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Research Article

Demographic Profiling Lecturers' Beliefs about Teaching and Practices

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Abstract

Based on the literature and previous research, there is limited awareness and knowledge of studying and understanding the role of demographic factors of lecturers' beliefs about teaching and practice. This study presents the profiling of lecturers on beliefs about teaching and practices that identifies the strengths and need of lecturers' professional development. A total of 103 lecturers participated in this research, comprising 76 male and 27 female respondents. The Profiling respondent's analysis consisted of three sections, which included a descriptive analysis of the demographic factors of the respondent, a level of the respondent based inferential analysis of the respondents' demographic characteristics, and an analysis of the demographic factors affecting the teaching practices of lecturers using the Confirmatory Factor analysis. These three sections of analysis would give answers to the study's questions "What is the level of beliefs about teaching and practices among the technical college' lecturers based on their demographic background? And does the demographic factor influence the relationship between beliefs of lecturers on their teaching and practices?" The inferential statistics on teaching and practice showed significantly no difference between lecturers in terms of demographic factors. The multi-methods analysis on demographic factors, qualification, department, and status tenure suggested that these variables had significant effects on the lectures' beliefs on teaching and practices. The descriptive, inferential statistics and CFA analysis suggested that age and status tenure were the most influential factors on lectures' beliefs about their teaching practices. Thus, the hypothesized model can be used for assessment predicting the level and the effects of beliefs on teaching functions on teaching practices based on the influences of the demographic background of the lecturers.

Keywords

demographic background; profilins; beliefs; teaching and practices; Confirmatory Factor Analysis

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Introduction

Analysis of the literature on educational change shows that educational theorists relate educational shifts to change in teachers' beliefs, knowledge, attitudes, and perceptions (Berger, Girardet, Vaudroz, & Crahay, 2018; Caleon, Tan, & Cho, 2018; Fives & Gill, 2014; Liljedahl, Rösken, & Rolka, 2021; Mofreh & Ghafar, 2019; Practice & Jenlink, 2018). Some of the challenges should have been giving into consideration the teaching function of lecturers to gain a comprehensive explanation more about how these beliefs are shaped and affected their teaching practices. A few other studies have found that there are correlations and the impact of teachers' and lecturers" beliefs and their teaching practices. However, some studies reported the relationship between beliefs on the teaching of teachers and their practices (Chu, Reynolds, Tavares, Notari, & Lee, 2021; Kriz, Nailer, Jansen, & Potocnjak-Oxman, 2021; Mansour, 2008; Resch & Schrittesser, 2021; Thompson et al., 2021). Therefore, the existence of some impediments connected to the beliefs held by lecturers must be taken into account. These beliefs are related to the teaching function and must be studied so that a more thorough understanding of how the obtained practices are brought and translated by the beliefs of the lecturers. Several past research has demonstrated that the belief held by the teaching staff might not affect classroom practices because of several factors (Berger et al., 2018; Caleon et al., 2018; Hancock & Gallard, 2004; Mellado, 1998; Sengul, Enderle, & Schwartz, 2020) such as lecturer's training and backgrounds, the environment as masters, parents, and prospective students. There are also other factors like the impetus to finish the curriculum and getting students ready for exams (Kynigos* & Argyris, 2004; Lefebvre, Deaudelin, & Loiselle, 2006; Mofreh & Ghafar, 2019). The professional knowledge and practice of lecturers may differ widely between and within countries, but also lecturers within the same country. Examining how certain beliefs and practices relating to the characteristics of lecturers and classrooms is crucial to gaining a higher understanding of their prevalence (Yan, 2018). Examining variables such as training type, professional development and certification, knowledge in pedagogy, the status of employment (Full-time versus part-time employment), and experience is vital to evaluate their effect on lecturers' beliefs, practices, and professional background. Recognizing that one or more of these relationships could have different causal points of view is crucial. Beliefs and attitudes can be changed by professional development programs, although it is noted that being involved in such activities sometimes relate to a certain lack of beliefs.(Baş & Ersin, 2021; Ingvarson, Meiers, & Beavis, 2005; Schleicher, 2011; Sengul et al., 2020) Therefore, Lecturers' beliefs concerning practices did not have a substantial association with background factors along with "the place/subject of the first degree and years of teaching experience (Li, 2017). In addition, lecturers have different opinions about how to teach because of their different backgrounds based on the theories about learning and teaching they have in their minds. (Mardali & Siyyari, 2019). Given the important role of beliefs in teaching and its relationship to the practice and how this relationship may be influenced by different factors, this study aims to profile the level of the Lecturers' Beliefs on Teaching Functions and Lecturers' Teaching Practices based on demographic factors using multi statistical analysis.

Literature review

Demographic factors and beliefs about teaching and practice

According to Yan (2018), Through mediating variables, teacher background variables may influence instructional practices. Therefore, Lombaerts, Engels, and Van Braak (2009) claimed that teacher factors, such as their experiences and beliefs, had a more significant influence on their instructional practices than external contextual factors did. Similarly, Yan (2018) found that teacher demographic variables such as gender, the experience affected the relationship between teachers' beliefs and instructional practices. For instance, past studies indicate that female and male lecturers' beliefs and practices are very systematic (Barger et al., 2021; Wilson, Wheatley, Meyers, Gilbert, & Axsom, 2000). However, it is much more important to recognize the effect of professional background variables including subject taught, employment status, training, and length of tenure, and certification and professional development. It is necessary to identify and understand that some of these relationships could have various explanations. According to Abd Samad and Nurusus (2015), the beliefs of teachers could influence the decisions that they make in their practices in classrooms. Thu (2009) stated that the noticeable effect of the individual

background being one of the primary determinants throughout their decision making as well as in the method of teaching. Several variables including working experience and pedagogical knowledge play an influential impact in explaining how teachers conduct teaching in the classroom. The relationship between beliefs and classroom practices has been described as a complex relationship by two major views or arguments (Kynigos* & Argyris, 2004). The first is professional lecturers who make judgments or decisions that are rational in community, school, and classroom environments that are complex and unpredictable. The second view is other lecturers who think, judge, and make decisions that affect their classroom behavior. As a result, lecturers need considerable assistance in recognizing and thinking about differences in their shared beliefs and practices.(Ali, Khalil, & El-Sharkawy, 2020; Jamalzadeh & Shahsavar, 2015; Mei Kin, Abdull Kareem, Nordin, & Wai Bing, 2018) The impact of educational settings and factors, which including educational experience, has indeed been frequently discussed within literature reviewed on the belief of lecturers in practice (Baş & Ersin, 2021; Lam & Kember, 2006; Mardali & Siyyari, 2019; Moini, 2009; Schleicher, 2011). It would, therefore, this one also is indeed more essential to evaluate the cultural impact and limitations on the practice of lecturers and to examine if teaching experience would have influenced their views than it would attempt to develop trends linked to demographic information along with a small sample. Therefore, Moini (2009) stated that the development of teachers' beliefs was affected by their social interaction as a result of their personal experiences from work. The background, beliefs, and attitudes of the lecturer also need to be consistent with the needs of learners and to the different background aspects of learners, classrooms, and educational institutions. Schleicher (2011) stated that teaching practices with learners' social and background of language, grade level, academic performance, and class size should indeed be investigated. Teaching is currently viewed in a manner that includes educational professional activities such as team cooperation, building professional mastering groups, promoting college growth, and comparing and turning current situations.(Davis, D'Alessio, & Patel, 2005; Junus, Santoso, Putra, Gandhi, & Siswantining, 2021) Activities like these have an impact on a university's learning environment, i.e. the university climate, ethos, and tradition. (Ali et al., 2020; Ismail, Busthami Nur, Raman, & Purnomo, 2019); Mardali and Siyyari (2019); (Schleicher, 2011) in their study found that shedding is more light on the differences between novice and experienced teachers when it comes to beliefs and practices concerning vocabulary learning.

Theoretical Framework

In this study, the constructivism theory involving Piaget and Vygotsky's theory and Merrill's first principles of instruction model was used as the main theories. the theoretical framework used to support the theories of this study and includes concepts and their definitions, as well as existing theories that are used in specific research. Merrill's model of the first principle of instruction is based on constructivism as a teaching and learning theory. Many studies have claimed that applying the first principle of instruction in teaching and learning can enhance student learning and satisfaction.(Frick, Chadha, Watson, & Zlatkovska, 2010; Gardner, 2011; Merrill, 2009; West, 2018) Figure 1 shows the theoretical framework which included the variables the study aimed to investigate, including such Lecturers' Beliefs on Teaching Functions (LBTF) as an independent variable, Lecturers' Teaching Practices (LTP) as a dependent variable, and respondents' background information, such as gender, age, qualification, tenure, and employment status, which worked as moderating variables that may affect the LTP. Based on the research theory, these concepts were studied. Constructivism emphasizes the autonomy of interpreting one's own experience (Junus et al., 2021; Sah & Shah, 2020). Furthermore, the issue of teaching in the educational literature is reviewed from the view of theory to teaching practice.(De Corte, Greer, & Verschaffel, 1996; Sjølie & Østern, 2021)

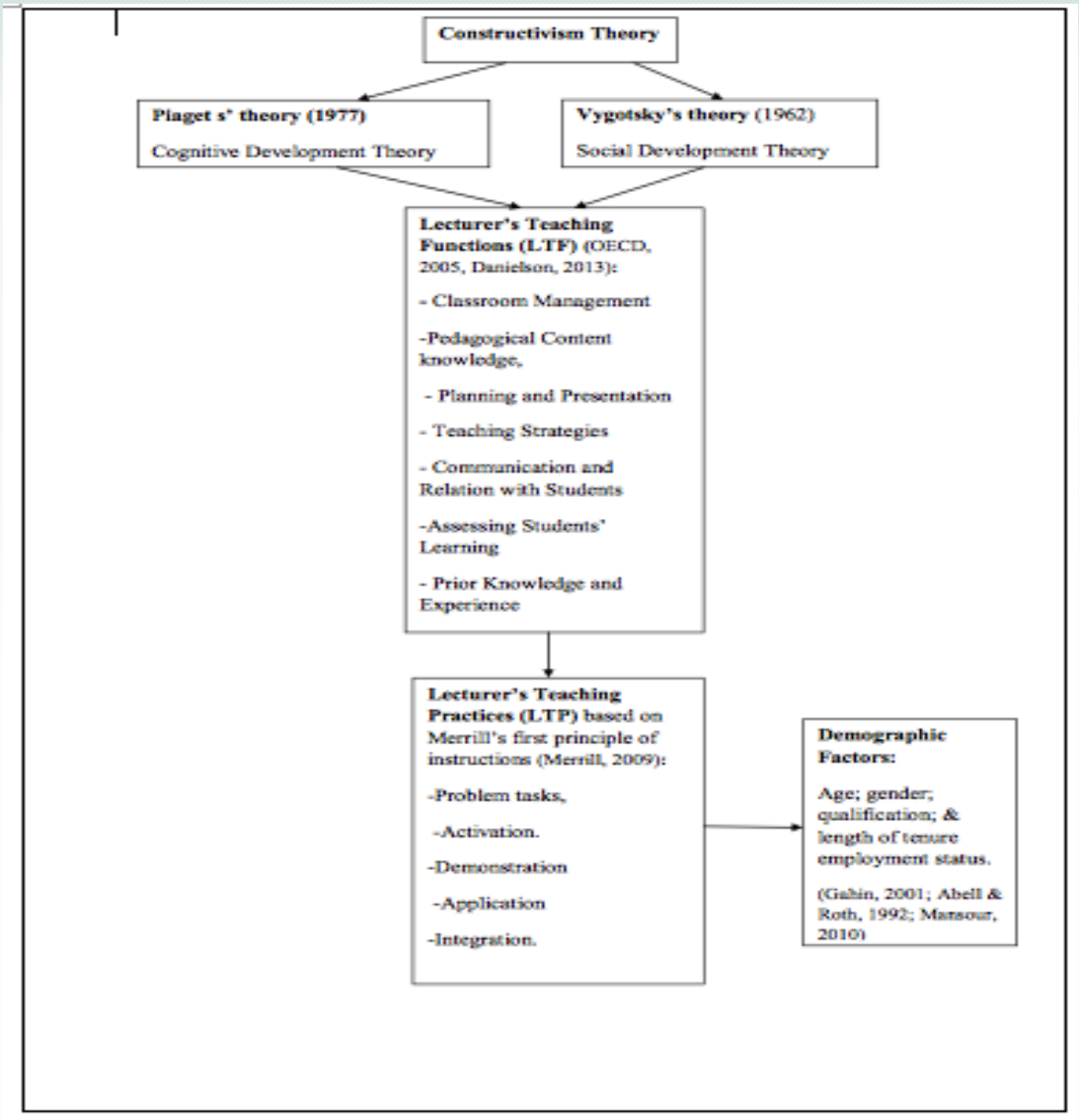

Figure 1. Theoretical framework

Methodology

A quantitative method was used in this study based on its objective to profile the level of LBTF and LTP of the lecturers at Community Colleges (CC)". This current study used a whole population sampling technique. A total number of 314 lecturers from 8 Community Colleges served as the population in this study. However, there were only 103 respondents in this study. A total number of 314 lecturers from 8 community colleges served as the population in this research. The researchers used emails and online techniques to distribute the research questionnaires and collect the data from CC respondents. There were only 103 respondents who gave feedback to the research questionnaires after 4 months as a duration time given to them to respond. After 2 months of the questionnaires' distribution, the research sent emails to the CC respondents to remind them to respond to the questionnaires', but they did not. The sample size of 103 was obtained in this study according to the principle of measurement model characteristics of Structural Equation Modelling (SEM). This study used Structural Equation Modeling (SEM) analysis which required a sample size of 100 as recommended by Salem, Zayed, Alseekh, Fernie, and Giavalisco (2021). Two developed and tested questionnaires by Mofreh, Ghafar, Omar, Mosaku, and Ma'ruf (2014) were used to profile the Beliefs level of on LBTF and LTP among Lecturers. Data collected using all sections of LBTF and LTP were explained using descriptive statistics. The results of this test were tabulated to include information on frequency and means for CC lecturers' respondents. Therefore, for

identifying the LBTF and LTP level of CC lecturers in terms of their demographic, Man-Whintey was employed as a non-parametric inferential analysis. This technique is suitable for two independent samples of nominal data.(Nzekwe-Excel, 2021; Samuel et al., 2020) For investigating LBTF and LTP level of CC lecturers' in terms of demographic factors with other variables which were more than two levels such as age, qualification, tenure status, employment status, and department, Kruskal. –Wallis test was employed. This technique is useful in situations with more than two independent samples on an ordinal scale (Samuel et al., 2020) and (Nzekwe-Excel, 2021). In addition, the structural modeling (SEM –AMOS software –using Confirmatory Factor Analysis (CFA) was used to answer the study' question 'Does the demographic background affect the relationship between the LBTF on LTP"?

Results

Descriptive Analysis

Table 1 illustrates the lecturers' demographic information of the sample based on gender, age, qualification, tenure status, employment status, and respondents' departments. This study consisted of 103 lecturers, comprising 76 males and 27 females. The age categories of 41 and 23 of males were 30-34 years and 35-39 years respectively, 3 males were in the category of age for of 40-44 years, no male was in the age category of 45-49, 17 female were in the age category of 30-34 years, 3 females were in the age category 35-39 years, 3 females in category 45-49 years, and no female in category age of 40-44 years. Regarding the demographic trait, the highest qualification 41 males were master degree holders as the highest degree, 16 males were bachelor degree holders, 15 females were master degree holders but 3 females were Ph.D. degree holders. The tenure status showed that 34 males were in category 6-10 and 1 male was in category 22-26, 13 females were in the category of 6-10, and 2 were in the category of 22-26. The employment status of participants showed that 68 males were full-time lecturers and 8 males were part-time lecturers, 22 females were full-time lecturers and 5 females were part-time lecturers. The Department of Engineering had had the highest participant number with 25, and the lowest participant was from the departments of Social Sciences, Accounting, and Management, Programming, Sciences, respectively with only one respondent each. Most participants in terms of department and age were from the Department of Engineering with 25 participants in age categories 30-34 and 40-44 years. Department of Computer sciences had 13 participants with the age of 30-34 years. In terms of qualification and department, total participants in the Department of Engineering were 25, respectively comprising 14, 8, and 3 respondents holding master, bachelor, and Ph.D. degrees. In terms of tenure status and engineering department, 15 participants were in the category of 6-10, 6 participants were in 1-5, and 4 participants in the category of 11-15. The lowest participant numbers in terms of department and tenure status were 1 in departments of Social Sciences, Accounting and Management, Programming, and Sciences, in tenure status category of 1-5 and 22-26 respectively. In terms of employment status and department of demographic traits, 23 participants were full-time lecturers and 2 participants were part-time lecturers, the lowest participants in terms of employment status and department were in departments of Social Sciences, Accounting and Management, Programming, and Sciences.

Table 1.
Demographic traits of CC respondents

Gender	**Age**					**Total**
	25-29	30-34	35-39	40-44	45-49	
Male	9	41	23	3	0	76
Female	4	17	3	0	3	27
Total	13	58	26	3	3	103
Qualification						
Gender	Bachelor	Master	PhD	Total		
Male	16	41	18	76		
Female	9	15	3	27		
Total	25	56	21	103		

Tenure Status

Gender	1-5	6-10	11-15	16-21	22-26	Total
Male	24	34	15	2	1	76
Female	8	13	4	0	2	27
Total	32	47	19	2	3	103

Employment Status

Gender	Full time	Part-time	Total
Male	68	8	76
Female	22	5	27
Total	90	13	103

Department	Age categories					
	25-29	30-34	35-39	40-44	45-49	Total
Accounting & Management	5	2	7	1	2	17
Social Sciences	0	10	1	2	0	13
Computer	3	19	9	0	1	32
Engineering	3	15	7	1	2	28
Science	2	6	5	0	0	13
Total	13	58	26	3	3	103

Department	Qualification			
	Bachelor	Master	PhD	Total
Accounting & Management	3	6	8	17
Social Sciences	2	8	3	13
Computer Sciences	8	18	6	32
Engineering	8	17	3	28
Science	4	7	2	13
Total	25	56	22	103

Department	Tenure status					
	1-5	6-10	11-15	16-21	22-26	Total
Accounting & Management	11	3	2	1	1	18
Social Sciences	1	10	1	1	0	13
Computer Science	10	13	8	0	0	31
Engineering	7	15	4	0	2	28
Science	2	6	4	1	0	13
Total	32	47	19	2	3	103

Department	Employment Status		
	Full Time	Part-Time	Total
Accounting and Management	13	4	17
Social Sciences	10	3	13
Computer Science	31	1	32
Engineering	25	3	28
Science	11	2	13
Total	90	13	103

Inferential Analysis

This section explains the inferential analysis results based on the study hypothesis generated. The level of LTP traits among the lecturers' demographic was tested by utilizing Man Whitney and Kruskal-Wallis techniques using SPSS software, version 20.0. Table 2 shows there were differences between the levels of LBTF of participants based on their gender (male and female). As shown in Table 3, the test value for Mann-Whitney was 964,000 and for Asymp. Sig was 0.642. This result may indicate that

the difference was not statistically significant. This difference could be related to sampling fluctuations.

Table 2.
LBTF Rank of gender by Mann-Whitney test

	Gender	N	Mean Rank	Sum of Ranks
LBTF	Male	76	52.82	4014.00
	Female	27	49.70	1342.00
	Total	103		

Table 3.
LBTF Rank of gender by Kruskal-Wallis test

	LBTF
Mann-Whitney U	964.000
Wilcoxon W	1342.000
Z	-.465
Asymp. Sig. (2-tailed)	.642

Table 4 indicates that there has been a substantial gap between the LBTF rates of the various age ranges of respondents. Table 5 reveals that the Kruskal-Wallis test value was 4,986; df was 4 and Asymp was 4. Sig. Sig. The value had been 0.289. The finding with a p-value greater than 0.05 showed that there was no statistically significant difference. This difference may be due to variability.

Table 4.
LBTF Rank of age by Mann-Whitney test

	Age	N	Mean Rank
LBTF	25-30	13	44.81
	31-36	58	50.10
	37-42	26	61.40
	43-48	3	58.00
	49-54	3	32.33
	Total	103	

Table 5.
LBTF Rank of age by Kruskal-Wallis test

	LBTF
Chi-Square	4.986
df	4
Asymp. Sig.	0.289

Table 6 illustrates the difference between the LBTF levels and the different qualification respondents was a significant difference. Table 7 shows that the Kruskal-Valais test value was 2.002, df was 3 and Asymp was 3. Sig. Sig. A value of 0.572. This result has a p-value larger than 0.05, indicating a statistically significant difference. This difference could be explained by sampling fluctuations.

Table 6.
LBTF Rank of qualifications by Mann-Whitney test

	Qualification	N	Mean Rank
LBTF	Bachelor	25	50.62
	Master	56	55.32
	PhD	21	45.52
	Professor	1	36.50
	Total	103	

Table 7.
LBTF Rank of qualifications by Kruskal-Wallis test

	LBTF
Chi-Square	2.002
df	3
Asymp. Sig.	.572

The difference between LBTF levels among respondents who have tenure status in different categories is shown in Table 8. Table 9 show that the Kurskal-Wallis test value was 17.242, df value was 4, and Asymp. Sig. Value was 0.002. The p-value was less than 0.05, showing that there is a statistically significant difference. In terms of tenure status, a difference was shown for the LBTF of respondents. The implication of this result is the level of beliefs of lecturers on teaching functions was high with those who had many years of experience.

Table 8.
LBTF Rank of tenure status by Mann-Whitney test

	Tenure	N	Mean Rank
LBTF	1-5	32	42.31
	6-10	47	52.60
	11-15	19	72.92
	16-21	2	49.25
	22-26	3	15.33
	Total	103	

Table 9.
LBTF Rank of tenure status by Kruskal-Wallis test

	LBTF
Chi-Square	17.242
df	4
Asymp. Sig.	0.002

As illustrated in Table 10, the differences between both LBTF levels among full-time staff and part-time staff. Table 11 shows the test value of Mann-Whitney was 501.000 and Asymp. The Sig value was 0.404. The p-value was greater than 0.05 that indicating no statistically significant difference. The implication of this result is the level of lecturers' beliefs may not influence the lecturers' based on their employment status type.

Table 10.
LBTF Rank of employment status by Mann-Whitney test

	Employment Status	N	Mean Rank	Sum of Ranks
LBTF	Full time	90	52.93	4764.00
	Part-time	13	45.54	592.00
	Total	1103		

Table 11.
LBTF Rank of employment status by Kruskal-Wallis test

	LBTF
Mann-Whitney U	501.000
Wilcoxon W	592.000
Z	-.834
Asymp. Sig. (2-tailed)	.404

Demographic Traits of Respondents for LTP

Demographic factors such as gender, age, qualification, length of tenure, and employment status factors at CC are used to determine the level of LTP respondents. Table 12 showed there was a difference between levels of LTP among respondents based on gender. As seen in Table 13 the value of the test of Mann-Whitney resulted in 1008.000 and Asymp. The Sig value was 0.893. The p-value was greater than 0.05 which indicating that there was no statistically significant disparity.

Table 12.
LTP Ranks of gender by Mann-Whitney test

	Gender	N	Mean Rank	Sum of Ranks
LTP	Male	76	52.24	3970.00
	Female	27	51.33	1386.00
	Total	103		

Table 13.
LTP Ranks of gender by Kruskal-Wallis test

	LTP
Mann-Whitney U	1008.000
Wilcoxon W	1386.000
Z	-0.135
Asymp. Sig. (2-tailed)	0.893

Table 14 showed there were differences between levels of LTP among respondents' age. However, according to Table 15, Kruskal Wallis Test Chi-Square signified that the value was 1.468 and Asymp. The differences were not statistically significant as the p-value was greater than 0.05.

Table 14.
LTP ranks of age

	Age	N	Mean Rank
LTP	25-30	13	50.00
	31-36	58	49.71
	37-42	26	57.62
	43-48	3	50.00
	49-54	3	58.33
	Total	103	

Table 15.
LTP Kruskal Wallis test of age

	LTP
Chi-Square	1.468
df	4
Asymp. Sig.	.832

As shown in Table 16, there were differences between levels of LTP among respondents' qualifications. However, according to Table 17, Kruskal Wallis test Chi-Square value was 3.575 and Asymp. The Sig value was 0.311. The p-value was more than 0.05 which revealing the differences were not statistically significant.

Table 16.
LTP Ranks of qualification

	Qualification	N	Mean Rank
LTP	Bachelor	25	45.92
	Master	56	57.01
	PhD	21	46.64
	Professor	1	36.00
	Total	103	

Table 17.
LTP of qualification- Kruskal Wallis test

	LTP
Chi-Square	3.575
df	3
Asymp. Sig.	0.311

As Table 18 shows there was a difference between LTP respondents' tenure status levels. Accordingly, to Table 19, Kruskal Wallis test Chi-Square value was 10.420and Asymp. The Sig value was 0.034. This difference was significant as the p-value was less than 0.05. In terms of tenure status, there was a significant difference among respondents. This result implied that the level of lecturers' teaching practices was high with those lecturers who had more years experience in teaching.

Table 18.
LTP ranks of tenure status

	Tenure status	N	Mean Rank
LTP	1-5	32	41.73
	6-10	47	52.63
	11-15	19	69.34
	16-21	2	45.25
	22-26	3	46.33
	Total	103	

Table 19.
LTP of tenure status- Kruskal Wallis test

	LTP
Chi-Square	10.420
df	4
Asymp. Sig.	0.034

As Table 20 showed there were differences between levels of LTP among respondents' employment status. Table 21 showed the value of the test of Mann-Whitney which was 575.000 and Asymp. The Sig value was 0.921. The p-value was higher than 0.05 showing that the disparity was not statistically significant.

Table 20.
The employment status of LTP ranks

	Employment Status	N	Mean Rank	Sum of Ranks
LTP	Full time	90	52.11	4690.00
	Part-time	13	51.23	666.00
	Total	103		

Table 21.
The employment status for LTP -Kruskal Wallis test o

	LTP
Mann-Whitney U	575.000
Wilcoxon W	666.000
Z	-.099
Asymp. Sig. (2-tailed)	.921

Structural Model analysis using CFA analysis

This study used the structural model to test the effect of demographic traits interaction to teaching functions and teaching practices of beliefs of lecturers. To study the causal directions and influences

of variables, the structural model was used in this study. Besides that, the moderator variable enters the model to be investigated if the causal effects could change due to certain interaction effects between independent variables on the dependent variable.(Jin et al., 2021; Shi, Duan, Xu, & Li, 2021) This study adopted (Cohen, 1992) in determining the effect sizes as shown in Table 22. Figure 2 showed the initial model with a low factor loading of gender, qualification, and employment status less than 0.6. The variables with low factor loading were deleted to test the second research hypothesis.

Table 22.
The size casual effect by Cohen (1992)

Effect size	Effect
≤ 0.2	Small
0.5	Medium / good
0.8	Large

The chi-Square value must be greater than the Chi-Square value of 3.84, for this hypothesis test to be significant (Zainudin, 2012). The difference between the chi-square of both constrained and unconstrained models was 24.694 which was higher than 3.84, while the degree of freedom's difference was 1. This result indicated that the moderation effects of age and tenure status of lecturers are significant and moderated the casual effects of LBTF on LTP. Furthermore, the results indicated that lecturers who have further developed practices needed to consider the impact of their beliefs on teaching functions. In addition, some variables as demographic background playing a significant part in changing the impact of beliefs of lecturers on their classroom practices.

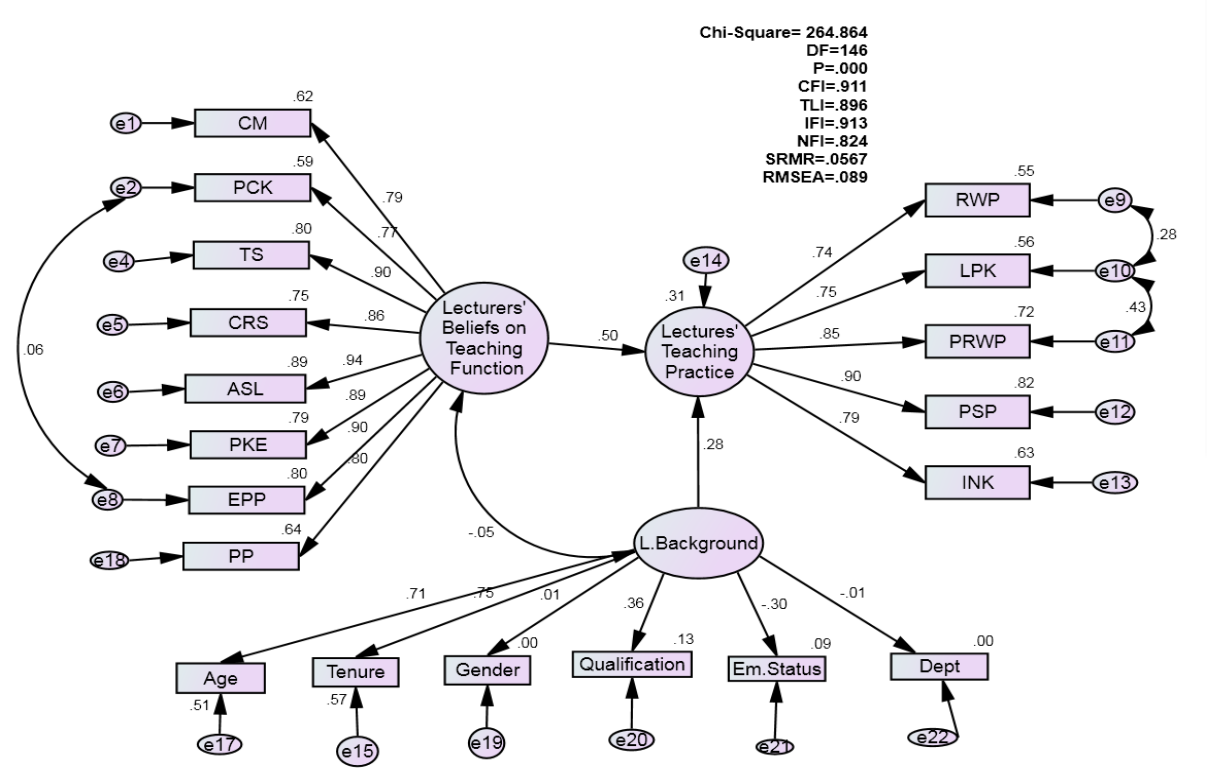

Figure 2. The initial model

The modified model showed the causal effect of the demographic traits of respondents such as age and tenure status effects and moderates the effect of lecturers' beliefs about the function of teaching on lecturers' practices with the value of 0.29 as shown in Figure 2. The model of unconstrained as shown in Figure 3 showed that the casual effect value of LBTF on LTP was 0.67. The modified model showed the causal effect of the demographic traits of respondents such as age and tenure status effects and moderates the influence on LTP with the value of 0.27 as shown in Figure 3. The result of the casual effect of unconstrained model showed that the direct influence

of LBTF on LTP was greater than the influence unconstrained model. The result of unconstrained model showed the causal effect of the demographic traits of respondents such as age and tenure status had less effect on LBTF on LTP than the unconstrained model. The result of the causal effect of the modified model showed that the direct influence of LBTF on LTP was greater than the influence unconstrained model. The result of unconstrained model showed the causal effect of the demographic traits of respondents such as age and tenure status had less effect on LBTF on LTP than the unconstrained model. Multi-group Confirmatory Factor Analysis was used as a method of measuring the moderator variable's effect in the model. Therefore, CFA was also used to measure the direct effect of the moderator variable. As shown in figure 3, the result of the causal effect of the improved model showed that the direct influence of LBTF on LTP was greater than the influence unconstrained model. The result of unconstrained model showed the causal effect of the demographic traits of respondents such as age and tenure status had less effect on LBTF on LTP than the initial model.

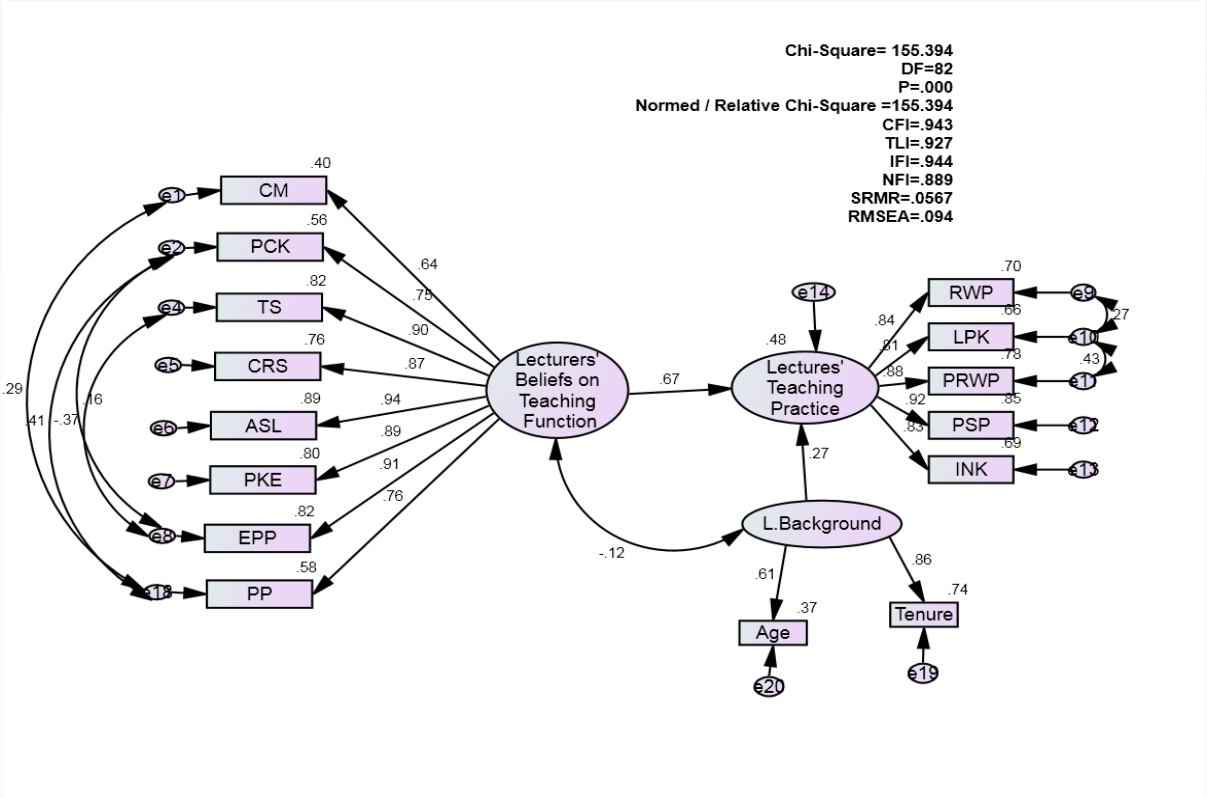

Figure 3. The modified model

Discussion

This study aimed at profiling the beliefs level of LBTF and LTP of the lecturers using multi statistical analysis including the descriptive analysis, inferential analysis, and CFA analysis to reach a deep understanding of how the association of beliefs and practices of lecturers may change by the effect of different demographic factors. A total of 103 lecturers' participated in this research comprised 76 male and 27 female respondents. However, in this study, the comparative analysis for participants based on gender was not documented because only 27 respondents were female while 76 respondents were male. The female respondents were not representative as compared to the number of males. The majority of CC respondents were young males holding a degree of master's with a maximum of 10 years of experience in teaching. The majority of these respondents were full-time lecturers and belonged to the Engineering department. These results implied that most of these respondents were young lecturers. This may be because community colleges in Yemen are new, established in 2000 which resulted in having young staff. In addition, the lecturers who taught in engineering departments were male as engineering is technical field males prefer to teach in. However, the results of the inferential statistics of LBTF and LTP showed that the difference of the lecturers based on their demographic background was not significant. The only significant difference in LBTF and LTP was in terms of lecturer tenure status. This result indicated that the more experienced lecturers had a higher level of belief in teaching functions

than less experienced lecturers. This result was supported by some researchers who noted that experience forms the teachers' beliefs about students, the curriculum's development, and the schooling process (Ali et al., 2020; Harkness & Super, 1996); Lortie (2020); (Mei Kin et al., 2018) claimed that the training and experience of lecturers' teaching in the classroom will influence the pedagogical content knowledge development. Mansour distinguished between two experience types, both formal and informal. Formal experience is characterized by informal education where the lecturers have passed, whether in school or college or even in in-service training programs. Informal experience of lecturers was therefore defined in contacts of daily life, past or present, which can influence adding, refining, assisting, challenging, or changing what they know and what they believe. In this sense, Pajares (1992) claimed that beliefs should be developed through the social construction and cultural indoctrination process. As a result, implicit learning activity processes which people have experienced and integrate into life, and those who experienced cultural features, have become important. Therefore, it may be stated that lecturers' teaching is shaped by their beliefs and experiences, which shape their teaching practices and play an important role as indicators for their professionalism. Age and tenure status as demographic factors of lecturers were significant effects and moderated the causal effects of LBTF on their LTP. In other words, if the effects of ' LBTF on their LTP were more visible at a certain age, the researcher could claim that age of lecturers moderates the causal effects of beliefs on teaching functions on their teaching practices. Similarly, tenure status could serve as a moderator variable and change the effects of beliefs on lecturers' functions on their teaching practices. Mofreh and Ghafar (2019) reached similar findings in their study by finding there was a difference between levels of beliefs of lecturers on their teaching classroom practices based on their age and tenure status. Consistent with previous studies (Berger et al., 2018; Sengul et al., 2020; Wolff, van den Bogert, Jarodzka, & Boshuizen, 2015), results indicate that lecturers' beliefs were affected based on their experience. This suggests that the more experienced lecturers got, the more constructivism they believed in and the less indirect transmission they believed in. These results are similar to the study by Caleon et al. (2018) who reported that found the classroom practices of the teachers, especially those in their inductive years of teaching, were more aligned with their beliefs about learning physics than their beliefs about teaching physics. Also, Schleicher (2011) reported that there has been a significant effect on teaching practices based on the professional experience of years have spent. However, the low effects of gender, qualification, employment status, and department factors among the lecturers implied there was no significant relationship between these factors as demographic factors and teaching practices. This result was supported by Mofreh and Ghafar (2019) who concluded that the difference of lecturers' levels about gender, qualification, employment status, and the department was the lecturers were not because of fluctuation in sampling. Similarly, a study conducted by Male teachers was not significantly different from female teachers in terms of the relationship between their beliefs and actual practices (Aliakbari & Heidarzadi, 2015). Thus, the length of socialization has no vital and significant effect on the beliefs and practices of teachers'. The teaching beliefs of lecturers' influenced greater on teaching practices with those lecturers who were younger and more experienced than others. Other studies found that teaching experience affects the relationship between the beliefs and practices of teachers (Aliakbari & Heidarzadi, 2015; Baş & Ersin, 2021; Ismail et al., 2019; Othman, Saat, Adli, & Senom, 2020). Thus, the study findings conclude that age and tenure status (i.e. experiences) could act a positive role in changing the relationship between LBTF on LTP which may lead to improving their professional growth.

Recommendations

Other factors that may impact the link between LBTF and LTP should be considered in future research. These factors might include cultural values, religious belief, and an overload of work, time constraints and challenges with student behavior, conditions of the workplace, relations and communications with peers at work, resources' shortage, as well as the teaching physical challenges. Also, with empirical research, it is possible to identify the effectiveness of these instruments. This is because empirical research can explain the causes and effects of a phenomenon. In addition, future research could be studying the effects of beliefs on teaching functions and practices on student outcomes. Further research could focus on refining the other factors that could change the relationship and influence I LBTF and LTP in any educational institution. Similarly, SEM is also required for future research to deepen the theory directing this

phenomenon. Finally, future research can use a bigger sample size and more reliable statistical findings to examine the effects of factors utilizing SEM.

Implications

This study makes several important contributions to the field of assessment in general and of Beliefs on Teaching Functions and Teaching Practices, in particular. Therefore, this recommended model provides conceptual background for future analysis of beliefs on teaching functions and practices in community colleges. Theoretically, this research relies on constructivist theory. Therefore, the effects of beliefs on teaching functions on teaching practices are theoretically based on constructivism theory which relied on practices and experience. The results of this research supported that by concluding that LBTF affects LTP. Furthermore, any higher and technical educational institutions in any country which have the same characteristics, environment, and contexts, can utilize LBTF and LTP, the proposed model and framework to measure the LBTF and LTP. Thus, the hypothesized model can be used for assessment purposes for measuring the beliefs of teaching functions and practices, predicting the level and the effects of lecturers' beliefs on teaching functions on their teaching practices based on the influences of the demographic background.

Conclusion

This study used multi-methods analysis for analyzing the demographic factors including gender, age, qualification, department, and status tenure and their relationship and effects on the lectures' beliefs on teaching and practices. The descriptive, inferential statistics and CFA analysis conclude that age and status tenure were the most influential factors that influenced the lectures' beliefs on teaching and their teaching practices. The present findings indicate that the demographic factors influence and might change the relationship between the beliefs of leafcutters and their teaching practices. This result indicated that the more experienced lecturers had a higher level of belief in teaching functions than less experienced lecturers. In other words, the results imply that experience shapes the lectures' beliefs about the teaching methods and strategies they use which influences their teaching practices and development of pedagogical content knowledge. Conceivably, accelerating this move implies actions in favor of strengthening lectures' beliefs. Indeed, experienced lecturers adhere not only to constructive beliefs but also are confident in their capacity to manage their classroom practice. The research findings indicate that the significant relationship between LBTF and LTP may be tested by using the proposed measurement model to predict the causal effects of beliefs of teaching functions on teaching practices among lecturers and how demographic factors could moderate the causal effects of LBTF on LTP.

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