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## ASSESSMENT OF CLASSROOM TEACHING STRATEGIES AT KENYA MEDICAL TRAINING COLLEGE VIHIGA CAMPUS

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## **ASSESSMENT OF CLASSROOM TEACHING STRATEGIES AT KENYA MEDICAL TRAINING COLLEGE VIHIGA CAMPUS**

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### **Abstract**

**Purpose:** The study aimed at assessing the classroom teaching strategies used by nurse educators at KMTC- Vihiga.

**Methods:** The study utilized descriptive cross sectional research design where 12 nurse educators were purposively sampled and 133 nursing students were selected using stratified sampling technique. Two semi- structured questionnaires were used to collect primary data from respondents. This was after pilot study showed validity and reliability of the tool. Quantitative data analysis was conducted using the statistical package for social science (SPSS) software version 25 for windows and excel version 10

**Results:** The findings obtained show that nurse educators were predominantly using traditional teaching strategy lecture and demonstration although the innovative teaching was also minimally used. The study revealed that nurse educators had variation in level of knowledge of teaching strategies. The chi square analysis showed that no association was found between number of years since last qualification and frequency of use of lecture teaching strategy  $\chi^2(2) = 1.111, p = 0.574$ . ANOVA findings showed statistical significant difference in knowledge between levels of education as determined by one way ANOVA  $F(2,7) = 1.913, P = .217, p > 0.05$ . A Pearson Product moment correlation coefficient determined that there was a positive correlation between nurse educator knowledge and attitude on use of teaching strategies as  $r = 0.230, n = 10, p = 0.523$

**Unique Contribution to theory, practice and policy.** The study recommends that Kenya Medical training college Management, designs a curriculum which includes innovative teaching strategies for the educators and roll out through continuous professional development program

**Keywords:** *Innovative, Traditional, Teaching Strategies, Knowledge, Attitude, Nurse Education*

## 1.0. INTRODUCTION

The aims of nursing education principally center on the transmission of nursing knowledge, and assisting nursing students acquire the necessary skills and attitudes associated with nursing practice to care for patients and his family as we deal and handle with real life situations. Nursing graduates must be prepared to practice as competent healthcare professionals in a highly complex, diverse, and ever changing environment. Early educators such as Dewey (1964), Montessori (1968) believed that effectiveness of teaching and learning are determined by the type of teaching strategies applied in the classroom. Instructional methods should promote innovative teaching strategies and teach students how to analyze and evaluate information and how to apply the information in various situations. Teaching strategies such as high fidelity simulation, small group discussion, games, role playing, concept mapping,debate,storytelling, problem based learning, web based teaching can be utilized by nurse educators to enhance students critical thinking abilities (Xu,2016).Typically, traditional nursing teaching strategies have not led to acquisition of higher order thinking. However traditional teaching strategies continue to be utilized in the nursing classrooms, with lecture being the most preferred teaching strategy (Nabors, 2012; Subhan, 2014)

All nursing programs teach students the competencies which are necessary for clinical practice that are examined by the Nursing council of Kenya (NCK, 2010). A list of core competencies for nurses educators have been developed which include developing and implementing a relevant course, based on non-traditional teaching and learning strategies that facilitate learning and achievement of learning outcomes (WHO, 2014)

Globally, in high achieving countries such as United States of America increased innovation in medical devices and software are literally changing the way that nurses practice. New information and communication technology has been shown to improve National Council licensure examination-RN first time pass rate if used effectively to support instructional processes (Johnson, 2015)

Sub-Sahara Africa continues to report poor health indicators with challenged health care systems due to growing burden of diseases including HIV/AIDS and non-communicable diseases. The Lancet commission and Global health workforce Alliance (2013) reported that professional education including nursing had generally not kept up the pace of health care challenges. The review noted that the professional training programs mostly maintained classroom teaching using lectures and seminars which had not proved to be effective in diversifying skills and competencies of health care workers including nurses. The review further indicated that Sub Sahara Countries had increased health care training intakes to solve the shortage of human resource crisis which has led to congestion of students in clinical sites. The increased intakes demand innovative ways to train these growing numbers. An evaluation of teaching strategies being used by nurse educators in South African nursing colleges showed that the lecture strategy of teaching was most preferred(Subhan,2014).A similar study in Malawi showed that nurse tutors had low level

of knowledge in utilizing innovative teaching strategies in the classroom(Mmbirimtengerenji&Adejumo,2015a)

In Kenya, policy on “reforming education and training in Kenya” recognizes that in order to realize the national development goals, relevant and quality education and training is required to meet the human development needs of a rapid changing and a more diverse economy. The policy recommends that, establishment of a national learning assessment system and Integration of the ICT in the education system with introduction of a learning pathways that ensures every learner graduates form the education system with competencies that empower them to exploit their full potential (MOEST,2015). The assessment study is a first step in informing conceptualization of what teaching strategies are used in the nursing classroom.

### **1.1Problem Statement**

The implementation of use of innovative teaching strategies in nursing classrooms has shown to improve academic performance of nurse students in various countries. On the other hand use of traditional teaching strategies do not stimulate critical thinking in the students and therefore will not prepare student nurses to achieve good grades in examination. Kenya Medical training College revised the curriculum and recommended the use of innovative classroom teaching strategies such as group discussion, role play, and case based teaching and simulation (Mwaluda, 2013). To enhance student centered learning and better outcomes,KMTC has provided all nurse educators with laptops and internet connectivity, a simulation skills laboratory and projectors. Despite these inputs there was low performance among nurse students. Since the inception of a new campus at Vihiga in 2013, about 60%(n=120) of the students failed in end of block1, 2, 3 examination achieving less than 50% in the written examination (Examination office, 2015) .What is not clear is the teaching strategies currently used by nurse educators in the classroom to teach nursing content that may influence the performance in end of block examination.

### **1.3 Study Objectives**

- i. To establish the teaching strategies used in the classroom at Vihiga Kenya Medical Training College
- ii. To identify the nurse educators perception of their level of knowledge on different types of classroom teaching strategies.
- iii. To determine students perception on use of teaching strategies used by the lecturers.
- iv. To determine the attitude of Nurse Educators towards use of teaching strategies

### **2.0 LITERATURE REVIEW**

Nabors (2012) in a study done to examine which teaching strategies community college associate degree nurse educators in a southern state in USA were utilizing in the classroom to enhance student learning and develop critical thinking in nursing students

who were enrolled in fundamentals and Medical surgical nursing courses. The results showed that associate degree nurse educators were using a variety of instructional strategies in the classroom to enhance student learning and develop critical thinking, but lecture was by far the most frequently used teaching strategy followed by PowerPoint, discussion, case study, group work and co-operate learning. Findings were similar when Subhan (2014) evaluated the pedagogical teaching strategies being used by nurse educators at Kwazulu Natal College of nursing campuses, across varied subjects. The results showed that the lecture teaching strategy was most favored by lecturers as 63.2% always used it and this was followed by demonstration with (30.1%) always using it.

A study conducted by (Mmbirimtengenji & Adejumo,2015a) in Malawi to determine the utilization of teaching strategies among nurse tutors show that the ability of the nurse tutors to use the role play,simulations,storytelling,debate,amd concept mapping teaching strategies effectively in class had been found to be very limited. This was not only due to limited resources but also due to low level of knowledge about the innovative teaching strategies.

A Mixed –Method study was conducted at the University of Texas in the USA by Marzilli et al (2014).The aim was to examine Faculty attitudes towards technology use in the classroom. The results revealed an overall positive stance toward technology in the classroom. Faculty members also noted that technology facilitated the organization of their courses such as incorporating u-Tube videos into lecture, use of power point to display images while giving lecture helped students visualize the people, places and events being discussed.Kyalo&Hopkins (2013), in a study done in Kenya, with the aim of exploring the acceptability of online learning for continuous professional development among lecturers’ at KMTC. The survey result regarding the degree of technology acceptance showed that user attitudes towards web-based training were undoubtedly positive.

## **2.1 Theoretical Framework**

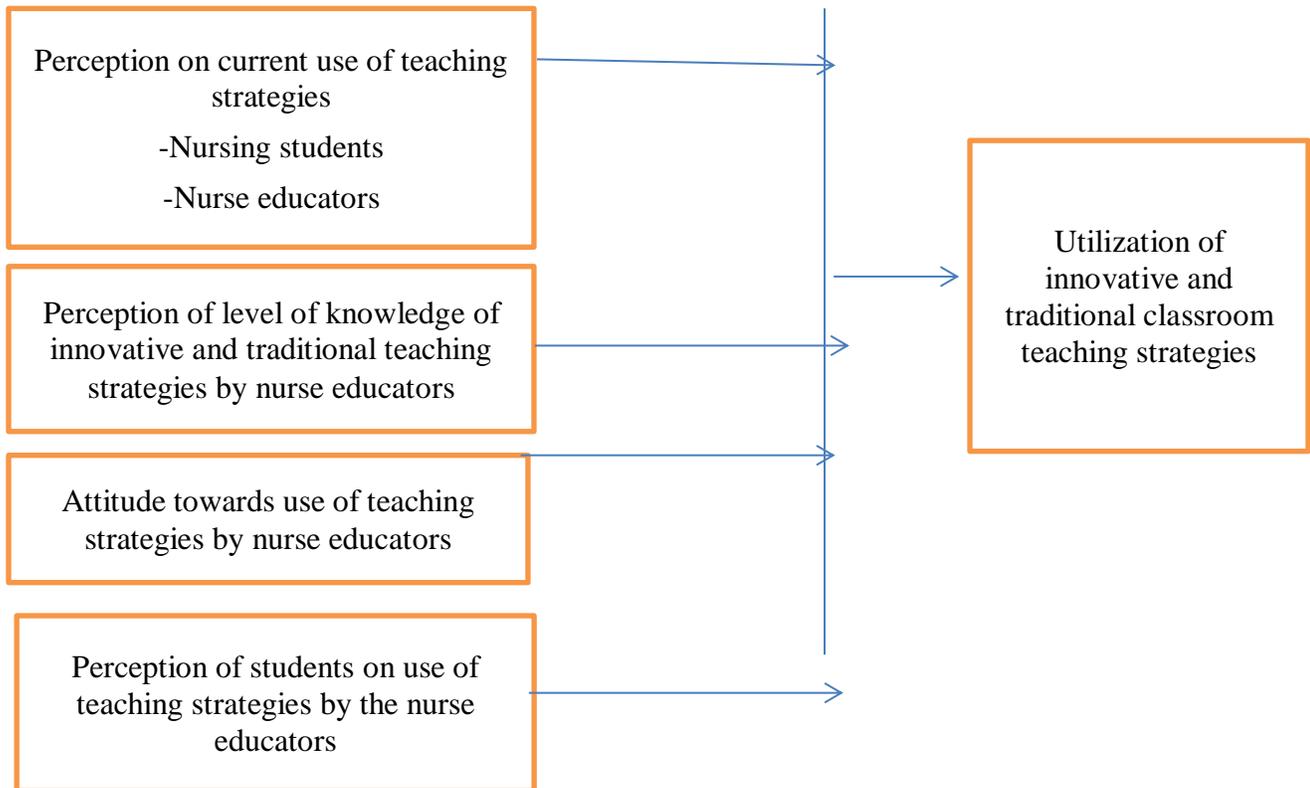
This study is based on the constructivist theory. The theory was originated by Jean Piaget (1896-1980). Constructivists include Lev Vygostky, Jean Piaget, John Dewey, and Jerome Burner. They believed that knowledge is constructed based on personal experiences and hypothesis of the environment. Learners continue to test this hypothesis of the environment through social negotiation. Each person has a different interpretation and construction of knowledge. The learner is not a blank slate (tabula rasa) but brings past experience and cultural factors to learning (Bhattacharjee, 2015). “Constructivist teaching is based on the belief that learning occurs as learners are actively involved in a process of meaning and knowledge construction as opposed to passively receiving information. Learners are the makers of meaning and knowledge. Constructivist teaching fosters critical thinking, and creates motivated and independent learners” (Bhattacharjee, 2015)

## 2.2 Conceptual framework

**Independent**

**Dependent variable**

**variable**



**Figure 1: Conceptual framework (Amtamwa, 2019)**

## 3.0 RESEARCH METHODOLOGY

The study adopted a descriptive cross-sectional research design. The study target population was all nursing students and nurse educators at KMTC Vihiga. Stratified simple random sampling was used to select nurse student participants while purposive sampling was used to select 12 nurse educators. Primary data was collected using 2 questionnaires with both structured and unstructured questions. Pretesting of the study tools was carried out in Maseno School of nursing in order to test the validity and reliability on the study tools. The researcher collected quantitative data. The quantitative data was analyzed through descriptive and inferential statistics using the Statistical package for social sciences (Version 25) and Microsoft excel version 10 and presented in percentage tables. The Pearson correlation coefficient was used to measure the linear

association between knowledge and attitude towards use of teaching strategies by nurse educators. Chi square was computed to find the association between frequency of use of teaching strategies and number of years since last qualification of nurse educators. Analysis of variance was done to determine variance in knowledge, attitude with level of education and age of nurse educators.

#### **4.0. RESULTS AND DISCUSSION**

##### **4.1 Response rate**

**Table 1: Response rate**

Sample	Number of questionnaires distributed	Number of respondents	Response rate
Nurse educator	11	10	90%
Nurse student	135	133	98%

Findings show that 10(90%) nurse educators responded to the questionnaires contributing to a response rate of 90% while nurse student respondents 133(98%) responded leading to a response rate of 98%.

##### **4.2. Demographic information**

According to results in table 2, majority of nurse educator respondents 6(60%) were female while 4(40%) were male nurse educators. The results also show that majority 40% (n=4) were in the age group of 31-40 years and about 30 % ( n=3) were in 41-50 age group. About 30% (n=3) were in 51-60 years. Educational attainment of nurse educators show 60 % ( n=6) had a bachelor's degree, 20% (n=2) had a higher diploma, 10% (n=1) had A master degree, 10% (n=1) had a basic diploma. In determination in number of years since last qualification 50 % ( n=5) obtained their qualification less than 5 years ago followed by 40 % (n=4) who obtained their qualifications 6-10 years ago. The least 10% (n=1) of respondents obtained their last qualifications 11-15 years ago.

**Table 2: Demographic information of the nurse educator respondents**

<b>Distribution of respondents by Age</b>	<b>Frequency</b>	<b>Percentage</b>
31-40	4	40
41-50	3	30
51-60	3	30
<b>Total</b>	<b>10</b>	<b>100</b>
<b>Gender of respondents</b>		
Male	4	40
Female	6	60
<b>Total</b>	<b>10</b>	<b>100</b>
<b>Highest qualification obtained</b>		
Masters	1	10
Bachelor's degree	6	60
Higher diploma	2	20
Diploma	1	10
<b>Total</b>	<b>10</b>	<b>100</b>
<b>Distribution by number of years since obtaining last qualification</b>		
1-5	5	50
6-10	4	40
11-15	1	10
<b>Total</b>	<b>10</b>	<b>100</b>

**Table 3: Distribution of Nurse Educator utilization on teaching strategies N=10**

<b>Descriptive Statistics</b>					
Use of teaching strategies	N	Always	Sometimes	Never	% Total
<b>Traditional strategies</b>					
Lecture	10	90%(n=9)	10%(n=1)	0%(n=0)	100
Demonstration	10	40%(n=4)	50%(n=5)	10%(n=1)	100
<b>Innovative strategies</b>					
Group Discussion	10	20%(n=2)	70%(n=7)	10%(n=1)	100
Case Based method	10	20%(n=2)	30%(n=3)	50%(n=5)	100
Simulation	10	0%(n=0)	40%(n=4)	60%(n=6)	100
Debate	10	10%(n=1)	30%(n=3)	60%(n=6)	100
Storytelling	10	0%(n=0)	60%(n=6)	40%(n=4)	100
Concept Mapping	10	0%(n=0)	30%(n=3)	70%(n=7)	100
Problem Based learning	10	10%(n=1)	40%(n=4)	50%(n=5)	100
Web Based teaching	10	10%(n=1)	30%(n=3)	60%(n=6)	100
Humor	10	20%(n=2)	40%(n=4)	40%(n=4)	100
Valid N (list wise)	10				

Table 3 above under **traditional teaching** strategies illustrates that the lecture strategy was the most favored by nurse educators as 90% (9) n=10 always used the lecture strategy .It has also been pointed out that 40 %( 4) n=10 of the nurse educators agreed that they always utilize demonstrations. This is in agreement in a study done by Mmbirimtengerenji (2015) who also found that lecture and demonstration teaching strategies were most favored among nurse tutors in Malawi nursing colleges.

The **innovative teaching** strategies were least used as evidenced by, group discussions were always used by 20% (n=2), Humor was used always by 20 %( n=2). Cased based teaching was always used by 20 %( n=2). The least used strategy was games with 100 %( n=10) never using it. This is in agreement with Nabors (2012) who also found that group discussion and case study were the predominant innovative teaching strategies used by nurse educators.

**Table 4 Distribution of students on nurse educators' frequency of use of various teaching strategies**

Teaching strategy	N	Descriptive Statistics			Total
		Always	Sometimes	Never	
<b>Traditional strategies</b>					
Lecture	133	82% (n=109)	14.5% (n=19)	3.14% (n=4)	100
Demonstration	133	29% (n=39)	47% (n=62.5)	24% (n=32)	100
<b>Innovative strategies</b>					
Group discussion	133	22.8% (n=30)	45% (n=60)	32% (n=43)	100
Role play	133	12.7% (n=16.89)	37% (n=50)	50% (n=67)	100
Case based teaching	133	12% (n=16)	49% (n=65)	39% (n=52)	100
Simulation	133	6.7% (n=9)	39% (n=52)	54.1% (n=72)	100
Debate	133	4.28% (n=7)	24.7% (n=32)	70.6% (n=94)	100
Story telling	133	20.56% (n=27)	56.69% (n=76)	22.67% (n=30)	100
Concept mapping	133	16.36% (n=22)	30.60% (n=41)	53% (n=72)	100
Problem based learning	133	9.72% (n=13)	54.1% (n=72)	36% (n=48)	100
Web based teaching	133	14.3% (n=19)	42.66% (n=56)	44% (n=58)	100
Humor	133	23.4% (n=31)	53.33% (n=71)	23.03% (n=31)	100
Games	133	0% (n=0)	0% (n=0)	100% (n=0)	100

Majority of respondents reported that nurse educators used lecture always 82 % ( n=109) followed by demonstration always 29% (n=39).

**Table 5: Association between frequency of use of teaching strategies and number of years since last qualification of nurse educators**

	<b>CHI SQUARE TESTS</b>	Value	Df	Asymptotic Significance (2- sided)
Lecture	Pearson Chi-Square	1.111 <sup>a</sup>	2	.574
	Likelihood Ratio	1.498	2	.473
	Linear-by-Linear Association	.842	1	.359
	N of Valid Cases	10		
Small group discussion	Pearson Chi-Square	.635 <sup>a</sup>	2	.728
	Likelihood Ratio	.622	2	.733
	Linear-by-Linear Association	.203	1	.652
	N of Valid Cases	10		
Problem based learning	Pearson Chi-Square	8.400 <sup>a</sup>	4	.078
	Likelihood Ratio	10.044	4	.040
	Linear-by-Linear Association	.172	1	.678
	N of Valid Cases	10		
Story telling	Pearson Chi-Square	6.667 <sup>a</sup>	2	.036
	Likelihood Ratio	8.456	2	.015
	Linear-by-Linear Association	5.053	1	.025
	N of Valid Cases	10		
Debate	Pearson Chi-Square	1.111 <sup>a</sup>	2	.574
	Likelihood Ratio	1.668	2	.434
	Linear-by-Linear Association	.090	1	.764
	N of Valid Cases	10		
Case based teaching	Pearson Chi-Square	3.556 <sup>a</sup>	4	.469
	Likelihood Ratio	4.637	4	.327
	Linear-by-Linear Association	1.451	1	.228
	N of Valid Cases	10		
Humor	Pearson Chi-Square	1.378 <sup>a</sup>	4	.848
	Likelihood Ratio	1.726	4	.786
	Linear-by-Linear Association	.399	1	.528
	N of Valid Cases	10		
Simulation	Pearson Chi-Square	4.286 <sup>a</sup>	2	.117
	Likelihood Ratio	5.487	2	.064
	Linear-by-Linear Association	3.248	1	.072
	N of Valid Cases	10		

In table 5 above the results reveal that there was no association between nurse educator number of years since last qualification and frequency of use of lecture teaching strategy during teaching by the nurse educator. This was after the chi square test was ( $\chi^2(2) = 1.111, p=0.574$ ). The results has also shown that nurse educator number of years since last qualification had no association with frequency of utilizing group discussion teaching strategies as the chi square was  $\chi^2(2) = .635, p=.728 > 0.05$ . However, there was an association between number of years since last qualification and utilization of storytelling during teaching by nurse educators. This was after the chi square test showed  $\chi^2(2) = 6.667, p=0.036 < 0.05$

**Table 6: Analysis of variance between knowledge, attitude in comparison age of nurse educators**

		Sum of Squares	Df	Mean Square	F	Sig.
Knowledge score	Between Groups	190.233	3	63.411	2.038	.210
	Within Groups	186.667	6	31.111		
	Total	376.900	9			
Attitude score	Between Groups	152.433	3	50.811	.315	.814
	Within Groups	967.667	6	161.278		
	Total	1120.100	9			

The Table 6 above shows that there was a statistically significant difference in knowledge between age groups as determined by one way ANOVA  $F(3, 6) = 2.038, P = 0.210$  ( $P > 0.05$ ). Similarly there was a significant difference in attitude towards teaching strategies as determined by one way ANOVA  $F(3,6) = 0.315, P = 0.814$  ( $P > 0.05$ ). We may therefore conclude that the difference in knowledge and attitude among age groups about teaching strategies by nurse educators is significant.

**Table 7: analysis of variance for knowledge, attitude and level of education of nurse educators**

		Sum of Squares	df	Mean Square	F	Sig.
Knowledge score	Between Groups	133.186	2	66.593	1.913	.217
	Within Groups	243.714	7	34.816		
	Total	376.900	9			
Attitude score	Between Groups	362.386	2	181.193	1.674	.255
	Within Groups	757.714	7	108.245		
	Total	1120.100	9			

The ANOVA was further conducted on knowledge and attitude between different levels of education of nurse educators. Based on the findings there was statistical significant difference in knowledge between levels of education as determined by one way ANOVA

$F(2,7) = 1.913, P = .217, p > 0.05$ ) The results also showed significant difference in attitude towards the teaching strategies by one way ANOVA  $F(2,7) = 1.674, P = 0.255, p > 0.05$

**Table 8: Bivariate Pearson correlations**

		Knowledge score	Attitude score
Knowledge score	Pearson Correlation	1	.230
	Sig. (2-tailed)		.523
	N	10	10
Attitude score	Pearson Correlation	.230	1
	Sig. (2-tailed)	.523	
	N	10	10

\*correlation is significant at the 0.05 level (2-tailed)

A Pearson Product moment correlation coefficient was computed to assess the relationship between nurse educator's knowledge and rating of attitude towards the teaching strategies. Table 10 provides a detailed analysis from SPSS. The relationship determined that there was a positive correlation between the two variables  $r = 0.230, n = 10, p = 0.523$ . This showed that increases in nurse educator attitude were correlated with increase in nurse educators knowledge of teaching strategies.

## 5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

### 5.1 Summary

The study revealed that nurse educators frequently use traditional teaching strategies. There was also no association between number of years since last qualification and use of teaching strategies. However there was an association between number of years since last qualification and utilization of storytelling during teaching by nurse educators'. The study revealed that there was a significant difference in knowledge of teaching strategies among different age groups and among level of education of nurse educators.

### 5.2 Conclusion

The study established that traditional teaching strategies of lecture were always used 90% (9)  $n = 10$  by nurse educators.

On the other hand, innovative teaching strategies were minimally used by nurse educators, small group discussion 20% (2)  $n = 10$ , case based teaching 20% (2)  $n = 10$ , Humor 20% (2)  $n = 10$ . This was contrary to study findings by Nabors (2012) which revealed that 77.6% (59)  $n = 76$  of the participants utilized innovative teaching strategies while 22.4% (17)  $n = 76$  did not.

The study also established a significant positive relationship between nurse educators' knowledge and attitude towards the teaching strategies where a unit increase in nurse educators knowledge led to an increase in positive attitude towards the teaching strategies by 0.230  $p > 0.05$ . The study concluded nurse educators knowledge influenced nurse educators attitude on use of teaching strategies.

### 5.3 Recommendations

The study recommends that KMTC develops a curriculum on innovative teaching strategies and disseminates to all educators to able to utilize in the classroom.

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