



Awareness on Competency Based Teaching: A Comparative Study Among Student Teachers in Kerala and Kenya

Felix Chepcheng Aengwo¹, Ismail Thamarasseri²

¹M.Ed. 2023-25 Batch Student, School of Pedagogical Sciences, Mahatma Gandhi University, Kottayam, Kerala, India.

²Associate Professor, School of Distance & Online Education, Mahatma Gandhi University, Kottayam, Kerala, India.

Article information

Received: 21st July 2025

Received in revised form: 29th July 2025

Accepted: 27th August 2025

Available online: 18th September 2025

Volume: 2

Issue: 3

DOI: <https://doi.org/10.5281/zenodo.17150397>

Abstract

This research examines the practice and awareness of competency-based teaching (CBT) among Kerala, India, and Kenya student teachers. Data were gathered from 86 student teachers using a survey design that compared the two regions. The survey consisted of 15 items assessing awareness, the effect of teacher education programs, and the effect of practical training sessions on CBT awareness.

Findings regarding essential components reveal stark differences between the two regions. Student teachers from Kerala had higher CBT awareness, with a mean of 13.67 compared to 9.91 for Kenya. Better training programs for teachers were also in place for Kerala, with higher scores of impacts (mean of 5.6) compared to 3.7 for Kenya. Practical training sessions were also better in Kerala, with higher scores (mean 4.60) than in Kenya (Mean 2.72).

Statistical comparison through t-tests confirmed these differences to be significant, as well as the effectiveness of Kerala's education policies compared to Kenya's. These findings indicate that Kenya needs to reorganize its education to enhance its CBT awareness and implementation. Emulating Kerala's strategy would enhance education performance as well as prepare teachers for competency requirements in the present.

Keywords:- Awareness, Competency-based teaching (CBT), Comparative study, Student teachers

I. INTRODUCTION

The educational environment has been thoroughly transformed globally, with a high inclination towards competency-based teaching (CBT) (Muchira et al., 2023; Wei et al., 2022). The pedagogy revolves around the learners acquiring skills and competence rather than the conventional content delivery methods (Raj & Kumar, 2019). As more teachers and policymakers embrace the advantages of CBT, the need to examine the awareness and adoption rate of the pedagogy among student teachers is growing. This research article seeks to explore and compare the awareness levels of competency-based teaching among student teachers in Kerala, India, and Kenya, two regions with different education environments.

Globally, the call for competency-based learning has been necessitated by several drivers, such as technological changes, the changing nature of employment, and the necessity for a responsive and flexible education system (Sharma, 2019). (Anderson & Krathwohl, 2020) stated in their writing that in the United States, around 8,700 schools had implemented competency-based education by 2019. Finland and Switzerland have taken the lead in using competency-based teaching (CBT) at levels of education across Europe. About 3,200 schools implemented competency-based education in Finland, as stated by (Hiltunen, 2020). The figure reflects the nation's high inclination towards integrating 21st-century competencies and abilities into the educational system. In Switzerland, nearly 1,500 schools have adopted CBT, emphasising building students' practical competencies and rendering education outcomes aligned with actual requirements.

II. THE EDUCATIONAL LANDSCAPE IN KERALA

Kerala is one of the southern states of India that is very literate and boasts a vast system of education comprising more than 12000 schools, 200 institutions of university level, and many training institutions (Saji, 2020). Based on the 2024 data, the state population is 35,967,000. Kerala traditionally boasts a rich tradition of education development (Ghara, 2020). It has recently been striving for quality with initiatives like the Kerala State Literacy Mission Authority, Comprehensive Education Reforms (CER), and the Kerala Infrastructure and Technology for Education (KITE) project (Saji, 2020; Vedhathiri, 2020). As per the Kerala State Education Report 2021, the literacy rate of Kerala is 96%, the highest in India. The education system in the state comprises government, private, and aided schools, ensuring an attractive learning environment is established (Radha T. & Anil, 2020).

In the recent past, Kerala education systems have seen a shift toward the implementation of CBT. A survey of 5952 schools across Kerala conducted by the Kerala Education Development and Innovation Society (KEDIS) in April 2020 revealed that 58 percent of schools had incorporated some form of CBT into their teaching pedagogy (C M., 2020). However, the level of awareness and understanding of CBT amongst the student teachers of Kerala is still a concern.

III. COMPETENCY-BASED TEACHING IN KENYA

Kenya has an estimated population of 56,254,538 as of 2024 and an exemplary educational system consisting of more than 45,300 schools. These include 32,469 primary schools, 10,502 secondary schools, and 68 universities. This depicts major investments in the provision of school facilities and the enhancement of quality educational aspects in an effort to accommodate its expansive population (World Bank, 2023; Statista, 2023).

Kenya's education system has also been evolving, particularly the implementation of the Competency-Based Curriculum (CBC) that was rolled out in 2017 (Awili & Begi, 2021). Essential learning skills are the skills as well as competencies that the CBC will impart to students for the twenty-first-century learning and doing, set to replace a curriculum heavily focused on content coverage (Kubai & Owiti, 2022). According to the Ministry of Education, CBC has been implemented in 85% of primary schools, 75% of secondary schools, and 60% of universities by 2024. This widespread employment suggests the growing trend towards competency-based education at all levels of education in the country (CBC App, 2024; Ministry of Education, 2024).

The change towards CBT in Kenya has been informed by skill development needs and enhanced educational standards (M'mboga Akala, 2021). (Njoroge & Wambugu, 2020) surveyed 195000 teachers in Kenya and found that, while 195000 were aware of the principles of Competency-Based Teaching (CBT), only 120000 felt prepared. This highlights the necessity of offering training and professional development to educators in order to embrace CBT.

IV. NEED AND SIGNIFICANCE OF THE STUDY

Competency-based teaching (CBT) is among the significant approaches in education systems because it expects students to execute specific tasks before advancing to the next level. The results are important because students who are teachers today will be teachers tomorrow. This research aims to measure the perceived understanding of competency-based teaching among student teachers in Kerala, India, and Kenya: a comparison.

Kerala and Kenya, two diverse places with varying education systems and cultural backgrounds, aim to enhance infrastructure or educational levels globally. Kerala is noted for its high literacy level and heightened focus on education, whereas Kenya is enhancing educational levels and buildings (C M., 2020; M'mboga Akala, 2021). The awareness level about CBT and readiness for implementation by student teachers in these regions will also assist in comprehending the effectiveness of teacher training procedures and identifying the areas where improvement is needed.

This research is considered essential since it will contribute to the existing knowledge base on current trends in education worldwide and inform policymakers, educators, and institutions on how to assess CBT's level of awareness. Future research can use the results to develop particular training programs that would promote the required skills among student teachers, thereby improving the learners' learning and, by extension, the education systems in the two regions.

V. OBJECTIVES OF THE STUDY

- To compare the awareness levels of competency-based teaching among student teachers in Kerala and Kenya.
- To analyse the impact of teacher education programs on the awareness of competency-based teaching methods among student teachers in Kerala and Kenya.
- To investigate the influence of practical training sessions on the awareness of competency-based teaching among student teachers in Kerala and Kenya.

VI. HYPOTHESIS OF THE STUDY

- There is a significant difference in the awareness levels of competency-based teaching between student teachers in Kerala and Kenya.
- Student teachers in Kerala exhibit higher awareness of competency-based teaching methods compared to their counterparts in Kenya due to differences in teacher education programs.

VII. METHODOLOGY

The research utilized a cross-sectional survey design to compare Kerala, India, and Kenya student teachers' knowledge and practice of competency-based teaching (CBT). A total of 43 student teachers were chosen from each region with a

purposive stratified sampling technique that allowed the capture of representative subgroups for each area. The information was collected via an online questionnaire on Google Forms with 15 questions about the levels of CBT knowledge, the efficacy of teacher training programs, and changes due to practical sessions. The questionnaire responses were examined descriptively and inferentially by applying mean, median, standard deviation, skewness, kurtosis, and independent sample t-tests. These statistical measures facilitated easy comparison of the two regions' awareness levels in a holistic manner. The methodological technique employed in the research provided a reasonable basis for comparing the variation and deriving pragmatic recommendations on the effectiveness of pedagogical activities for increasing CBT awareness among prospective teachers at the regional and higher levels.

VIII. TOOLS AND MATERIALS USED

Statistical analysis tools such as mean, median, standard deviation, skewness, kurtosis, and t-tests were used to interpret the data collected and compare awareness levels between the two areas.

IX. ANALYSIS AND FINDINGS

This section discusses a comprehensive analysis of data collected to determine levels of awareness among student teachers in Kerala and Kenya towards competency-based teaching. Through the application of several statistical methods, the research identifies notable variations in the two regions, which offer insight into the impact of their educational programs.

9.1 Awareness levels of competency-based teaching among student teachers in Kerala and Kenya

Descriptive statistics were calculated using Excel. The calculations reflected the data succinctly and intelligibly. The findings are presented in Table 1 below.

Table 1: Descriptive statistics of Awareness levels of competency-based teaching between student teachers in Kerala and Kenya

Group	N	M	MD	SD	Sk	Ku
Kenya	43	9.91	10	1.32	0.18	-0.61
Kerala	43	13.67	14	1.04	-0.22	-1.08

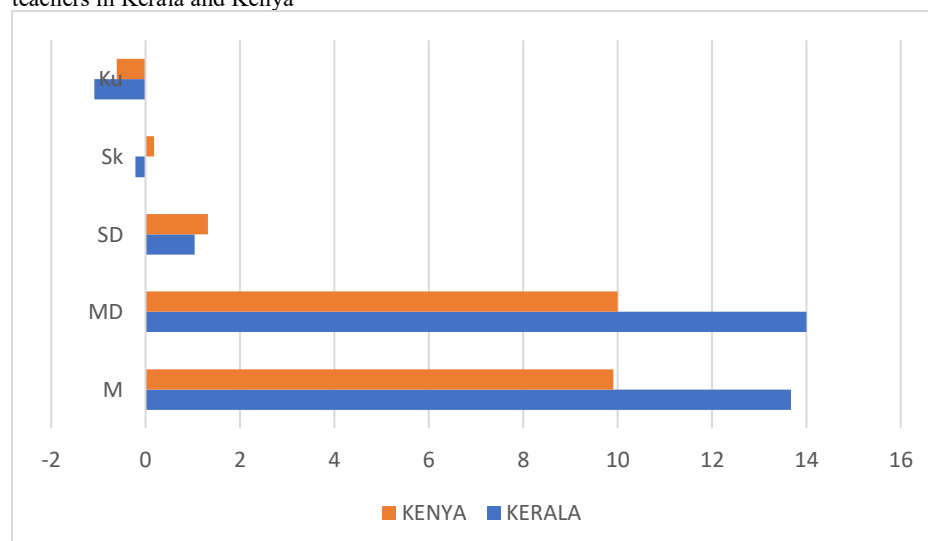
Note: N=sample size, M= mean, MD= median, SD= standard deviation, Sk=skewness, Ku=kurtosis

From the distribution presented in Table 1, it is evident that Kenyan participants have an average mean awareness score of 9.91 and a median of 10, indicating that awareness scores in Kenya are distributed almost symmetrically. Ideally, a standard deviation of 1.32 shows a moderate degree of variability in awareness. Of particular interest is the skewness of 0.18, which is close to zero, which means that the distribution is nearly zero, while the kurtosis of -0.61 is less than zero, which is flattened compared to the standard distribution curve. Kerala recorded the highest mean awareness score of 13.67 and a median of 14, demonstrating higher awareness levels than Kenya. The standard deviation is lower at 1.04, which suggests less variation between the scores achieved. With a value of -0.22, skewness shows that the distribution is slightly skewed to the left, while kurtosis, with a value of -1.08, is below 0, suggesting that the distribution is less peaked than that of the Kenyan data.

Overall, the findings revealed that Kerala student teachers' awareness of competency-based teaching is higher and more consistent than those from Kenya. On comparative assessments, Kerala's lower standard deviation and higher mean indicate a better overall awareness. While the values for skewness and kurtosis are minor for both groups, the figures deviate slightly from the normal distribution, but this does not distort the general trends. Thus, Kerala appears to be more homogenous and at a higher level of awareness, which might indicate better implementation or understanding of competency-based teaching concepts in Kerala in Kerala.

The above data is represented in the figure below;

Fig. 1: Descriptive statistics of Awareness levels of competency-based teaching between student teachers in Kerala and Kenya



9.2 The impact of teacher education programs on the awareness of competency-based teaching methods among student teachers in Kerala and Kenya

The scores from Kenya and Kerala were analysed separately, and the descriptive statistics are summarized in the table below.

Table 2: Descriptive statistics of the impact of teacher education programs on the awareness of competency-based teaching methods among student teachers in Kerala and Kenya

Group	N	M	MD	SD	Sk	Ku
Kenya	43	3.7	4.00	0.67	0.38	-0.71
Kerala	43	5.6	6.00	0.49	-0.55	-1.78

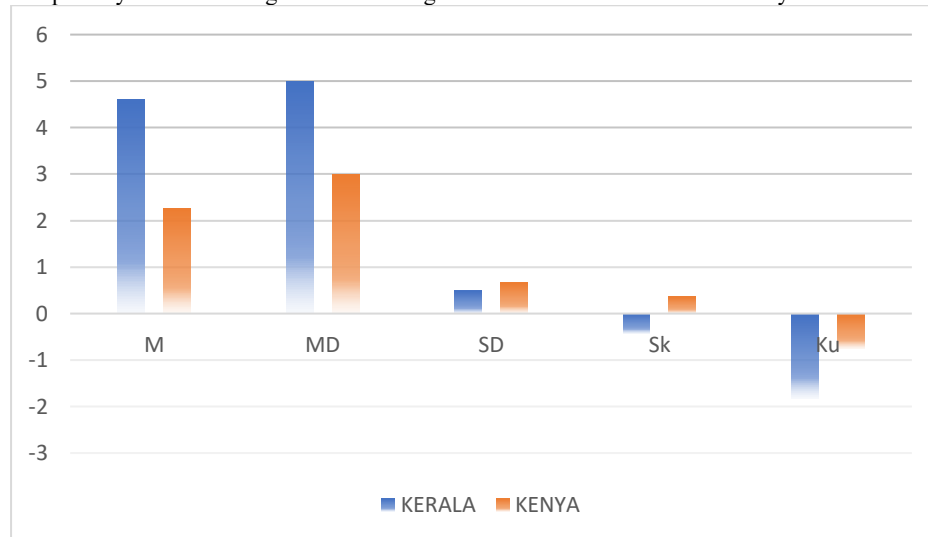
Note: N=sample size, M= mean, MD= median, SD= standard deviation, Sk=skewness, Ku=kurtosis

Table 2 shows Kenya has a mean awareness score of 3.7 and MD=4 with SD = 0.67. The outlook test reflects a positive skew of 0.38, which means it is slightly more right-skewed, while the kurtosis is -0.71, which reveals that the distribution curve is relatively flat. Kerala has the highest mean awareness of 5.6 and a median of 6 with a low standard deviation of 0.49, which points to lesser score fluctuation. From the above results, it can be seen that skewness is -0.55, which implies that the distribution is slightly left-skewed. In contrast, kurtosis is -1.78, meaning the distribution is even more flattened than in Kenya.

Mean scores are higher in Kerala for most areas of student-teacher awareness of competency-based teaching methods than in Kenya, which has a low standard deviation. This suggests that Kerala teachers are more knowledgeable and consistent in teaching competency-based teaching methods than their colleagues in Kenya. This could indicate that teacher education programs in Kerala may be better at providing information to teachers about these approaches.

The figure below represents the data above;

Fig. 2: Descriptive statistics of the impact of teacher education programs on the awareness of competency-based teaching methods among student teachers in Kerala and Kenya



9.3 The influence of practical training sessions on the awareness of competency-based teaching among student teachers in Kerala and Kenya

The awareness test scores from Kenya and Kerala were calculated and analysed. The following are the descriptive statistics.

Table 3: Descriptive statistics of the influence of practical training sessions on the awareness of competency-based teaching among student teachers in Kerala and Kenya

Group	N	M	MD	SD	SK	Ku
Kenya	43	2.27	3.00	0.67	0.37	-0.76
Kerala	43	4.60	5.00	0.49	-0.43	-1.82

Note: N=sample size, M= mean, MD= median, SD= standard deviation, SK=skewness, Ku=kurtosis

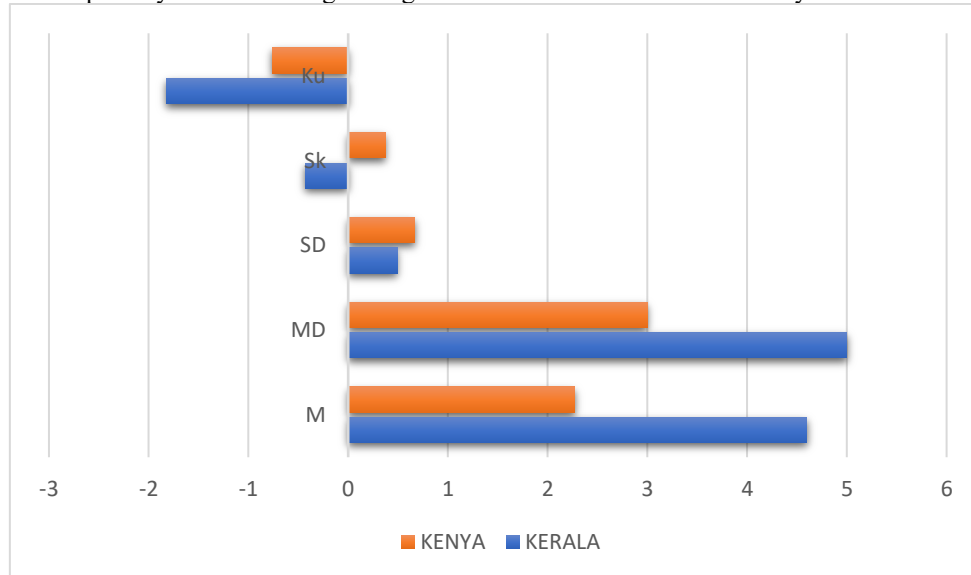
The responses by Kenyan participants elicited a mean awareness score of 2.27, a median of 3.00, as well as a standard deviation of 0.67. The positive coefficient of skewness of 0.37 implies that the distribution is slightly skewed to the right, while the coefficient of kurtosis of -0.76 implies that the distribution is relatively flat. Kerala has the highest mean awareness score of 4.60, followed by a median of 5.00 and a low standard deviation of 0.49. The measure of skewness is slightly negative

(-0.43), which indicates that the data has a slight left skew. The value of kurtosis (-1.82) is highly negative, indicating that the data distribution is highly leptokurtosis.

The results presented in table 3 indicates that practice sessions have a higher potential of raising awareness of competency-based teaching in Kerala than in Kenya. Their high and consistent scores suggest that the training programs provided by Kerala are more efficient. Regarding skewness and kurtosis, both groups deviate slightly from the normal distribution but do not drastically distort the observation. The results reveal that Kerala has shown better performance and an almost equal level of awareness among all students, which may be due to the difference in the training sessions provided to them.

The above data are presented in the figure below;

Fig. 3: Descriptive statistics of the influence of practical training sessions on the awareness of competency-based teaching among student teachers in Kerala and Kenya



9.4 There is a significant difference in the awareness levels of competency-based teaching among student teachers in Kerala and Kenya

The second phase of analysis involved testing the hypothesis. Based on the findings, the hypothesis was either accepted or rejected. The mean and standard deviation from the first objective were used to calculate the t-value. The findings are presented below.

Table 4: There is a significant difference in the awareness levels of competency-based teaching between student teachers in Kerala and Kenya.

Hypothesis	Group	N	M	SD	t-value	p-value
H1	Kenya	43	9.91	1.32	-14.69	0.05
	Kerala	43	13.67	1.04		

Note: H1=hypothesis 1, N=sample size, M= mean, SD=standard deviation.

The t-critical value for a two-tail test with a significance level of 0.05 with 84 degrees of freedom is ± 1.990 . From Table 4 above, the calculated t-score of -14.65 is far beyond this critical value and shows a fundamental significant difference between the two groups. The results of the Mean awareness level of students in Kerala was (13.67) which was significantly higher than the mean awareness level of students in Kenya (9.91) with a t statistic of (-14.69) and a p-value of <0.05 . This indicates that the level of awareness of competency-based teaching is significantly higher among Kerala student teachers than Kenyan counterparts. Thus, the research hypothesis that constructs competency-based teaching awareness among Kerala and Kenya student teachers is significantly different is accepted.

9.5 Student teachers in Kerala exhibit higher awareness of competency-based teaching methods compared to their counterparts in Kenya due to differences in teacher education programs

Table 5: Student teachers in Kerala exhibit higher awareness of competency-based teaching methods compared to their counterparts in Kenya due to differences in teacher education programs.

Hypothesis	Group	N	M	SD	t-value	p-value
H2	Kenya	43	3.7	0.67	-15.01	0.05
	Kerala	43	5.6	0.49		

Note: H2=hypothesis 2, N=sample size, M= mean, SD=standard deviation.

The overall mean score of the student teachers from Kerala (5.6) is higher than that of the student teachers from Kenya (3.7), which points towards the understanding level of competency-based teaching methods. This could indicate the

effectiveness of Kerala's teacher education programs in creating awareness. The t-value (-15.01) of the observed difference is less than 0.05, thereby rejecting the null hypothesis in favour of the alternative hypothesis that Kerala's teacher education programs are more effective in raising awareness of competency-based teaching methods than Kenya's programs.

X. TENABILITY OF THE HYPOTHESIS

Hypothesis 1: The first hypothesis was postulated as follows: there is a significant difference between the Kerala and Kenya student teachers in the competency-based teaching level. In statistical analysis, this hypothesis is translated to the null hypothesis: There is no significant difference in the awareness of competency-based teaching among student teachers in both Kerala and Kenya. This study used the independent sample t-test to compare the mean awareness scores of student teachers from Kerala ($M = 13.67$, $SD = 1.04$) and Kenya ($M = 9.91$, $SD = 1.32$). Data analysis showed the difference was statistically significant, $t = -14.69$, $p < 0.05$, where Kerala student teachers had higher awareness. The null hypothesis was rejected since a calculated t-value of (-14.69) was greater than the critical t-value of ± 1.990 at 0.05 level. Therefore, the study hypothesis is accepted as there is a marked difference in the level of CBT awareness between the two regions.

Hypothesis 2: The second hypothesis holds that there is a difference in the pre-service teacher training programs between the two countries, and student teachers in Kerala are more aware of competency-based teaching and learning than their counterparts in Kenya. The null hypothesis for statistical testing was: H_0 : Student teachers in Kerala and Kenya are equally aware of competency-based teaching methods due to teacher education programs. The analysis involved comparing mean scores of teacher education programs in Kerala, India ($M = 5.6$, $SD = 0.49$) and Kenya ($M = 3.7$, $SD = 0.67$). The t-test results ($t = -15.01$, $p < 0.05$) revealed a significant difference in the awareness levels, with Kerala's programs having a higher score. Therefore, the null hypothesis was rejected, while the alternative hypothesis proposing that the teacher education programs in Kerala are superior in promoting CBT awareness was accepted.

XI. IMPLICATIONS OF THE STUDY

These findings have principal insinuations for educational policymakers, teacher education institutions, and curriculum developers in both Kerala and Kenya. The study shows that the teacher education programs, as well as the practical training sessions held in Kerala, have raised awareness of competency-based teaching, which could mean Kenya stands to gain from emulating the programs. For policymakers, the findings have implications for structured teacher training reforms, such as teacher professional development, to reduce the awareness gap in CBT. The study also explores funding sources for educational initiatives like Kerala's KITE to improve the training of teachers, which may be important given Kenya's CBC.

The study suggests overhauling the current lesson plans for teacher training institutions to incorporate functional and skills-based training approaches. The higher consistency and awareness levels among Kerala's student teachers show that fundamental CBT education requires experiential training for field exposure. Kenyan institutions may require partnering with stakeholders to develop such training models to prepare pre-service teachers for proactively applying CBT in classrooms. Furthermore, in terms of practical implications, this study's methodological approach, such as selecting a stratified sample and statistical comparison techniques, may be helpful as a model for future longitudinal comparative studies in other geographical or educational settings.

Lastly, the study enlightens global debates about CBE, showing that awareness disparities within regions can affect educational outcomes. It supports the integration of knowledge between countries and acknowledges the potential of borrowing solutions from more efficient systems like the one in Kerala. Thus, longitudinal designs are suggested to measure the critical impact of those interventions on teaching effectiveness and students' performance. By considering these implications, stakeholders can strive to make education systems fair, efficient, and equipped to meet the needs of 21st-century learning enterprises.

XII. RECOMMENDATIONS

The following recommendations can be made from the results of this study to increase CBT awareness, improve implementation in Kenya, and build upon the existing framework in Kerala. First, the Kenyan educational authorities should undertake further teacher training reforms, including structured CBTs focused on experiential knowledge and learner orientation. From this model, Kenya should replicate and provide sustainable support, focusing on constant professional development for teachers to support the CBC system adequately.

Second, teacher training institutions should engage policymakers and develop practical teaching practice training sessions, workshops, and mentorships. These should echo the state's approach to learning by doing, which has also helped popularize CBT in Kerala. Further, Kenya may consider emulating Kerala's technologically supported endeavours like the KITE project in enhancing digital literacy and teaching learning techniques.

However, more research must be done to identify which components of Kerala's teacher education programs effectively enhance CBT awareness. Analysis with other countries, regions, or developed nations could also reveal further factors for large-scale implementation of best practices. Therefore, future research should employ longitudinal designs to determine the sustainability of the gains in teaching practices and students' achievement following CBT training in both regions. Implementing these recommendations will help Kenya close that gap in awareness, and Kerala can further improve its policies to remain a model for competency-based education, as seen in its current success.

XIII. DISCUSSION

The study reveals a higher awareness of competency-based teaching (CBT) among Kerala, India, student teachers than Kenyan teachers. The high awareness and implementation may be attributed to the established educational systems in Kerala

and effective teacher education programs. This accords with Hiltunen, who posited that enhanced implementation of CBT depends on well-structured educational reforms, such as in Finland (Hiltunen, 2020).

Anderson & Krathwohl also agreed that undue emphasis on teacher training enhances the effectiveness of CBT implementation (Anderson & Krathwohl, 2020). Kerala's literacy campaigns, Kerala State Literacy Mission Authority, and KITE project corroborate these observations, suggesting that adequate funding and sound implementation of educational policies contribute towards better understanding and implementation of CBT principles.

Future research needs to analyse the relative impact of particular aspects of Kerala's teacher preparation programs and training towards this realization. Additionally, knowledge about how these aspects can be employed in the Kenyan setting is helpful for education policies in the future. Such pilot programs, borrowed from Kerala's model and aligned with continuous professional development for teachers, can go a long way towards closing the awareness gap. Longitudinal studies examining these interventions' effectiveness on teaching practices and academic achievement in Kenya would help support these approaches.

XIV. CONCLUSION

The study reveals stark variations in the level of awareness and the degree of practice in competency-based teaching (CBT) among Kerala, India, and Kenya student teachers. This study also shows that Kerala's student teachers possess a higher level of awareness, which implies that the content taught in their teacher education programs & practical field training, and demo classes are better equipped to promote CBT principles. On the other hand, the lower scores achieved by Kenya point toward the need for various paradigm shifts in the content of teacher training programs. There is a need to overhaul education systems in Kenya to increase CBT understanding and execution, and call for changes in curriculum and the adoption of practices shown by the Kerala model. These realities underscore the need to prepare future educators and faculty to meet current educational requirements effectively. It will increase teacher effectiveness, enhance students' achievement, and result in a global education system that is more efficacious and efficient in responding to the prerequisite of teachers, students, and their communities.

ACKNOWLEDGEMENT

I express deep appreciation toward every person who helped me during the writing process. The most profound gratitude goes to Prof. Dr. Minikutty A, Professor and Dean of the School of Pedagogical Sciences at Mahatma Gandhi University, because of her essential guidance, immense feedback, and motivational support. During my journey, I am indebted to thank all my family members and friends who continuously supported me with their remarkable encouragement. The completion of this work entirely depends on your essential contributions.

REFERENCES

- Anderson, L. W., & Krathwohl, D. R. (2020). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Longman.
- Awili, R., & Begi, N. (2021). Relationship between Instructional Leadership and Implementation of Competency-Based Curriculum in Early Years Education in Nairobi City County, Kenya. *Randwick International of Education and Linguistics Science Journal*, 2(3). <https://doi.org/10.47175/rielsj.v2i3.280>
- C M., Asha. (2020). EDUCATION OF TRIBAL COMMUNITIES IN KERALA. *International Journal of Social Science and Economic Research*, 05(06). <https://doi.org/10.46609/ijsser.2020.v05i06.001>
- CBC App. (2024). A simple analysis of the numbers behind the 2024 rationalisation of the Competency Based Curriculum (CBC). Retrieved from <https://cbcapp.co.ke>
- Ghara, T. K. . (2020). Comparing States through Educational Indicators for Last 9 Years: AISHE Data Analysis. *Journal of Humanities and Social Sciences Studies*, 2(5), 77-88. <https://doi.org/10.32996/jhss.2020.2.5.10>
- Hiltunen, J. (2020). Implementing competency-based education in Finland: Insights from the field. *Journal of Educational Change*, 21(3), 287-309.
- Kerala State Education Report. (2021). Government of Kerala.
- Kubai, J. T., & Owiti, B. (2022). Teacher training pathways for competency-based curriculum (CBC) in the university education in Kenya. *African Journal of Science, Technology and Social Sciences*, 1(1). <https://doi.org/10.58506/ajstss.v1i1.44>
- M'mboga Akala, D. B. (2021). Revisiting education reform in Kenya: A case of Competency Based Curriculum (CBC). In *Social Sciences and Humanities Open* (Vol. 3, Issue 1). <https://doi.org/10.1016/j.ssaho.2021.100107>
- Ministry of Education, Kenya. (2024). Implementation of Competency-Based Curriculum (CBC). Retrieved from <https://www.education.go.ke>
- Muchira, J. M., Morris, R. J., Wawire, B. A., & Oh, C. (2023). Implementing Competency Based Curriculum (CBC) in Kenya: Challenges and Lessons from South Korea and USA. *Journal of Education and Learning*, 12(3). <https://doi.org/10.5539/jel.v12n3p62>
- Njoroge, G., & Wambugu, P. (2020). Teacher preparedness for competency-based curriculum implementation in Kenya. *Kenya Journal of Education*, 15(1), 56-70.
- Radha T., & Anil, N. (2020). Empowerment of Women Through Education. *International Journal of Political Activism and Engagement*, 7(4). <https://doi.org/10.4018/ijpae.2020100101>
- Raj, M., & Kumar, P. (2019). Challenges in the implementation of competency-based teaching in Kerala. *Indian Journal of Education*, 23(1), 43-58.
- Saji, T. G. (2020). Undergraduate education in India: Dissecting the perception gaps in students' expectations. *Prabandhan: Indian Journal of Management*, 13(8-9). <https://doi.org/10.17010/pijom/2020/v13i8-9/155231>
- Sharma, R. (2019). Competency-based education and its impact on learning outcomes. *Education Today*, 19(4), 312-326.
- Statista. (2023). Kenya: educational institutions by type. Retrieved from <https://www.statista.com/statistics/1121450/kenya-educational-institutions-by-type/>
- Vedhathiri, T. (2020). A radical and virtual innovation centre (RVIC) for human resource development (HRD)-case study on planning, developing and sustaining the human capital development. *Journal of Engineering Education Transformations*, 33(Special Issue).
- Wei, B., Lin, J., Chen, S., & Chen, Y. (2022). Integrating 21st century competencies into a K-12 curriculum reform in Macau. *Asia Pacific Journal of Education*, 42(2). <https://doi.org/10.1080/02188791.2020.1824893>
- World Bank. (2023). Kenya population 2024. Retrieved from <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=KE>