competency-based curriculum in higher education institutions of Ethiopia. A concurrent embedded mixed research design was employed to conduct the study. Data were collected from 279 instructors and 384 regular undergraduate students selected using stratified random sampling method for the questionnaire. A total of 12 deans and department heads were selected using purposive sampling technique for an interview. The quantitative data was analyzed using descriptive and T- test. The result of the study shows that the competency based curriculum implemented in higher education institutions of Ethiopia was fairly implemented. This was due to lack of well-organized curriculum, instructors' readiness and conducive institutional environment to implement competency based curriculum. Among the challenges that hinder the effective curriculum implementation lack of resources, lack of students' motivation and weak university industry linkage was ranked as 1st, 2nd and 3rd respectively. To sum, the implementation of the competency-based curriculum in Ethiopian higher education institutions faced significant challenges. Finally, an attempt was made to suggest some recommendations related to revision of the curriculum, instructors professional development, creating conducive institutional environment and as well as the need for establishing strong university-industry linkages.

Key words: Competency, characteristics of curriculum, characteristics of lecturer, characteristics of institution, implementation

1. Introduction

Countries around the world have been challenged by the continually changing science and technology and global market. The rapid advancements in technology have transformed the labor market, necessitating individuals to possess flexibility, creativity, interactivity, and proficiency in information and communication technology (Skills, 2010). In light of these challenges, there is a need for a global education system that redefines the notion of valid knowledge and embraces effective approaches to teaching and learning in the 21st century (Sundberg & Wahlström,

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2012). Recognizing the necessity of adequately preparing individuals for the complexities of the modern world, educational reform has become imperative (Gordon et al., 2009; Willbergh, 2015). The goal is to equip students with the necessary knowledge, skills, and attitudes to address the complex social and economic challenges of today's society (Hamilton et al., 2010).

International organizations such as UNESCO, OECD, and the EU have taken a leading role in advocating for the redefinition of school curricula and emphasize the integration of key competencies (Gordon et al., 2009; Halasz & Michael, 2011). This emphasis on competency-based education (CBE) has gained recognition and is being integrated into education systems globally (Gardner, 2017). The shift towards competency-based curriculum is motivated by the need to prioritize the development of competencies, as they are crucial for employability and establishing a meaningful connection between learning and real-world problems (Mulder, Weigel, & Collins, 2007).

Therefore, to prepare professionals for diverse job opportunities higher education institutions need to revise their curricula and strengthen mode of deliveries so as to equip graduates with the required competencies needed to satisfy the need of customers (Witt & Gebbie, 2016). Cognizant to this, Ethiopia had launched a new 'educational roadmap' in 2018 to transform its educational system to competency based education to accord with the requirements of 21st century education systems that play roles of transforming the socio-economic development of the nation (Nisrane, 2020).

Based on the education roadmap, a new curriculum was introduced with the objective of producing university graduates who possess a combination of cognitive and non-cognitive skills. This curriculum aims to develop higher-order thinking skills such as critical thinking, creative thinking, and problem-solving abilities. The modules were prepared with the vision of nurturing well-rounded individuals equipped with 21st-century skills and competencies (MoE, 2018). Focusing on the competencies that the graduates need to attain by integrating knowledge and skills and aspire to effectively prepare professionals for diverse job opportunities in the areas where the country needs skilled professionals (MoE, 2018).

However, government and private employers are not happy with the competence of graduates from universities. This is because higher education fail to properly implement the competency based curriculum .This idea is supported by studies carried out at national level. For example a study conducted by Likisa (2018) to assess the challenges and prospects of competency-based education in Adama science and technology university the result of the study reveals that curriculum designers and teachers often lack adequate training and awareness of the nature, focus, assessment, and development of competency-based education .

Similarly, a research carried out by Molla, et.al (2023) entitled the current status of faculty members' pedagogical competence in developing 21st century skills at selected universities in Ethiopia shows that the pedagogical practices of the faculty member s were with the usual conventional direct lecture, which is insignificant to bringing a paradigm shift from knowledge-based instructional practice to the 21st century competence of knowledge-based instruction. This will have the adverse effect that graduates will lack the skills necessary for employment and

success in the workplace.

To assess the role of university industry linkage in implementing competency based curriculum in public higher learning institutions in Ethiopia Teressa and Besha (2020) reviewed many journals however, the result of their review reveals that most of them were not concerned regarding the role of higher learning institutions and industries in implementing the competence-based curriculum. Though there were some attempts by the aforementioned researchers to examine the implementation of competency-based education, these studies did not properly address the three factors that affect the effective implementation of a competency-based curriculum. Thus this study was designed to fill the gap by studying the three factors affecting effective implementation of competency base curriculum. To this end, the researcher aims to study the practices and challenges of competency based-curriculum implementation in higher education of Ethiopia.

2. Literature Review

2.1 Factors Influencing Curriculum Implementation

2.1.1 Characteristics of the Institution

Curriculum implementation in higher education institutions is influenced by both political and cultural dimensions within the organization. Several institutional factors play a pivotal role in shaping the effective implementation of curriculum, including organizational culture (shared vision, institutional leadership, professional development, resource availability) (Mortimer & Sathre, 2007), and the linkage between universities and industries (Tamrat, 2014).

- **Organizational culture**

Shared Vision: Building a shared vision among stakeholders is crucial for effective curriculum implementation. It fosters a sense of unity and ownership among those involved in the process. This shared understanding includes a collective knowledge of how team members contribute to developing and executing the curriculum (Innes, 2004).

Institutional Leadership: Institutional leaders, due to their proximity to the classroom environment, have a significant impact on curriculum implementation. Effective leadership, characterized by participation and distribution of responsibilities, is vital for success. Strong and supportive leadership, accepted by academic staff, motivates and mobilizes them around educational objectives related to the curriculum (Fullan, 2007).

Professional Development: Professional development is essential for empowering staff to effectively implement the curriculum. Staff members need to stay updated with curriculum-related developments to ensure effective implementation. This involves continuous capacity-building to enhance their knowledge and skills (MacDonald, et.al., 2017).

Availability and adequacy of resources: With regard to curriculum implementation, adequacy of resources refers to adequacy of appropriate equipment, teaching materials, classrooms, laboratories, finances, workshops and adequately qualified human resources to support the implementation process (Rudhumbu, 2015). For the curriculum to be effectively

implemented, these resources must already be there before the implementation process begins to avoid time-wasting. In terms of human resources, a diverse well-qualified and experienced staff enables the sharing of diverse ideas necessary for effective curriculum implementation (Yang, 2013).

University industry linkage: It is already recognized that the importance of linkage of higher education institutions with various industries for one's country sustainable development. Collaboration between universities and industries is critical for skills development, effective university and industry linkage can affect the competence of graduates, the ability of solving problems, and in general the speedy of economic development of the country(Guimón,2013).

2.1.2 Characteristics of the Instructor

Instructors' beliefs about teaching and learning shape their instructional practices, with two main perspectives: teacher-centered and learner-centered approaches (Smith, 2010). Teacher-centered approaches involve knowledge transmission through lectures (Weimer, 2013), Learner-centered approaches emphasize active participation and independent inquiry, and within this framework, competency-based education aligns with the learner-centered approach (Cantrell, Kool, & Kouwenhoven, 2010). In competency-based education assessment focused on competencies. Aspects are: mainly assessment of competencies, rather than knowledge and skills; assessment is both formative and summative and forms an integral part of the process of the development of competencies (Cantrell, Kool, & Kouwenhoven, 2010). Teachers' beliefs and their level of preparedness significantly impact the quality and style of curriculum implementation (Koskei, 2015). On top of this, Hargreaves (2000), states that positive attitudes and enthusiasm among instructors are crucial for the success of curriculum implementation.

2.1.3 Nature of the Curriculum

Research shows that the nature or characteristics of the curriculum can either hinder or drive its successful implementation (Schagen, 2011). These characteristics can include the need for the curriculum, clarity, complexity and practicality of a curriculum.

Need for curriculum/innovation: This relates to the motivation for the curriculum and to answering the question: what is the purpose of the curriculum or is there a need for the curriculum? Koo(2009) says teachers who feel that the innovation or curriculum is relevant to their own needs as well as students' needs usually more willingly and enthusiastically implement it compared to those who do not see the need for it.

Clarity: refers not only to details but also to the general sense of direction and purpose of the innovation (Fullan, 2007). In their discussion on what they called action images with regard to implementation of innovations, Mules and Louis (1990 in Koo 2009) argue that people are always eager to implement innovations which they have an image or sense of in terms of what it means and what to do to get there (to successfully implement it).

Complexity: of the curriculum Complexity relates to how ambitious and demanding an innovation or curriculum is (Fullan, 2007). It also refers to how challenging the teachers find the innovation or curriculum implementation. Complexity could be viewed in terms of the following

three situations: Possibility of new or revised curriculum materials; possibility of using new and unfamiliar teaching approaches; and possibility of alteration of practices, behaviours and beliefs long held and cherished by teachers (Fullan, 2007).

Practicality of the curriculum: the quality and practicality of an innovation depends on whether it addresses real classroom situations. It also refers to quality and availability of human, material and technological resources that meet the needs of both the teachers and students (Fullan, 2007). Such resources need to be appropriate and usable in the implementation of an innovation or curriculum. Fullan (2007) further argues that the success of the curriculum implementation process can be significantly impacted by how the curriculum as an innovation is perceived in terms of being specific, concrete, and practical in addressing real classroom teaching situations.

The factors influencing curriculum implementation are interconnected and mutually dependent. The design and content of the curriculum determine the implementation requirements and challenges, while the institution's characteristics provide the essential support and resources for successful implementation. Additionally, the instructor's qualities influence how the curriculum is delivered and tailored to meet student needs.

Conceptual frame work

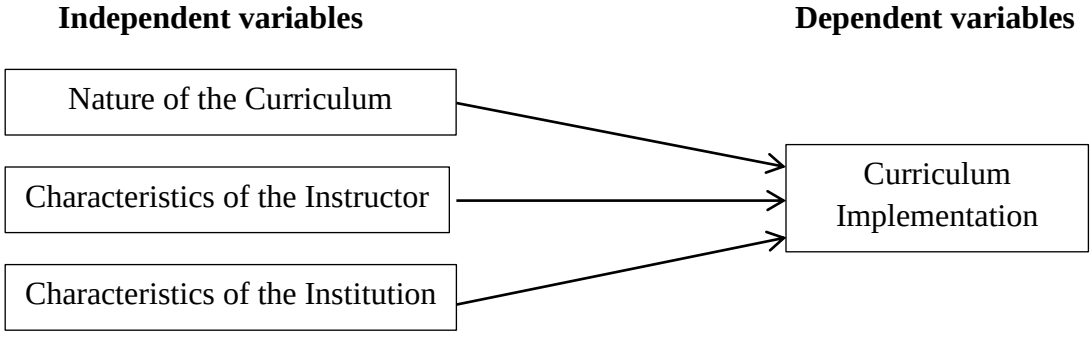

Fig. 2.1 Conceptual frame work developed by the researcher

3. Research Design

In this study, concurrent embedded mixed research design was employed. Concurrent embedded design is a mixed methods design in which one data set provides a supportive, secondary role in a study based primarily on the other data type (Creswell, Plano Clark, et al., 2003). The premises of this design are that a single data set is not sufficient, that different questions need to be answered, and that each type of question requires different types of data.

3.1 Sample Size and Sampling Technique

In Ethiopia, there are 46 public universities categorized into three based on their mission. For this study, a stratified random sampling method was employed to select university samples. The sample universities were chosen from research universities, applied universities, and comprehensive universities, ensuring representation from all categories. After stratification, two

universities were selected from each category, making a total of six universities using quota sampling. The selected universities include Addis Ababa and Hawassa from research universities, Assosa and Wolkite from applied universities, and Wachamo and Selalea from comprehensive universities.

Furthermore, a total of 279 academic staff members from the universities were selected using a stratified random sampling method based on their qualifications. The individual units were then chosen using a systematic random sampling method. Similarly, 384 undergraduate students from the universities were selected using a stratified random sampling method based on their year of study. The individual units were chosen using a systematic random sampling method. Moreover, a total 12 deans and department heads were selected using purposive sampling technique for interview. The sample size was determined using the research advisors table.

3.2 Data collection Procedures and Methods of Data Analysis

Questionnaire: The researcher used questionnaires as a primary data collection method. The questionnaire employed a five-point Likert scale and included both open-ended and closed-ended questions. The questionnaire was divided into seven parts and consists of a total of 57 items. The questionnaires were distributed to 279 instructors and 384 regular undergraduate students. The questionnaires were distributed to individuals with research experience and language proficiency to ensure item validity. Feedback from these experts was received and used to revise the questionnaire. The reliability of questionnaire was tested using Cronbach alpha method and the computed reliability of the instrument was 0.78. Thus, the instrument was found valuable to collect data for the main study.

Interviews: Semi-structured interviews were conducted with a purposefully selected group of 12 top and middle-level managers from universities. These individuals were chosen based on their perceived comprehensive knowledge of the subject matter being studied. This method allowed for in-depth, qualitative insights from key stakeholders.

Document Analysis: One randomly selected module, specifically the "critical thinking" module, was subject to document analysis. This process likely involved examining and interpreting relevant documents, such as curriculum materials or instructional content related to critical thinking.

3.3 Methods of Data Analysis

The quantitative data collected through survey questionnaire were processed and analyzed through descriptive and inferential statistics using SPSS, version 24. Descriptive statistics (mean) and inferential statistics (T-test) were used to present data collected through questionnaire.

On the other hand the qualitative data obtained from the field was organized and analyzed thematically. The interview were transcribed and followed by generating the relevant data through indexing and coding. Next, general patterns and main themes were created and reviewed in response to research questions. Finally, qualitative data were used to either confirm or disconfirm results from the quantitative phase of the study.

4. Discussion of Results

4.1. Characteristics of the Curriculum

Table 4.1 Instructors and Students Responses Regarding Characteristics of the Lecturer

No	Statement	Instructors Mean	Students Mean	t	df	p
1	Characteristics of the Curriculum	2.63	2.87	4.1	631	.000

The results in Table 4.1 reveal that the mean value for the nature of the curriculum was (M=2.63) for instructors and (M=2.87) for students. This indicates that both instructors and students agree that the competency-based curriculum was not well organized, as the mean values are below the ideal mean value of (M=3.0). However, the Levene's T-test, with (p=.000, df = 631, and p<.05), revealed that there is a significant difference between the responses of the instructors and students. Similarly, the qualitative results from interviews and content analysis support the notion that the curriculum was not well organized. Combining the quantitative and qualitative data, despite the difference in opinion between instructors and students, it is reasonable to conclude that the curriculum was not well organized.

4.2. Characteristics of the Instructor

Table 4.2 Instructors and students responses regarding characteristics of the instructor

No	Statement	Instructors Mean	Students Mean	t	df	p
1	Learner-centered approaches	2.6	2.8	.715	655	.475
2	Continuous assessment	2.7	2.6	1.486	658	.138
3	Lecturers attitude and motivation	2.4	2.68	2.054	593	.04

The result in table 4.2 revels that the mean value for the practice of student centered approach during the implementation of competency based curriculum in higher education institutions of Ethiopia was (M=2.66) for instructors and (M=2.7) for students. This indicates instructors fail to use student-centered approach. It reasonable to conclude on this because the Levene's T –test at (p=.475, df = 655 and p>.05), revealed that there is no significant difference between the responses of the instructors and students.

The result in Table 4.2 also reveals that the mean value for the practice of continuous assessment was (M=2.7) for instructors and (M=2.65) for students. This indicates instructors fail to use continuous assessment during the implementation of the curriculum. The qualitative results from interviews with top and middle-level managers of the universities confirmed the quantitative findings. It reasonable to conclude on this because the Levene's T – test at (p=.138, df = 658 and p>.05), revealed that there is no significant difference between the responses of the instructors and students.

The results in Table (4.2) reveal that the mean value for lecturers' attitude and motivation towards competency-based curriculum in higher education institutions of Ethiopia was (2.44) for

instructors and (2.68) for students. This indicates the attitude and motivation of instructors towards the curriculum was negative, as the mean values are below the ideal mean value of (M=3.0). However the Levene's T –test at (p=.04, df = 593 and p < .05), revealed that there is significant difference between the responses of the instructors and students. Despite the disparity in perception between instructors and students, the findings suggest a reasonable conclusion that the instructors were implementing the curriculum without motivation and with a negative attitude.

4.3: Characteristics of the Institution

Table 4.3: Instructors and Students response regarding the characteristics of the institution

No	Statement	Instructors	Students	t	df	p
		Mean	Mean			
1	Organizational culture	2.35	2.66	3.808	641	.000
2	Availability of resources	2.6	2.58	2.088	641	.037
3	University industry linkage	2.44	2.3	1.264	631	.20

The result in table 4.3 revels that the mean value for the organizational culture of the institution during the implementation of competency based curriculum in higher education institutions of Ethiopia was (M=2.35) for instructors and (M=2.66) for students. This indicates that the organizational culture was not conducive to implement the curriculum, as the mean values are below the ideal mean value of (M=3.0). However, the Levene's T – test at (p=.000, df = 641 and p<.05) revealed that there is significant difference between the responses of the instructors and students. Despite the disparity in perception between instructors and students, the findings suggest a reasonable conclusion that the failed to create conducive organizational culture to implement the curriculum.

The result in table 4.3 revels that the mean value for the availability of resources during the implementation of competency based curriculum in higher education institutions of Ethiopia was (M=2.46) for instructors and (M=2.58) for students. This indicates that institutions fail to allocate the required resource, as the mean values are below the ideal mean value of (M=3.0). However, the Levene's T –test at (p=.037, df = 641 and p<.05), revealed that there is significant difference between the responses of the instructors and students. Despite the disparity in perception between instructors and students, the findings suggest a reasonable conclusion that the institutions fail to allocate adequate and relevant resources and facilities to implement the curriculum.

The result in table 4.3 revels that the grand mean value for the practice of university industry linkage during the implementation of competency based curriculum in higher education institutions of Ethiopia was (M=2.44) for instructors and (M=2.53) for students. This indicates there was weak university industry linkage during the implementation of competency based curriculum in higher education institutions of Ethiopia. It reasonable to conclude on this because the Levene's T – test at (p = .207, df = 631 and p > .05), revealed that there is no significant difference between the responses of the instructors and students.

4.4 Level of Awareness of Stakeholders

Table 4.4: Responses regarding the level of awareness of stakeholders

No	Statement	Instructors	Students	t	df	p
		Mean	Mean			
1	Level of awareness of stakeholders	2.06	2.25	4.150	658	.000

The result in table 4.4 revels that the mean value for the level of awareness of stake holders concerning the implementation of competency based curriculum in higher education institutions of Ethiopia was (2.06) for instructors and (2.25) for students. This indicates the level of awareness of stake holders concerning the implementation of competency based curriculum in higher education institutions of Ethiopia was low, as the mean values are below the ideal mean value of (M=3.0). However, the Levene's T – test at (p=.000, df = 658 and p < .05), revealed that there is significant difference between the responses of the instructors and students. Despite the disparity in perception between instructors and students, the findings suggest a reasonable conclusion that the level of awareness of stake holders concerning the implementation of curriculum was low.

4.5 Challenges of Effective Competency – Based Curriculum Implementation

Table 4.5: Challenges of effective competency – based curriculum implementation

Item	lecturers	Students	Average Mean	t	df	p
Lack of supportive resource to implement competency-based curriculum	2.74	3.63	3.15			
Lack of support from university leaders	2.72	3.62	3.05			
The content of the curriculum	2.60	3.60	3.07			
Lack of instructors' readiness to accept the new curriculum	2.57	3.55	2.98			
Lack of awareness on competency-based curriculum	2.55	3.52	3.02	17.5	658	.000
Lack of instructors' interest to implement competency-based curriculum	2.53	3.50	3.05			
Students' negative attitude towards the new curriculum	2.4982	3.48	3.12			
Weak university-industry linkage	2.4588	3.43	3.08			

The above table 4.5 indicates that among the eight factors that affect the effective curriculum implementation in higher education institution of Ethiopia. Lack of supportive resource to implement competency-based curriculum stand 1st with mean score (M= 3.15), Students' negative attitude towards the new curriculum stand 2ndwith mean score (M=3.12) and Weak university-industry linkage stand 3rd with a mean score (M=3.08) on the contrary the list mean score (M=2.98) is less than the ideal mean implying that instructors' readiness to accept the new curriculum was not a major barrier for the implementation of the competency based curriculum.

However it not reasonable to conclude on this because the Levene's T – test at ($p = .000$, $df = 658$ and $p<.05$), revealed that there is significant difference between the responses of the instructors and students. This suggests that the disparity in their views may be attributed to the way they perceive and interpret the challenges presented by the curriculum.

4.6 Summary of Findings

4.1 Characteristics of the Curriculum

The curriculum was not well organized to enable the effective implementation of the competency-based approach. Schagen (2011) and Luo (2016) have noted that the characteristics of a curriculum can either facilitate or impede its successful implementation.

4.2 Characteristics of the Instructor

The findings reveal that instructors fail to embrace a student-centered approach. This contradicts with the principle of competency based approach, learner-centered approaches emphasize active participation and independent inquiry, and within this framework, competency-based education aligns with the learner-centered philosophy (Cantrell, Kool, & Kouwenhoven, 2010). Moreover, instructors in higher education institutions of Ethiopia heavily rely on pencil-and-paper tests as the main assessment method, neglecting the use of formative assessment. Relying on test scores alone does not provide a comprehensive understanding of academic progress. By contrast, when continuous assessment is employed for formative purposes, it can make a significant and vital contribution to students' learning. In turn, this approach can effectively improve their performance in graded assessments (Muskin, 2017).

The findings indicate that teachers exhibit moderately low enthusiasm and attitude towards the competency-based curriculum. This contradicts with a study by Waigera et al. (2020) which found a significant correlation between teachers' attitudes and successful implementation of the competency-based curriculum. A more positive attitude among teachers is associated with greater implementation success.

4.3 Characteristics of the Institution

The findings indicate that the institution failed to create conducive organizational culture to implement the curriculum.

The findings indicate that there was lack of adequate resource regarding resources lack of adequate time to implement the curriculum. This is related with the idea of McShane, for him quality curriculum implementation requires adequate and relevant resources and facilities while lack of resources and facilities frustrates teachers and diminishes their motivation the availability of resources empowers teachers and other employees (McShane, 2009).

The findings indicate that there were weak university-industry linkages. This contradicts Guimón's idea that collaboration between universities and industries is vital for skill development. Establishing effective linkages positively impacts graduates' competence, problem-solving abilities, and contributes to economic development (Guimón, 2013).

Regarding stakeholders awareness the results indicate that universities were not effectively informing stakeholders, namely instructors, students, and industries, about their responsibilities in implementing the curriculum. This contradicts the notion put forth by Fullan, which emphasizes the importance of involving stakeholders and increasing their awareness to foster ownership, commitment, and collaboration for improved teaching and learning outcomes (Fullan, 2007).

Moreover, among the challenges that hinder the effective curriculum implementation lack of resources, lack of student's motivation and weak university industry linkage was ranked as 1st, 2nd and 3rd respectively.

5. Conclusion

The finding of the study suggests that the competency based curriculum implemented in higher education institutions of Ethiopia were fairly implemented. This was due to the lack of relevance in the curriculum's content, an overload of general and impractical material, and the absence of a clearly defined implementation strategy. In general it was not well organized to enable the effective implementation of the competency based curriculum. Moreover it was due to instructor's inability to employ competency based approach such as learner centered and continuous assessment. The institution was not conducive to implement the competency base education due to lack of shared vision, shared governance, supportive leadership, inadequate resources and facilities, weak university-industry linkage and stakeholders' awareness and involvement. Among the challenges that hinder the effective curriculum implementation lack of resources, lack of student's motivation and weak university industry linkage was ranked as 1st, 2nd and 3rd respectively.

6. Recommendations

The ministry of education has to review and revise curriculum to address the issues of relevance, overloading, and impracticality. The content should be streamlined to focus on key competencies and ensure that it aligns with the needs of the industry and students. Through conducting need assessment.

Universities have to provide training and professional development opportunities for lecturers to enhance their competencies in delivering the competency-based curriculum. This could include workshops, seminars, and mentorship programs to improve their teaching methods, assessment techniques, and subject matter expertise.

Institutions have to work towards creating a conducive environment for implementing the competency-based curriculum. This includes fostering a shared vision and shared governance among stakeholders, providing supportive leadership, and promoting collaboration and communication within the all stakeholders.

Institutions have to ensure that adequate resources and facilities are provided to support the implementation of the competency-based curriculum. This includes funding for instructional materials, technology, and infrastructure upgrades. Additionally, establishing strong university-industry linkages can help bridge the gap between academia and the real-world application of

competencies.

Institutions have to increase stakeholders' awareness and involvement in curriculum development and implementation. This can be done through regular consultations, partnerships with industry professionals, and engagement with alumni and employers. Involving stakeholders will ensure that the curriculum remains relevant and responsive to the needs of the job market.

Conduct additional research to explore the factors not included in the current study that contribute to the variation in curriculum implementation. This will help identify other areas for improvement and provide a more comprehensive understanding of the challenges and opportunities for effective curriculum implementation.

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