

Contribution of critical thinking to effective learner transformation in teaching of Bible-based courses in chartered Christian universities in Nairobi County, Kenya

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Abstract

This paper aimed to assess the contribution of critical thinking in teaching Bible-based courses for learner transformation in chartered Christian universities in Nairobi. Considerable resources have been allocated to train lecturers in using critical thinking in their teaching methods. However, there needs to be more knowledge regarding the actual impact of this training. Biblical worldview and transformative learning theory underpinned this study. Descriptive analysis was employed to establish the relationship between using critical thinking in teaching Bible-based courses and learner transformation. A cross-sectional survey research design was used, specifically targeting 63 lecturers who teach Bible-based courses, and the response rate was 100 per cent. The census method was used. Further, regression analysis was employed to examine the relationship between the variables at a significant level of 0.05. There was a significant relationship between critical thinking and learner transformation. This suggested that using essential thinking would lead to the learners' growth in Christian identity as critical thinking in the learning process supports learners in being analytical and rational. It allows students to actively explore, examine, and generate ideas within real-world scenarios significant to the learners. Christian Higher Education aims to produce morally transformed graduates with a Christian identity as agents of societal change. The researcher recommends that Christian Higher Education adopt critical thinking for their learners' knowledge, behaviour, skills, and attitude change.

Key terms: Bible-based courses, critical thinking, census study, cross-sectional survey, learner transformation/biblical worldview.

INTRODUCTION

Chartered Christian universities in Nairobi have been conducting transformative pedagogy training for their lecturers to transition from a teacher-centred to a learner-centred approach, as advocated by transformative learning theory. These universities have used resources, but more is needed to know the outcomes of these trainings. Further, Christian universities endeavour to produce morally transformed graduates, as stated in these universities' vision and mission. The transformed learner is seen as an agent of transformation in the larger society. Christian universities prioritise the development of a Biblical Worldview in their learners, which is also in line with the government's 4th national educational goal. Only a few studies in Kenya have assessed critical thinking on the learner transformation. It was this gap that the paper sought to fill.

Chartered Christian universities provide "university core courses" to uphold their goals. These courses, rooted in the Bible, attempt to cultivate a Biblical worldview among students while they pursue their preferred academic degrees. The university core courses are Bible-centered courses that pique the researcher's attention. Given the various philosophical perspectives on the nature of reality, Chartered Christian Institutions are responsible for safeguarding the Christian faith with great vigilance. In Kenya, university education is governed by the Commission for University Education. The programs offered in all universities are required to be learner-centred, as stated in the University Education Standards and Guidelines, 2014 (Prog/Std/o8 –pg. 56).

The Basic Education Curriculum Framework, introduced in 2017 provided guidance for education in Kenya, it promoted the use of transformative pedagogy, which is based on the constructivism theory (KICD: Basic Education Curriculum Theory, January 6, 2017). CUE guidelines for review of the curriculum for university teacher education program, Dec. 2023, requires core competencies espoused in CBC, such as critical thinking and problem-solving, to be included in the expected outcomes of each subject. (CUE, 2023). This is a learner-centred approach that empowers the students to build knowledge actively.

One of the transformative pedagogies that is common in a majority of Chartered Universities in Kenya is critical thinking.

Paul et al. (1997) found that many instructors in California possess only a vague understanding of critical thinking and, not surprisingly, little knowledge of how to develop critical thinking skills in learners. The Paul et al. (1997) study found that while 89% of the sampled instructors identified critical thinking as a key objective, only 9% included tasks in class that were designed to champion critical thinking on a typical day in class. The research saw a gap in that the courses that were taught needed to be identified. Further, numerous studies have found that university faculty lack basic knowledge or understanding of critical thinking or how to incorporate such thinking into lesson plans so that critical thinking can be developed in students (Bataneh & Alazzi, 2009; Innabi & Sheikh, 2007; Lauer, 2005). Conversely, Alwehaibi (2012) found that critical thinking and overall student success could be improved if institutions of higher learning adopt and integrate strategies and techniques that have been identified as helpful in coming up with critical thinking into various courses.

Additionally, Abrami et al. (2008) found that instructors who received specific training on teaching critical thinking were more effective in instilling critical thinking in students than instructors who had no prior training. As such, this current paper population included lecturers who had undergone transformative pedagogy training. Therefore, the study sought to determine the effect of critical thinking in teaching Bible-based courses on learner transformation.

LITERATURE REVIEW

Critical thinking is required in transformative learning theory (Mezirow, 1991). Critical thinking has many broad definitions, though this study will refer to making the proper judgment. According to Bloom (1956), critical thinking is a skill required to analyse and implement knowledge received, identified as a triangular set of skills. Bloom's taxonomy presents how critical thinking is facilitated at five different levels. In each level, he shows how knowledge is obtained and developed. Critical thinking aims at

transforming the learner's perspective through the obtained knowledge by retrieving it when needed. When the acquired knowledge is retrieved and applied, learner transformation is observed.

Being conscious of being incorrect or improper because of thinking is the purpose of critical thinking (Sahin & Dogantay, 2018). There are three main theoretical approaches to critical thinking: philosophical, psychological, and educational. Under educational approach discussion, critical thinking was founded around Bloom, Gagne, Romiszowski, Anderson, Krathwohl, and Marzano, among others, where the approach emphasises developing learners' abilities to enhance future problem-solving and decision-making skills (Sternberg, 1986). As Dwyer et al. (2014) articulated, Bloom's Taxonomy is a frequently used source for the educational strategy of critical thinking. It was developed to categorise the cognitive processes that stem from educational encounters.

Mezirow's (1991) transformative learning theory indicates that critical thinking is brought about by knowledge as the individual seeks to respond to conflicts of thoughts, actions, and feelings triggered by the new facts, which could lead to transformation. Brookfield (2000), an expert in critical thinking, observes that transformative learning must engage in essential questions and reordering thoughts and actions. In the context of this study, the learning and teaching process should be planned as an inquiry

where the lecturers support the student in uncovering knowledge from the Bible-based courses' foundational narrations.

Prior studies revealed both success and failure in using different levels of Taxonomy. Heflin's (2022) study showed that Jesus, as a Master teacher, subjected religious leaders to a higher frequency of inquiries for critical thinking. To Heflin, these variations influence how teachers create learning-oriented questions for their students who synthesise information differently. Looking at the book of Matthew, the variations of the questions that Jesus used are guided by Bloom's taxonomy levels of thinking. In contrast, Bataineh & Alazzi's (2009) study findings revealed that faculty in universities displayed a deficiency in basic knowledge or comprehension of critical thinking, as well as an inability to integrate it in teaching to foster the development of critical thinking skills in students.

Besides using Bloom's taxonomy levels (Bloom, 1956), researchers such as Kitchenham (2006) and Boyer et al. (2006) identified instruction aids for maturing critical thinking, which includes writing both online and in reflective journals. These techniques and Bloom's levels were used to assess the contribution of critical thinking to learner transformation. The study population comprised lecturers who had undergone transformative pedagogy in different universities. Table 1 confirmed that all the lecturers had undergone transformative pedagogy training.

Table 1: Target Population

Identified Universities	No. of lecturers trained in teaching
PAC University	13
St. Paul's University	11
Daystar University	10
Methodist University	1
International Leadership University	10
KAG University	11
Catholic University of East Africa	7
Total	63

METHODOLOGY

The study used structured closed-ended questionnaires with some open-ended questions. The open-ended questions aimed at allowing the respondents to explain their opinions about the application and effectiveness of critical thinking in teaching Bible-based courses on learner transformation. Participants were able to convey their sentiments and attitudes. The respondents were required to indicate by ticking in the scale provided as 'Never', 'Less often', 'not sure', 'often', and 'most often'. Likert-type scales are helpful when measuring latent constructs, that is, characteristics of people like attitudes, feelings, and opinions (Morse & Cheek, 2014). With the assistance of the universities' gatekeepers, the researcher administered a research questionnaire using different methods as advised in each University—data collection information involved issuing printed questionnaires and sending questionnaires through emails to obtain data. Follow-

up/reminders were carried out by phone and email where applicable, and collection was done after the lecturer filled them out. Descriptive statistics were used to establish the relationship between the use of critical thinking in teaching Bible-based courses and learner transformation. Further, regression analysis was employed to examine the relationship between the variables at a significant level of 0.05. The frequencies and percentages were computed to explain the main characteristics of the variables, which include the use of critical thinking (independent variable) and learner transformation (dependent variable).

RESULTS AND DISCUSSION

The demographic characteristics of the respondents, including gender, age, training attendance, number of training attended, and level of education, were analysed. The findings are presented in Table 2.

Table 2: Demographic Data

	Description	Frequency	Per cent
Age bracket	31-35 years	2	3.2
	36-40 years	4	6.3
	41-45 years	13	20.6
	46-50 years	9	14.3
	51 years and above	35	55.6
	Total	63	100
Gender	Male	48	76
	Female	15	24
	Total	63	100
Attended training	Yes	63	100
Level of education	Professor	4	6.3
	Doctor	37	58.7
	Master degree	22	34.9
	Total	63	100

The study found that most respondents (55.6%) were 51 years and above. Results also show that 13(20.6%) respondents were aged between 41 years to 45 years. The results also show that the male respondents were the dominant (48.76%). According to the study results, all the respondents attended the critical thinking

training meant to equip them with the skills for teaching. Most of the respondents had attended the training between one and five times. Most respondents 37(58.7%) had a doctorate, while 22(34.9%) had a master's degree.

The integration of critical thinking in teaching Bible-based course was tested based on group work assignments, case studies, and question and answer at the knowledge level. At the application level, using free expression of one's opinion, dialogue, and termly progress report tested critical thinking. Group presentations and formative and summative assessments were used at the analysis level. At the evaluation level, self-evaluation was employed using Biblical content of the creation, the fall of man, the nation of Israel, and the story of the early church- all

these to find their lives drama in the Bible. Self-reported results are presented in the subsequent sections.

Under knowledge level, the study sought to determine the extent to which different teaching methods are used in Bible-based courses. This was done on a five-point Likert scale of never, less often, not sure, often, and most often. The results are presented in Table 3.

Table 3: Teaching Techniques at the Knowledge Level

	Never	Less often	Not sure	Often	Most often
Employing group work assignments in the teaching and learning process	3(4.8%)	7(11.1%)	2(3.2%)	24(38.1%)	27(42.9%)
Utilising case studies as reflective exercise activities in the teaching/learning process	1(1.6%)	10(15.9%)	0(0%)	30(47.6%)	22(34.9%)
Utilising question-and-answer methods in the teaching/learning process	1(1.6%)	2(3.2%)	2(3.2%)	26(41.3%)	32(50.8%)

According to self-reported study findings, most of the lecturers (50.8%) indicated that they most often used questions and answers in teaching and learning. Results further show (41.3%) of lecturers reported often using the questions and answers method in teaching and learning. The self-reported results show that using group work, case studies, questions, and answers at the knowledge level of Bloom's Taxonomy in teaching Bible-based courses can stir learners' critical thinking, which would lead to learner transformation. In general, this study's findings

indicated that, to a great extent, lecturers reported utilising different techniques to teach Bible-based courses.

Under application level, the study sought to determine the extent to which the respondents applied dialogue in teaching Bible-based courses. This was again on the scale of never, less often, not sure, often, and most often. The results are presented in Table 4.

Table 4: Teaching Techniques at Application-level

	Never	Less often	Not sure	Often	Most often
Allowed the students to express their opinions about the Bible content without victimisation	1(1.6%)	0(0%)	1(1.6%)	15(23.8%)	46(73.0%)
Preferred giving out reflective exercises/activities for monologue dialogue in the teaching/learning process	2(3.2%)	3(4.8%)	3(4.8%)	30(47.6%)	25(39.7%)
Part of the assignments were termly report writing one's progress with the Bible-based courses	1(1.6%)	10(15.9%)	4(6.3%)	29(46.0%)	19(30.2%)

The study findings show that 46(73%) respondents most often allowed the students to express their opinions about the Bible contents without being

victimised. Further, according to the results, 30(47.6%) respondents preferred giving out reflective exercises/activities for monologue in the

teaching/learning process, while 25(39.7%) noted that they most often preferred giving out reflective exercises. The findings revealed that 29(46%) respondents indicated that part of the assignment often was termly report writing one's progress and 19(30.2%) most often. The results generally mean that the respondents often employed teaching techniques

at the application level in teaching the Bible-based courses.

Under the analysis level, the study sought to determine how the respondents applied the analysis (tests) in teaching Bible-based courses. The results are presented in Table 5.

Table 5: Teaching Techniques at the Analysis Level

	Never	Less often	Not sure	Often	Most often
Attached are individual marks in group presentations depending on one's contribution.	7(11.1%)	7(11.1%)	8(12.7%)	15(23.8%)	26(41.3%)
60% of the semester marks are summative assessments, while 40% marks of formative assessments	12(19%)	3(4.8%)	6(9.5%)	18(28.6%)	24(38.1%)
40% of the semester marks are summative assessments, while 60% marks are formative assessments.	13(20.6%)	11(17.5%)	4(6.3%)	11(17.5%)	24(38.1%)

The results show that (41.3%) of the respondents noted that they most often attached individual marks for contributions in group presentations. Fifteen lecturers (23.8%) noted that they often attach marks for presentation contributions. The study findings show that 24(38.1%) of the lecturers noted most often, (60%) of the semester marks are summative assessments, while (40%) of marks are formative assessments. The findings further show that 18(28.6%) lecturers noted that often, 60% of marks are summative while (40%) are formative assessments. Results show that 24(38.1%) lecturers noted that most often, (40%) of the semester marks are summative

assessments while 60% are formative assessments. The findings also show that 11(17.5%) respondents noted that often, (40%) marks are summative while (60%) are formative. Based on the findings, (40%) of marks are summative, while (60%) of marks are formative assessments. The results suggest that the lecturers used analysis (tests) to teach and learn the Bible courses.

Under evaluation, the researcher sought to determine the extent to which the respondents used reflective exercises in teaching Bible-based courses. The results are presented in Table 6.

Table 6: Use of Teaching Technique at Evaluation Level

	Never	Less often	Not sure	Often	Most often
Gave students reflective questions to evaluate their lives around case studies. about creation and the fall of man	2(3.2%)	7(11.1%)	3(4.8%)	25(39.7%)	26(41.3%)
Gave students questions to evaluate their lives around the nation of Israel	15(23.8%)	48(76.2%)	0(0%)	0(0%)	0(0%)
Gave students evaluative questions about the life of Jesus Christ and the story of the Church	7(11.1%)	56(88.9%)	0(0%)	0(0%)	0(0%)

The results show that 26(41.3%) of the lecturers stated that they often gave students reflective questions to evaluate their lives around case studies about creation and the fall of man. The findings further show that 25(39.7%) respondents often gave students reflective

questions. The results, however, show that 48(76.2%) lecturers indicated that they less often gave students questions to evaluate their lives around the Biblical nation of Israel. The results show that 15(23.8%) said they never gave students questions to evaluate their

lives around the Biblical nation of Israel. The results show that (88.9%) of the lecturers indicated that they less often gave students evaluation questions about the life of Jesus Christ and the church's story. The lecturers in Christian universities use different methods to teach Bible-based courses, depending on the subject.

The study's results revealed that 22 lecturers described using critical thinking as helping facilitate the learner's transformation. Three of the lecturers reported that the use of critical thinking techniques had resulted in learners reevaluating their stands on what they thought before was right and reaffirming their views on matters related to the course. Three other lecturers stated that the use of critical thinking assisted students in making better decisions in their personal lives. Lecturers stated that using critical thinking helped develop the learners' ability to view life from different perspectives and analyse questions critically. Two other lecturers noted that critical thinking helped the learners gain a deeper and more personal understanding of content as they could probe and evaluate information. Most lecturers noted that

learners had been able not just to consume the information given but also to evaluate and analyse things, thus improving their analytical skills. By using critical thinking, learners obtain abilities to interrogate issues besides synthesising and making sound judgements.

Learner Transformation Analysis

The researcher sought to determine the learner transformation resulting from applying critical thinking. The learner transformation was measured in terms of knowledge change, behaviour change, skills change, and attitude change. The literature review indicated that there should be an expectation that the Bible knowledge would influence the learner's Biblical worldview, which is expressed through behaviour, skills, and attitude (Teo, 2017). The results are presented in the following sections.

Knowledge Change: The respondents were asked to state their level of agreement with the statements regarding the observed learner transformation, particularly knowledge change. The findings are presented in Table 7.

Table 7: Knowledge Change

	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
While handling case studies in class, students apply Bible knowledge to respond to the issues in case studies.		1(1.6%)	1(1.6%)	26(41.3%)	35(55.6%)
Students ask questions for clarification where they have not understood	1(1.6%)	1(1.6%)	1(1.6%)	22(34.9%)	38(60.3%)
Students find it difficult to believe the Bible is the final authority	23(36.5%)	18(28.6%)	4(6.3%)	9(14.3%)	9(14.3%)
Controlling the class during class discussions is usually hard as students raise questions for clarity, making it difficult to finish the syllabus	22(34.9%)	24(38.1%)	1(1.6%)	7(11.1%)	9(14.3%)
Students do not shoot down Bible principles in favour of other worldviews	4(6.3%)	9(14.3%)	2(3.2%)	27(42.9%)	21(33.3%)
The class is usually lively as students engage in ideas on how to apply biblical knowledge.	1(1.6%)	0(0%)	3(4.8%)	26(41.3%)	33(52.4%)
Sometimes, the class ends late as the discussions around Bible knowledge get captivating.	8(12.7%)	9(14.3%)	5(7.9%)	27(42.9%)	14(22.2%)

Some students do their research on the Bible and ask for help to understand it even if it is not part of the class topic for the day.	1(1.6%)	1(1.6%)	8(12.7%)	31(49.2%)	22(34.9%)
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The study findings show that 60(95.2%) lecturers at least agreed that the students asked questions for clarification where they had not understood. The results further show that 48(76.2%) lecturers stated that the students did not violate Bible principles in favour of other worldviews. Fifty-nine respondents (93.7%) at least agreed that the classes were lively as students engaged in ideas on the application of biblical knowledge. Lecturers noted that sometimes the classes ended late due to the discussions about Bible

knowledge. Based on the study's findings, there was a demonstration of knowledge change due to the use of transformative pedagogy in teaching Bible-based courses.

Behavioural Change: The study sought to establish whether there were behavioural changes among the students. Respondents were thus asked to state a level of agreement with the statement. Results are presented in Table 8.

Table 8: Behavioral Change

	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
Observed teamwork spirit among students		2(3.2%)	5(7.9%)	21(33.3%)	35(55.6%)
There are no cases of dishonesty among students who have taken Bible-based courses	12(19%)	17(27%)	13(20.6%)	13(20.6%)	8(12.7%)
There are cases of dishonesty among the students who have taken Bible-based courses	7(11.1%)	12(19%)	15(23.8%)	18(28.6%)	11(17.5%)
There are no moral cases among the students who have taken bible-based courses	13(20.6%)	20(31.7%)	13(20.6%)	5(7.9%)	12(19%)
Students attend Bible-based courses classes because there is a class attendance list to be signed in and out	12(19%)	19(30.2%)	14(22.2%)	10(15.9%)	8(12.7%)
Observed making upright moral decisions when faced with moral dilemmas	1(1.6%)	7(11.1%)	12(19%)	25(39.7%)	18(28.6%)
There are no cases of indiscipline among bible-based course students	9(14.3%)	22(34.9%)	8(12.7%)	14(22.2%)	10(15.9%)
Observed growth in obedience among some students.	2(3.2%)	1(1.6%)	5(7.9%)	37(58.7%)	18(28.6%)

As 56(88.9%) respondents noted, the study established teamwork among the students. The students made upright moral decisions when in a dilemma, according to 43(68.3). Fifty-five 55(87.3%) respondents reported to have observed growth in obedience in some students. However, a sizable proportion of the respondents (46%) noted that there were still cases of dishonesty among students, as vices

such as exam cheating and not attending classes were common. Even though there was a change in student behaviour, the study established that some vices were persistent in the institutions.

Skills Change: The study sought to establish whether there was any learner transformation regarding skills change. The results are presented in Table 9.

Table 9: Skills Change

	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
Some of these students serve with boldness as Christian leaders here at this University	1(1.6%)	1(1.6%)	2(3.2%)	27(42.9%)	32(50.8%)
Students volunteer to read Bible texts during Bible core classes	1(1.6%)	5(7.9%)	1(1.6%)	23(36.5%)	33(52.4%)
Students do Bible-based courses because it is a requirement in the university curriculum.	6(9.5%)	12(19%)	5(7.9%)	19(30.2%)	21(33.3%)
have observed that students respect themselves in decision-making as they are made in the image of God.	0(0%)	1(1.6%)	5(7.9%)	36(57.1%)	21(33.3%)
have observed students grow spiritually about God.	1(1.6%)	0(0%)	2(3.2%)	34(54%)	26(41.3%)
have observed that students respect others as they are made in the image of God.	0(0%)	0(0%)	5(7.9%)	34(54%)	24(38.1%)
have observed servant leadership among some of the students.	0(0%)	0(0%)	2(3.2%)	34(54%)	27(42.9%)
have observed the integration of Bible knowledge and learning among some students.	0(0%)	0(0%)	4(6.3%)	34(54%)	25(39.7%)

The results revealed that 36(57.1%) lecturers agreed that they had observed students respect themselves in decision-making as they are made in the image of God. Twenty-one (33.3%) strongly agreed with the statement. This suggested that the students largely respected themselves in the decision-making as they are made in the image of God. The findings show that most lecturers (54%) agreed that they had observed students respect others as they are made in the image of God. With 24(38.1%) lecturers strongly agreed that the students respected others. The results implied that the students have respect for one another as they are made in the image of God. Further, findings show that 34(54%) lecturers agreed that they have observed servant-leadership among some of the students. Results show that 27(42.9%) lecturers strongly agreed that they had observed servant-leadership among some of the students. There was an implication that some students had largely exhibited servant

leadership. Finally, the study revealed that most of the lecturers (54%) agreed that they had observed the integration of Bible knowledge and learning among some students. Results further show that 25(39.7%) strongly agreed that they have indeed observed the integration of Bible knowledge and learning among some students. This implied there had been integration of Bible knowledge and learning after the teaching of Bible-based courses. However, a sizable proportion of the lecturers (46%) noted that there were still cases of dishonesty among students as vices such as exam cheating and not attending classes were common. Even though there was a change in behavior among the students, some vices persisted in the institutions.

Attitude Change: The researcher sought to establish the learner transformation measured in terms of attitude change. The findings are in Table 10.

Table 10: Attitude Change

	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
Students who initially had a bad attitude toward Bible-based courses change to become the best students in the University.	0(0%)	4(6.3%)	14(22.2%)	30(47.6%)	15(23.8%)
do not have struggles with students' class attendance in Bible core classes	4(6.6%)	10(15.9%)	13(20.6%)	18(28.6%)	18(28.6%)
have observed some students participate in benevolence in caring for the needy	0(0%)	2(3.2%)	6(9.5%)	29(46.6%)	26(41.3%)
have observed students helping other students as they are made in the image of God	0(0%)	2(3.2%)	5(7.9%)	32(50.8%)	24(38.1%)
have observed students appreciate the history of creation	2(3.2%)	0(0%)	7(11.1%)	23(36.5%)	31(49.2%)
have observed some students acknowledging God in their lives	0(0%)	1(1.6%)	2(3.2%)	24(38.1%)	36(56.5%)
have observed students develop positive attitudes towards the Christian faith.	0(0%)	0(0%)	0(0%)	28(44.4%)	35(55.6%)
I have observed students standing up for the Christian faith when challenged.	0(0%)	1(1.6%)	6(9.5%)	26(41.3%)	30(47.6%)

It was found that 29(46%) lecturers agreed that they had observed some students participate in benevolence in caring for people in need. Findings show that 26(41.3%) strongly agreed with the statement. The results suggested that the students have been participating in benevolence in caring for the needy, which is one of the core values of Christian universities. Further, most respondents 32(50.8%) agreed that they had observed students helping other students as they are made in the image of God. Results revealed that 24(38.1%) respondents strongly agreed with the statement. The results show that teaching Bible-based courses was reported to lead to a significant percentage of attitude change among

learners. Finally, results showed that 31(49.2%) respondents strongly agreed that they observed students appreciate the history of creation. Results show that 23(36.5%) respondents agreed that students appreciate the history of creation. The results suggested that students appreciated the history of creation, which is one of the foundational stories of the biblical worldview.

Hypothesis Testing

The study employed linear regression to test the null hypothesis that there is no significant relationship between critical thinking and learner transformation. The results are presented in the following sections.

Table 11: Critical Thinking and Learner Transformation Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.406 ^a	.165	.151	.353

The Coefficient of determination (R squared), as depicted in Table 11, is 0.165. It may be interpreted that (16.5%) of the learner transformation can be explained by using critical thinking in teaching Bible-based

courses. The adjusted R-squared of (15.1%) indicates that critical thinking, in the exclusion of the constant variable, accounts for only (15.1%) learner

transformation; the remaining percentage can be described by other factors excluded from the model.

Table 12: Critical Thinking and Learner Transformation - ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.502	1	1.502	12.026	.001 ^b
	Residual	7.617	61	.125		
	Total	9.119	62			

The Analysis of Variance (ANOVA) for the regression coefficient in Table 12 shows that $F=12.026$, $p\text{-value} = 0.001$. With a $p\text{-value}$ less than 0.05, the findings mean a significant relationship exists between critical thinking and learner transformation.

Table 13: Critical Thinking and Learner Transformation Regress Weights

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.665	.350		7.606	.000
	Critical thinking	.333	.096	.406	3.468	.001

The study tested the hypothesis that using critical thinking has no significant relationship with learner transformation. According to the findings in Table 13, there is a positive significant relationship between using critical thinking and learner transformation ($\beta = 0.333$, $p\text{-value} 0.001$). Therefore, a unit increase in the use of critical thinking will increase the learner transformation by 0.333. Since the $p\text{-value}$ was less than 0.05, the null hypothesis was rejected, and the alternative hypothesis was accepted. Based on these findings, it can be concluded that using critical thinking in teaching Bible-based courses significantly influences learner transformation.

Discussion

The proponents of transformative learning theory advocate for using transformative pedagogy elements in the teaching and learning process to facilitate learner transformation. This current study assessed critical thinking, one of the elements of transformative pedagogy. It was found that critical thinking positively and significantly influenced the learner transformation. Some of the previous studies indicated that university faculty lacked basic knowledge or understanding of critical thinking or how to incorporate thinking into lesson plans so that critical thinking can be developed in students (Bataineh & Alazzi, 2009; Innabi & Sheikh, 2007; Lauer,

2005). However, this current study's findings showed that after lecturers had attended transformative pedagogy training, specifically critical thinking, they could incorporate it into their teaching. The findings reported learner transformation regarding biblical knowledge, behaviour, skills and attitude. This aligns with Christian higher education vision and mission, where they envision shaping their learners' biblical worldview.

In this current study, lecturers adopted Bloom's Taxonomy levels, which they integrated into their teaching to stimulate critical thinking in their learners. This agrees with Alwehaibi's (2012) study, which indicated that critical thinking and overall student success could be improved if institutions of higher learning adopt and integrate strategies and techniques that have been identified as useful in developing critical thinking into various courses. Bloom's Taxonomy levels (1956) have been identified to be a successful instructional approach for critical thinking. From this study's findings, Christian universities are recommended to adopt critical thinking in teaching. Further, using Bloom's Taxonomy levels (Bloom, 1956) in teaching Bible-based courses proved effective in stirring critical thinking in learners to an end of learners' transformation.

CONCLUSIONS

The study found that the Chartered Christian Universities in Kenya often applied critical thinking in teaching Bible-based courses. The study established that critical thinking positively affected the learner's transformation. With the use of critical thinking, the learners experienced knowledge change. Besides, there was a behavioural change among the learners.

The study also found that the learners' skills, such as analytical and research skills, improved. Lastly, there was a change in the learners' attitude because of the use of critical thinking. The study concludes that using critical thinking in teaching had a positive and significant relationship with the learner's transformation.

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