

**Are Pre-service Teachers Prepared to Teach? Investigating their
Locus of Control, Self-efficacy and Attitude towards the
Teaching Profession and Teaching Subjects**

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Abstract

The study examined pre-service teachers' preparedness to teach using a sample of final-year students (n=454) in a Tanzanian teacher education university. The study measured pre-service teachers' preparedness to teach using four dimensions—internal locus of control, self-efficacy, attitude towards the teaching profession and attitude towards teaching subjects. With exceptions of relatively low teachers' attitude towards the teaching profession, results indicated that student teachers have higher levels of self-efficacy, positive internal locus of control and positive attitude towards teaching subjects. Also, a significant difference ($p < 0.05$) was found between teaching subjects on the dimension of locus of control with social science majors having higher locus of control than science and mathematics majors. Future employment intentions had significant impacts ($p < 0.05$) on student teachers' attitude towards teaching with those intending to work in non-teaching sector having significantly lower attitude. Regression results indicated that working with students and pre-service teachers' persistence were strong predictors of overall pre-service teachers' attitude towards teaching ($R^2 = 0.319$). Results further revealed that 40.2 % of pre-service teachers regret that they chose the teaching profession and 56.2% are not intending to work as teachers after graduation.

Keywords: *attitude towards teaching profession, self-efficacy of pedagogical content knowledge, student-teachers, teaching profession*

Introduction

Teacher preparation is one of the local and international policy agendas that governments have tended to give a special attention. Given its importance, researchers have increased interest in researching on teacher preparation. In that regard, a considerable amount of literature has been published on this topic. Effective teacher preparation necessitates quality teaching. Thus, the need for quality teachers has been a key aspect of any education, in particular, teacher education (Gaikhorst, Post, März, Soeterik & Gaikhorst, 2020; Gelfuso & Dennis, 2014; Saini & Abraham, 2019). Tanzania is not lagging behind in ensuring quality teaching workforce. For instance, several policy decisions and circulars such as the Tanzania Development Vision 2025, the Tanzania Education and Training Policy of 2014, and the Teacher Education Development and Management Strategy (TEDMS) recognize the contribution of quality teachers in bringing about a well-educated and learning society (Ministry of Education, and Vocational Training [MoEVT], 2007, 2014; Ministry of Education, Science and Technology [MoEST], 2017; United Republic of Tanzania [URT], 2000;). Nonetheless, preparing teachers with required competences is an uphill task.

Basically, teachers need to be competent in their areas of specialties for them to teach effectively. However, it is important to note that teachers' professional competence is categorized into cognitive and affective components (Depaepe & König, 2018). On one hand, cognitive components include teachers' knowledge, skills and abilities to deliver the content. On the other hand, affective components comprise attributes such as positive attitude, motivation and self-confidence. The latter component is equally important in determining teachers' professional competence although the literature has tended to ignore it (Depaepe & König, 2018).

Further, the psychomotor components are important as well if the purpose is to develop holistically competent pre-service teachers (Nicholls, Sweet, Muller & Hyett, 2016). Psychomotor components help pre-service teachers to master activities that involve both the mind and the skills.

Application of the affective components to teachers' preparation in Tanzania

Since the study focuses on the affective dimensions in the preparation of teachers, detailing the importance of affective components in initial teacher preparation is of paramount importance. It has to be noted that any neglect of the affective dimensions in the initial teacher preparation affects teacher competence in the areas of self-efficacy, internal locus of control and attitude towards the teaching profession. For instance, Depaepe and König (2018) argued that affective dimensions are as essential as cognitive dimensions in determining teachers' professional competence. Further, teachers who are well-prepared in affective domains such as having a positive attitude towards teaching and being self efficacious are more likely to display effective teaching practices (Livers, Zelkowski, Harbour, McDaniel & Gleason, 2020).

Moreover, previous studies (Hardman, Abd-Kadir & Tibuhinda, 2012; Tao, 2017; Westbrook & Croft, 2015; Wilinski, 2018) in Tanzania have tended to focus on in-service teachers' attitude and motivation. Few studies in Tanzania have investigated on pre-service teachers' attributes such as attitude towards teaching, self-efficacy and internal locus of control. For that matter, the purpose of this study was to examine pre-service teachers' preparedness to teaching in three main affective domains-internal locus of control, self-efficacy of pedagogical content knowledge and attitude towards teaching. Literature has associated these constructs with

behaviours that account for quality teaching and well-being of teachers (Seda & Merve, 2015; Skaalvik & Skaalvik, 2010; Tastan & Markic, 2012). The association reminds us that quality teaching requires that teachers possess all the three interrelated constructs.

Furthermore, it is important to note that, although the present study focused on the affective dimensions, the study additionally thought of investigating the relationship between the affective domain and the cognitive domain which was measured using Grade Point Average (GPA). Thus, one of the study objectives examined the correlations among the affective dimensions namely internal locus of control, self-efficacy, attitude towards the teaching profession, attitude towards teaching subjects and the GPA. We reached this decision, given the fact that studies have indicated that there exists a positive correlation between achievement and affective domains such as self-efficacy (Duffin et al., 2012; Mcgee & Wang, 2014; O'Neill & Stephenson, 2012; Saricoban, 2015) and locus of control (Piatek & Pinger, 2016).

Purpose of the study

The purpose of this study was to investigate the extent to which pre-service teachers are prepared to teach. In an attempt to respond to this purpose, the study was guided by the following specific research questions:

- i. To what extent are pre-service teachers prepared to teach with regard to their internal locus of control, self-efficacy, attitude towards the teaching profession and teaching subjects?
- ii. How do factors such as gender, having worked before joining teacher education programme, work experience and future career intentions affect pre-service teachers' preparedness to teach?

- iii. What is the correlation among self-efficacy, internal locus of control, attitude towards teaching, attitude towards teaching subjects and GPA?
- iv. With how much variance do individual items predict pre-service teachers' overall attitude towards the teaching profession?

Theoretical framework

The theoretical framework was organized using three dimensions, namely locus of control (in particular, internal locus of control), self-efficacy and attitude towards teaching. The dimensions are briefly described as follows:

Locus of control

Locus of control is a construct that is necessary for any teacher in order to be able to determine his or her destiny in teaching profession. It is the locus of control that influences what happens to teachers. Fundamentally, locus of control can be internal or external (Antwi-Boasiako, 2017; Karaman & Watson, 2017). Locus of control becomes internal when it is an individual teacher who influences what happens to him or her. In other words, teachers with internal locus of control believe that it is their own efforts which determine their outcomes (Mcgee & Mcgee, 2016). On the other hand, locus of control becomes external when it is others who determine what happens to teachers. Usually, teachers of this belief think of fate or chance as a primary determinant of their outcomes (Mcgee & Mcgee, 2016). Studies have indicated that locus of control is correlated with zeal to search for jobs (Mcgee & Mcgee, 2016), educational attainment (Piatek & Pinger, 2016), and earnings (Groves, 2005). Besides, there is a link between locus of control and self-efficacy. For instance, the internal locus of control positively correlates with self-efficacy while the

external locus of control negatively correlates with self-efficacy (Senler, 2016; Siwatu, Putman, Starker-glass & Lewis, 2017).

Self-efficacy

Teacher's self-efficacy refers to teachers' individual beliefs in their abilities to execute teaching and learning tasks has been linked with study behaviour and academic outcomes (Skaalvik & Skaalvik, 2010), job performance (Seda & Merve, 2015; Skaalvik & Skaalvik, 2010; Tastan & Markic, 2012) and teachers' abilities to cope with stress (Seda & Merve, 2015). Self-efficacy has been associated with likelihood of teachers to stay in teaching profession (Duffin, French & Patrick, 2012). Also, it is self-efficacy which influences individual's feelings, thinking and motivation to undertake a given task (Senler, 2016). In that regard, self-efficacy determines the selection of the activities, persistence and efforts one has to devote on the selected activity. Several researchers such as Mcgee & Wang (2014), Senler (2016) and Skaalvik and Skaalvik (2010) have identified challenges associated with measuring self-efficacy. Firstly, self-efficacy has been context specific. The instruments used to measure self-efficacy have yielded different reliabilities across contexts. Secondly, there has been a dilemma on which self-efficacy to measure between self-efficacy of teaching a specific content and general teacher's self-efficacy. Thirdly, there is an alert on the wording of items for the items to measure the intended constructs. For instance, they insist using 'I can' or 'I am able' when constructing items for measuring self-efficacy. This ensures that the purpose is to measure personal perceived abilities as opposed to measuring group abilities or future intentions.

Attitude towards the teaching profession and teaching subjects

An attitude is defined as a mental and neural state of readiness or a positive inclination towards a phenomenon usually organized through experience (Saracaloglu, Evin & Varol, 2004). Saracaloglu et al. (2004) also observed that teachers' attitudes towards their teaching practices are important determinants of their classroom behaviours and effectiveness. Overall, the attitude that a teacher has about the teaching profession affects his or her day-to-day job performance (Baan, Gaikhorst & Volman, 2020). In that respect, teacher's attitude towards teaching influences his/her teaching. According to Senler (2016), teacher's attitude towards the teaching profession includes his or her motivation and enthusiasm to teach. Such motivation usually results in positive attitude towards students and overall students' achievement. In that respect, attitude towards teaching is related to other constructs such as locus of control, self-efficacy and resilience. All these constructs influence teachers' behaviour, motivation and retention. For that matter, students' attitude towards learning and students' achievement have also proved to be influenced by teachers' attitude towards students. For instance, Saracaloglu et al. (2004) reported that student teachers' attitude towards the profession was at a 'medium' level, mainly affected by teacher educators' attitudes. Furthermore, the study revealed that teacher educators' disinterestedness in the programme and the students affected negatively students' attitude scores. Theoretically, the dimensions are linked as follows:

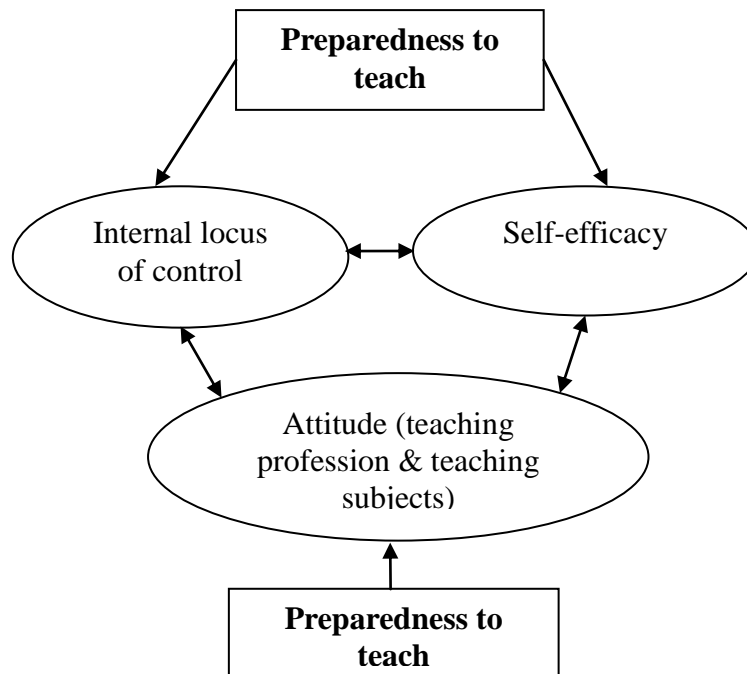


Figure 1: Theoretical framework

Research approach and design

The study employed a quantitative research approach. In particular, a survey research design was used to examine the research questions. This design permitted the researchers to examine the opinions of participants regarding the extent of their preparedness to teach. Survey research design is not only less expensive but also, if well designed, it ensures that accurate data are collected from a large sample in a short period of time. We were guided by the guidelines for designing a survey research such as adapting reliable survey items from tested instruments, organizing items into definable sub-scales, minimizing central tendency errors and careful sampling to minimize bias as suggested by Ary, Jacobs, Sorensen and Walker (2010).

Participants and sampling

This study was conducted in one of the teachers' education universities in Tanzania. The university was specifically established for the purpose of preparing teachers. We targeted a total sample of 600 participants. Thus, 700 questionnaires were physically administered to third year undergraduate students from which 454 participants successfully returned their questionnaires, yielding a response rate of 76 per cent of the original target. These participants were purposively selected on the basis that they stayed in the university for a long period of time compared to first and second year students. In terms of demographics, out of the 454 participants, 316 (69.6%) participants were males and 138 (30.4%) participants were females. 26% participants had some working experience. Participants majored in different teaching subjects, of which 143 (35.8%) were science and Mathematics majors and 256 (64.2%) were social sciences and languages majors. The average of their GPA was 3.409.

Independent variables

We included several independent variables to establish their relationship with the dependent variables. This decision was guided by literature and the study context. For instance, O'Neill and Stephenson (2012) found a link between teachers' self-efficacy and professional experience. Since self-efficacy is also related to other constructs such as locus of control, we asked pre-service teachers to indicate if they had worked before joining the teacher education programme by ticking "Yes/No". For those who indicated "Yes", they were also asked to indicate the number of years they had worked. We hypothesized that having worked before and years of

teaching experience would positively correlate with self-efficacy, internal locus of control, pre-service teachers' attitude towards the teaching profession and the teaching subjects.

For the purpose of demographic information, we included gender and subjects of specialization. Since, we had pre-service teachers' attitude towards teaching subjects of specialization, we asked students to indicate their majors so as to establish the relationship between students' majors and their attitude towards teaching those subjects. For the purpose of analysis, we categorized subjects into science and Mathematics; and social sciences and languages.

Moreover, we included GPA as another independent variable. Students were asked to indicate their GPA for the last semester. This GPA was used to examine pre-service teachers in subject content areas and pedagogical courses. Previous studies (Duffin et al., 2012; Mcgee & Wang, 2014; O'Neill & Stephenson, 2012; Saricoban, 2015) have reported that pre-service teachers' self-efficacy predicts performance. Also, as stated earlier, that self-efficacy is associated with internal locus of control, the same applies that internal locus of control is associated with performance. Therefore, we hypothesized that GPA will be positively correlated with self-efficacy, internal locus of control and attitude.

Given the context of Tanzania where not all enrolled pre-service teachers are employed in the teaching industry, we decided to ask students to indicate their career intentions. Students were required to indicate if they intend to be employed in public schools, private schools, non-teaching industry or they would opt for self-employment. We hypothesized that pre-service teachers with an intention to work in non-teaching industries and self-employment would have negative attitude towards the teaching

profession and teaching subjects. On the other hand, we hypothesized that those who intend to be employed in both public and private sectors would have a positive attitude towards the teaching profession and teaching subjects.

Dependent variables

Locus of control

We measured locus of control using a four-point scale (1=strongly disagree, 4=strongly agree). We used seven items such as “once a student is no longer interested in school, as a teacher I can do nothing about it”) of which three measured the internal locus of control and four measured the external locus of control. These items were adapted from Senler (2016) who measured locus of control among pre-service teachers using a five-point scale whose reliability in terms of Cronbach’s alpha (α) was .72. To minimize the central tendency error we used a four-point scale instead of a five-point scale. Some of the items were modified to make them congruent with the study context.

Upon running factor analysis using principal component method (Varimax), all items measuring external locus of control did not load quite well. As a result, these items were excluded from the dimension for the purpose of inferential statistics. One item from other dimensions was added because it loaded quite well with internal locus of control. Finally, four items remained and formed a dimension measuring internal locus of control. The reliability in terms of Cronbach’s alpha (α) for this dimension was .65.

Self-efficacy

Self-efficacy was measured using a seven-point scale (1=not good at all, 7=excellent). In measuring this dimension, ten items were used. One of the items used to measure self-efficacy was “control disruptive students’

behaviour in the classroom". The items were adapted from Mcgee and Wang (2014) who validated the self-efficacy for teaching Mathematics instruments. In their study, the reliability, in terms of Cronbach's alpha (α) was .86. Just like in locus of control, the items in self-efficacy were modified to fit the study context. After running factor analysis using principal component method (Varimax), three items measuring self-efficacy did not load quite well. In that regard, we excluded the three items from the dimension for the purpose of inferential statistics. Finally, seven items were retained and the reliability in terms of Cronbach's alpha (α) was .79.

Attitude towards the teaching profession and teaching subjects

We measured attitude towards teaching profession using a four-point scale (1=strongly disagree, 4=strongly agree). Three items were used to measure the dimension (e.g. If I were to decide again, I would still choose to work as a teacher). We also used four items to measure pre-service teachers' attitude towards teaching subjects of specialization using a seven-point scale (1=strongly disagree, 7=strongly agree) (e.g. I prefer to teach my subjects of specialization than other subjects). The items were adapted from Senler (2016) who measured pre-service teachers' attitude towards science teaching using a five-point Likert scale format. The reliability in terms of Cronbach's alpha (α) in Senler's study was .82. Just like in locus of control, to minimize the central tendency error (Moore, McCabe & Craig, 2014), this study used a four-point scale instead of a five-point scale for the dimension of attitude towards teaching profession. In the present study, the reliability scores in terms of Cronbach's alpha (α) were .70 and .61 for students' attitude towards teaching

profession and students' attitude towards teaching subjects of specialization respectively.

Data analysis

To analyze the data, we used Statistical Package for Social Science (SPSS) version 22. The four research questions required us to run several analyses. Firstly, we computed the reliability tests and factor analysis using principal component method (Varimax). Secondly, we conducted the analyses related to the research questions. Thus, we compared mean scores for different dimensions, conducted *t*-test and ANOVA, correlation and multiple regression analysis to address the first, second, third and fourth research questions respectively.

Results

The purpose of this study was to investigate pre-service teachers' preparedness to teach using three dimensions—self-efficacy, internal locus of control and attitude towards the teaching profession and teaching subjects. We measured self-efficacy and attitude towards teaching subjects using a seven-point scale, whereas internal locus of control and attitude towards teaching profession was measured using a four-point scale. The study was guided by four research questions. The results were presented in accordance with the research questions as follows:

To what extent are pre-service teachers prepared to teach with regard to their self-efficacy, internal locus of control, attitudes towards the teaching profession and teaching subjects?

To address this research question, we compared the means for different dimensions as shown in Table 1.

Table 1: Mean Scores for Dependent Variables

	Self-efficacy	Internal locus of control	Attitude of towards the teaching profession	Attitude towards teaching subjects
Mean	6.1746	3.4193	2.9764	5.6382
SD	.66405	.53576	.84991	.66467

Overall, pre-service teachers have high mean scores in the dimensions of self-efficacy ($M=6.1746$, $SD=.66405$), internal locus of control ($M=3.4193$, $SD=.53576$), and attitude towards teaching subjects ($M=5.6382$, $SD=.66467$). Nonetheless, the results indicated that their attitude towards the teaching profession is relatively low ($M=2.9764$, $SD=.84991$).

How do factors such as gender, having worked before joining teacher education programme, work experience and future career intentions affect pre-service teachers' preparedness to teaching?

In this research question, we hypothesized that with exception of gender, having worked before joining the teacher education programme, work experience and future career intentions would affect pre-service teachers' preparedness to teaching. We analysed the independent t -test and carried out Analysis of Variance (One-way ANOVA) as illustrated in Table 2.

Table 2: T-Test and ANOVA Results for Dimensions of Pre-service Teachers' Preparedness to Teach

Characteristics	Self-Efficacy	Internal Locus of Control	Attitude Towards Teaching Profession	Attitude towards the Teaching Subjects
Gender	.093	.380	.534	.025*

Worked before joining teacher education programme?	.969	.135	.262	.349
Years of work	.668	.195	.675	.509
Future career intentions	.735	.492	.000**	.075

** $p < .01$, * $p < .05$ (T-Test and ANOVA results)

Generally, results have indicated that with the exception of future career intentions and gender on three dependent variables, having worked before joining the teacher education programme and years of work had no significant relationships with pre-service teachers' preparedness to teach. We found a significant difference ($p < .05$) between males and females with respect to their attitude towards teaching subjects. Therefore, on the aspect of attitude towards teaching subjects, we rejected our hypothesis that gender will have no impact on pre-service teachers' preparedness to teach. Contrary to our hypothesis, we found that only future career intentions were significantly ($p < .01$) related with attitude towards teaching profession. Thus, we rejected our hypothesis that having worked before joining the teacher education programme, years of work and future career intentions are significantly related to pre-service teachers' preparedness.

Having noted the significant relationship between future career intentions and pre-service teachers' attitude towards the teaching profession, we conducted further analysis of mean scores. The purpose was to investigate the nature of that relationship.

Table 3: Mean Scores for Future Career Intentions

	Self-employment	Employment in public schools	Employment in private schools	Employment in non-teaching sector
Mean	2.8951	3.1267	3.2561	2.5000
SD	.84742	.80307	.92278	.79057

Results indicated that those intending to be employed as teachers in public schools ($M=3.1267$) and private schools ($M=3.2561$) had positive attitude towards the teaching profession compared to those who intended to employ themselves ($M=2.8951$) and those who intended to get employed in non-teaching sector ($M=2.5000$). See Table 3 for more clarifications. With respect to gender, female pre-service teachers significantly outperformed their male counterparts in their attitude towards teaching subjects as shown in Table 4.

Table 4: Mean Scores for Attitude by Gender

	Attitude (Subjects)
Male	($M=5.596$, $SD= .720$)
Female	($M=5.733$, $SD= .510$)

What is the correlation among self-efficacy, internal locus of control, attitude towards the teaching profession, attitude towards teaching subjects and GPA?

With regard to this question, we conducted Spearman's rho correlation which is one of the suggested measures of correlation between ordinal variables. We hypothesized that self-efficacy, internal locus of control and attitude towards the teaching profession and teaching subjects would be positively and significantly correlated. In particular, we hypothesized that the correlation between self-efficacy and internal locus of control would be high. Given the disagreement in literature, we did not state any hypothesis for pre-service teachers' GPA. Table 5 illustrates the results.

Table 5: Correlations among Dimensions and GPA

	1	2	3	4	5
1. Self-efficacy	—				
2. Internal locus of control	.273**	—			
3. Attitude towards the teaching profession	.233**	.281**	—		
4. Attitude towards teaching subjects	.338**	.255**	.108*	—	
5. GPA	.097	.059	-.041	.068	—

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Results indicated that with the exception of GPA, there seemed to be a positive and significant correlation among the dimensions of pre-service teachers' preparedness to teach. For instance, pre-service teachers' self-efficacy and their attitude towards teaching subjects have the highest correlation ($r = .338$), while attitude towards the teaching profession and attitude towards teaching subjects have the lowest correlation ($r = .108$). Contrary to the expectation, results indicated a moderate correlation ($r = .273$) between self-efficacy and internal locus of control.

With how much variance do individual items predict pre-service teachers' overall attitude towards the teaching profession?

In this research question, we tested how individual items of the attitude towards teaching profession are predictors of overall pre-service teachers' attitude towards the teaching profession. Regression analysis was used to approach this research question. We conducted a step-wise analysis to test the predictive power of all the four items against the dependent variable '*all in all, I enjoy working as a teacher*'. The four items (that is, I regret that I decided to choose teaching profession (reversed); the advantages of being a teacher outweigh the disadvantages; if I were to

decide again, I would still choose the teaching profession; and working with students makes me interested in teaching)) were included in the regression model. However, only two items which were significant predictors were retained in a regression model as illustrated in Table 6.

Table 6: *Regression of Pre-service Teachers' Overall Attitude towards the Teaching Profession*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. e
1	.567 ^a	.322	.319	.707	.322	104.362	2	440	.000

- a. Predictors: (Constant), If I were to decide again, I would still choose the teaching profession; Working with students makes me interested in teaching
- b. Dependent Variable: All in all, I enjoy working as a teacher.

The results indicated that pre-service teachers' persistence and working with students are significant ($p < .01$) predictors of pre-service teachers' overall attitude towards the teaching profession. These items together, explained about 32% variance ($R^2 = .319$) in overall attitude towards the teaching profession.

Conclusions and Discussion

This study investigated pre-service teachers' preparedness to teach using three dimensions: self-efficacy, internal locus of control and attitude towards the teaching profession and teaching subjects. Results have indicated that overall pre-service teachers are well prepared to teach in all dimensions, with the exception of their attitude towards the teaching

profession which is relatively low ($M=2.976$). Such results are not surprising because results have also indicated that 40.2% ($n=454$) of pre-service teachers regretted to have chosen the teaching profession. In connection to that, these results shed more light on pre-service teachers' future intentions, where 56.2% are not intending to work as teachers after graduation. Only 43.8% reported that they intended to work as teachers in both public and private schools. Expectedly, pre-service teachers intending to work as teachers had positive attitude towards the teaching profession. These results have notable implications on teachers' retention policy. As educators, we find it shocking and equated to wastage of time to prepare pre-service teachers, where 56.2% are not intending to join the teaching profession. Given this observation, we recommend improving the status of teaching the profession to enhance pre-service teachers' attitude towards the teaching profession. Additionally, introducing entrepreneurship education and training course for all students to equip them with necessary entrepreneurial skills during the course of study and after graduation is indispensable. Also, future research should consider a qualitative exploration to find out why a good number of pre-service teachers regret choosing the teaching profession.

With exception of future career intentions and gender, this study indicated that other independent variables such as having worked before joining teacher education programme and years of work did not have any significant effect on pre-service teachers' preparedness to teach. Some of these results contradict with the previous ones. For instance, O'Neill and Stephenson (2012) found a link between pre-service teachers' self-efficacy and professional experience. This is because, in this study, there seems to

be no link between pre-service teachers' self-efficacy and work experience.

Furthermore, while the correlations are weak, the dimensions of pre-service teachers' preparedness are significantly correlated. In addition, none of these dimensions is significantly correlated with pre-service teachers' GPA. This appears to contradict with Piatek and Pinger (2015) who found that internal locus of control was correlated with educational attainment. Evidences have indicated a strong correlation between pre-service teachers' self-efficacy and internal locus of control (Senler, 2016; Siwatu, Putman, Starker-glass & Lewis, 2017). Thus, it was to our expectations that there will be a strong correlation between pre-service teachers' self-efficacy and internal locus of control. However, pre-service teachers' internal locus of control seemed to be weakly correlated ($r = .273$) with pre-service teachers' self-efficacy. Instead, the correlation is relatively higher between pre-service teachers' self-efficacy and their attitude towards teaching subjects ($r = .338$).

In addition, the results provide strong recommendations on how pre-service teachers' attitude towards the teaching profession can be improved. Regression analysis indicated that pre-service teachers' persistence (intentions to remain in the teaching profession) and working with students explained 32% variance in pre-service teachers' attitude towards the teaching profession. On the contrary, the perceived advantages of teaching profession and attitude towards teaching subjects of specialization were not significant predictors of pre-service teachers' attitude towards teaching. These results imply that adopting policies that improve pre-service teachers' persistence may improve pre-service teachers' attitude towards teaching. The fact that the teaching profession

requires teachers to work with students, raises an interest to note that the same has been a significant predictor for pre-service teachers' attitude towards the teaching profession.

Recommendations

From the study findings, we recommend that, given the fact that this study involved only final-year students, to trace the changes in pre-service teachers' attributes over time, a study that involves all students in the university college is essential. In that regard, we recommend a longitudinal study that can compare pre-service teachers' attributes across time. Secondly, this study focused much on whether or not pre-service teachers have self-efficacy, internal locus of control and positive attitude towards teaching. Thus, we recommend future research on examining how other factors such as curriculum content and process influence the development of these attributes. Finally, given that the present study was conducted in one higher teacher education institution, for accurate generalization of the results, future studies will be needed to investigate the subject in other universities.

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