Pre-service Teachers' Conceptions of Teaching & Learning and their Teaching Approach Preference: Secondary Teacher Education in Focus

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Abstract: The purpose of this study was to explore student-teachers' conceptions of teaching and learning and teaching approach preference when they join teacher education programs. Descriptive survey method was employed. Conceptions of Teaching and Learning Questionnaire (CTLQ) and Approaches to Teaching Inventory (ATI) were used for data collection. Two hundred ninety three (293) randomly selected pre-service secondary student-teachers admitted to Post Graduate Diploma in Teaching (PGDT) program in Bahir Dar and Haramaya University were participated in the study. The data were analyzed using correlation and independent and paired sample t-tests. It was found that the student-teachers have joined teacher education program with traditional conceptions of teaching & learning viewing learning as recalling and absorbing as much information as possible and teaching as simply telling, presenting or explaining the subject matter. Their teaching approach preference was also found to be consistent with their conceptions of teaching and learning. Finally, a teacher education program emphasizing conceptual change was suggested.

Keywords: Conceptions, constructivist conception, student-teachers, teaching approaches, traditional conception,

INTRODUCTION

A better understanding of student teachers' beliefs about teaching and learning has been considered as a valuable tool for improving effectiveness of teacher education in general and student's learning in particular (Brophy & Good, 1986; Chant, 2002; Cheng, Tang, & Cheng, 2015; Cross, 2009; Handal & Herington, 2003). It is because, these authors argue, knowledge about student-teachers' beliefs and belief systems are considered as pre-requisite for better understanding of both student-teachers' learning processes and their later behavior in classroom settings as professional teachers.

Koballa Graber, Coleman, and Kemp (2000) pointed out that identifying and assessing teacher candidates and their ideas in relation to classroom practices is an important function of every teacher education program. Pajares (1992) and, more recently, Richardson (2003) have also discussed a pressing need to better understand teachers' beliefs and gain insight into changes of beliefs in order to improve both teacher education and classroom practice. Bryan (2003) suggested that teacher trainers can benefit from knowledge about their students' beliefs and use such knowledge to better facilitate trainees' learning and professional development.

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Justifying the need for assessing and identifying student-teachers' beliefs about teaching and learning, Northcote (2009) underlined that teachers' conception of teaching and learning can play either a facilitating or an inhibiting role in translating curriculum guidelines into the complex and daily reality of classroom teaching. Correspondingly, Nespor (1987) and Borg (2005) insisted that teachers' conceptions will play an influential role in the acceptance or rejection of educational reforms.

Handal and Herrington (2003) contend that if the teachers' beliefs are not congruent with the beliefs underpinning an educational reform, then the aftermath of such a mismatch can affect the degree of success of the innovation. On the other hand, if teachers hold beliefs compatible with the innovation then successful implementation of the reform will be more likely to occur. For reforms in teacher education to be accepted, integrated, and activated in the behavioral repertoire and practice of student teachers, according to Kagan (1992), they have to develop conceptions in congruence with the new reforms.

Even very recently, scholars in the field of teacher educations (e.g., Chai, Teo, & Lee, 2009; Deng, 2004; Marouchou, 2011) are insisting that student-teachers' beliefs should be more deeply researched. The reasoning behind this is that a thorough understanding of student-teachers' beliefs would inform teacher education program in general and teacher-educator in particular about the way forward in moving potential candidates in the direction of more modern theories about teaching and learning. Such research would reveal relevant, widely held beliefs and enrich our understanding of the relationship between student-teachers' beliefs and their impact on educational innovations and reform. Moreover, understanding the belief structures of student-teachers provide policy designers with ways of improving the existing teachers' professional preparation thereby facilitate realization of constructivist principles. In other words, it informs policy makers about what to do and where to focus in order to ensure actual implementation of constructivist teaching principle in schools at all levels.

Educational reforms must take teachers' beliefs into account, if the aim is to bring about overall and sustainable change in the teacher's classroom practice and students' learning. Educational innovation is doomed to failure if it does not give any weight to teachers' beliefs, intentions and attitudes (Betoret & Artiga, 2004; Chan & Elliott 2004; Trigwell, Prosser, & Taylor, 1994) as beliefs act as filters through which all relevant learning and information used to prepare teachers to act in the classroom is influenced (Brown, Lake & Matters, 2009; Lopez-Iniguez & Pozo, 2014; Wong, Yung, Cheng, Lam, & Hodson, 2006; Zanting, Verloop, & Vermunt, 2001). Thus, addressing teacher beliefs must necessarily be the first step, if any attempt to change current teaching practices is to be attempted (Cheng et al., 2015; Kagan, 1992; Richardson, 1997).

In the case of Ethiopia, although the teacher education program was reformed in a way that reflects constructivist perspective two decades ago, no significant improvement was observed in teachers' overall performance and classroom practice (Biniyam, 2014; Birhanu, 2010; MOE, 2009; Oli, 2006). In other words, classroom practices of teachers at all levels of the education ladder continue to rely heavily on the old didactic approach. One possible reason

for such practice, the researchers believed, might be the case that teachers' beliefs about teaching and learning have not been adequately addressed before, during, and after the teacher education program. As far as the knowledge of the researchers are concerned, studies on Ethiopian pre-service secondary teachers' beliefs about teaching and learning remained scant, if any. Therefore, this study was intended to assess pre-service teachers' beliefs about teaching and learning and their preferred teaching approach. To this end, the study attempted to answer the following basic research questions;

1. What beliefs do student-teachers hold about teaching and learning when they join the teacher education program?
2. What teaching approaches do student-teachers prefer to adopt?
3. Is there statistically significant relationship between student-teachers' beliefs about teaching and their teaching approach preference?

CONCEPTUAL FRAMEWORK

Beliefs about Teaching and Learning

Beliefs are always accepted as true by the individual and are "imbued with emotive commitment" (Borg, 2001) serving further as a guide to thought and behaviour. Pajares (1992) and Nespor (1987) maintain that beliefs are far more influential than knowledge in "determining how individuals organise and define problems and are stronger predictors of behaviour." Studies of teacher beliefs revealed that teachers have beliefs about all aspects of their work. OECD (2009) argues that there are five main areas in which teachers have been found to hold significant beliefs – beliefs about learners and learning, teaching, subjects or curriculum, learning to teach, and about the self and the nature of teaching. This argument is reflected in Richards' (1996) work on teachers' beliefs, which he maintains are a set of rational principles that function as "rules for best behaviour" that develop as teachers' belief systems.

Richards (1996) maintains that beliefs are the outcomes of teachers' evolving theories of teaching which reflect teachers' individual philosophies of teaching, developed from their experience of teaching and learning, their teacher education experiences, and from their own personal beliefs and value systems. Similarly, OECD (2009) stated that teachers' beliefs of teaching and learning are very strongly influenced by national school systems, culture and pedagogical traditions. Moreover, Nespor (1987) noted that beliefs are formed early in life as a result of a person's education and experience and strong beliefs about learning and teaching are well established by the time a student completes schooling. Strengthening this, Pajares (1992) indicated that beliefs about teaching are well established by the time students get to college. They include ideas about what it takes to be an effective teacher and how students ought to behave, and, though usually unarticulated and simplified, they are brought into teacher preparation programs (Richards, 1996).

Conceptions of teaching and learning, generally, can be seen as the beliefs about teaching that guide a teacher's perception of a situation and will shape actions. Approaches to teaching, on the other hand, are the way beliefs are put into practice (Lam & Kember, 2006). Chan and

Elliot (2004) explained that the conceptions about teaching and learning refer to the beliefs held by teachers about their preferred ways of teaching and learning. These include the meaning of teaching and learning and the roles of the teacher and learners.

There are disagreements among scholars in some important aspects such as the way to categorize the teaching and learning conceptions held by teachers (Betoret & Artiga, 2004). These divergences, Betoret and Artiga continue arguing, have hindered the rate at which researches have been conducted in this field and this has recently led some authors to carry out exhaustive reviews of the work published over the past few years in order to search for meeting points that enable research to continue advancing. The studies by Kember (1997) & Samuelowicz and Bain (2001), for instance, showed that when it comes to categorizing the conceptions held by teachers, authors disagree on two fundamental issues. The first involves how to determine the number of categories that exist and establish their boundaries, while the second concerns deciding whether the conceptions about teaching and learning are to be studied separately or jointly as an integrated whole. However, Studies (e.g., Gow & Kember, 1993; Kember, 1997) that investigated teachers' beliefs about teaching and learning separately and later analyzed them to determine the extent to which they coincide confirmed that there was no statistically significant difference between the two variables. On the basis of these researches and the researchers' understanding of teaching and learning as two interrelated processes that cannot be separated when seeking to gain an overall view of the educational situation, this study investigated teacher-educators' and student-teachers' conceptions of teaching and learning in an integrated manner.

On the other hand, authors who have studied teachers' conceptions of teaching and learning have used the major educational approaches or paradigms in an attempt to identify and categorize them within a continuum (Samuelowicz & Bain, 1992; Gow & Kember, 1993; Prosser, Trigwell, & Taylor, 1994; Kember, 1997). Comparing the categories produced in the different studies, a general trend is observed that conceptions of teaching and learning range from conceptions concerned with the transmission of information to those concerned with the facilitation of understanding in students (Kember 1997; Prosser et al., 1994; Samuelowicz & Bain, 1992). Although the precise numbers and descriptions of intermediate categories vary between studies, overall there is a high degree of similarity. Having this in mind, the present study used the traditional versus constructivist categories which are commonly used in recent studies (Chan & Elliot, 2004; Cheng et al., 2015; Entwistle, Skinner, Entwistle, & Orr, 2000; Kember, 1997; Kember & Kwan, 2000). The constructivist conception is about teaching as facilitating students' learning and learning as knowledge construction, while the traditional conception concerns teaching as transmission of knowledge and learning as absorbing the transmitted information.

Pre-service teachers' Conception of Teaching and Learning

Student-teachers join teacher education programs with their own ideas and conceptions about what it takes to be a successful teacher. These conceptions are a product of their upbringing, a reflection of their life experiences, or a result of socialization processes in schools (Kaufman, 1996; Richardson, 1997; Wong et al., 2006; and Zanting et al., 2001). Likewise, Nespor

(1987) contends that entrants come to pre-service teacher training programs with a set of deep-seated beliefs about the nature of teaching based on their own experiences as students. Moreover, Hewson and Hewson (1987) contend that prospective teachers' conceptions of teaching are reflective of their K-12 learning experiences which in turn impact their learning of pedagogy (Cheng, Chan, Tang, & Cheng, 2009). These conceptions reflect the ways in which they intend to behave and interact with students, how they judge theories of student learning, organise and manage classrooms effectively, and behave professionally (Nespor, 1987; Subramaniam, 2014; Tillema, 1998).

As noted by different researchers (e.g., Anderson & Piazza, 1996; Gill, Ashton, & Algina, 2004; Handal & Herrington, 2003; Yung et al., 2007), most pre-service teachers have behaviorist/traditional conception of teaching and learning. Student-teachers bring with them mature beliefs about teaching and learning that tend to be more congruent with their past experiences than with the views we are asking them to consider' (Guilfoyle, Hamilton, Pinnegar, & Placier, 1995. as cited in Swennen, Shagrir, & Cooper, 2009).

In addition, Gill, et al. (2004) stated that many student-teachers view knowledge as certain. They believe that their job is to transmit this knowledge directly to their students. They believe that the role of the teacher is to convey 'right answers' to his/her students. Thus, according to Prawat (1992), many teachers adopt a "transmission" approach to teaching and an "absorptionist," passive view of learning which is less likely to promote student understanding and intrinsic motivation. That is why scholars in the field of teacher education (e.g., Deng, 2004; Marouchou, 2011; Prawat, 1992) keep arguing that beliefs should be the focus of change if teacher education programs are to prepare teachers to teach in a more constructivist manner. A constructivist view of teaching and learning sees learning as a process of knowledge construction, and the teacher's role as a facilitator of such learning. In order for teachers to play this role, they may need to change their views of the nature of teaching and learning (Trigwell & Prosser, 1996).

Unless the student-teachers' beliefs are not developed according to constructivism, he/she is likely to fail when he or she begins constructivist teaching (Anderson & Piazza, 1999). Therefore, it is important, Anderson and Piazza suggested, for both teacher-educators and student-teachers to be exposed to constructivist teaching, in order to construct or reconstruct their conception about teaching and learning. An effective implementation of a constructivist teacher education program could bring about change on the teachers' conception of teaching and learning. Kaufman (1996) highlighted this argument stating that constructivist learning is paramount in bringing about change and development in teachers' prior beliefs and behavior. A good number of studies (e.g., Andrew, 2007; Darling-Hammond, 2006; Hogg & Yates, 2013; Loughran, 1996, 2010; Richardson, 2010) also reported that a constructivist-oriented teacher education influences student-teachers existing beliefs.

Approaches to Teaching

Teaching approaches, as described by Trigwell and Prosser (1996), are those enduring personal qualities and behaviors that appear in how educators conduct their classes. Conti

(2007) defines the term teaching approach as the distinct qualities exhibited by a teacher that are consistent from situation to situation regardless of the content being taught. Strengthening Conti's notion, Elliott as cited in Ahmed (2013) explained that teaching approach is made up of a range of behaviors that a teacher comfortably used consistently over time, situation, and content.

A majority of researchers distinguished between a teacher-centred/traditional and a student-centred/constructivist approach to teaching (Kember & Kwan, 2000; Lindblom-Ylanne, Trigwell, Nevgi, Ashwin, 2006; Samuelowicz & Bain, 2001; Trigwell & Prosser, 1996; Vermunt & Verloop, 1999). Traditional teaching approach is direct instructional strategy by which the teacher is the major provider of information and his/her role is to pass facts, rules, or action sequence in the most straightforward way which usually takes the form of lecture consisting of explanation and examples (Frazel, 1995; ICDR, 1994; Postareff & Lindblom-Yla, 2008). This approach gives the priority role and responsibility to the teacher. On the other hand, constructivist teaching approach focus on providing a learning environment where students are involved in higher order thinking (analysis, synthesis, and evaluation); they are engaged in activities like reading, discussion, writing and greater emphasis is placed on students' exploration of their own attitudes and values (Bonwell & Eison, 1991).

It is widely accepted that teachers' conception of teaching and learning shapes their instructional decisions in the classrooms (Canbay & Beceren, 2012; Chan, 2004; Chan & Elliott, 2004; Devlin, 2006; Feixas & Euler, 2013; Garrison & Neiman, 2003; Gilakjani, 2012; Nespor, 1987; OECD, 2009; Trigwell & Prosser, 1996; Yilmaz & Cavas, 2008). In other words, there is a relationship between teachers' conception of teaching and learning and their propensity toward adopting specific instructional practices.

Gilakjani (2012) further elaborates that how teachers choose their teaching strategies and implement techniques is a function of their conception of teaching and learning. According to Canbay and Beceren (2012), teachers whose conception of teaching is as a transmission of knowledge were observed using teacher-centred approaches in their teaching whereas instructors perceiving good teaching as a facilitative act integrated more learner-centred approaches into their teaching. Similarly, Chai (2010) reported that teachers with teacher-centered conception of teaching tend to adopt didactic teaching practices such as lecturing whereas teachers with student-centered conception of teaching and learning tend to adopt constructivist teaching practices. Moreover, Trigwell and Prosser (1996), contends that those teachers who conceive learning as information accumulation to meet external demands also conceive of teaching as transmitting information to students, and approach their teaching in terms of teacher-centered strategies.

METHODOLOGY

Design of the Study

This study was intended to examine student-teachers' entry behavior i.e. conceptions of teaching and learning and their teaching approach preference. A descriptive survey was employed to answer the basic research questions raised. Because of practical reasons such as

budget, time and geographic dispersion of the universities, it was difficult to include all universities in this study. When factors like expense, time, and accessibility that make acquiring data from the whole population is impossible, Cohen, Manion, and Morrison (2007) suggest researchers to take smaller group of the total population. Taking Cohen et al.'s suggestions into account, two universities namely Bahir Dar and Haramaya were selected using convenience sampling methods. These universities were selected because of their proximity to the researcher's work place and with the assumption that there is no as such significant difference between them in terms of physical (teaching infrastructures such as learning materials, library, laboratory, classrooms etc) and human resources (academic staff's profile and compositions) necessary to run PGDT program as they both fall within the same generation (first generations) of universities in Ethiopia.

Participants

Student-teachers (pre-service) admitted to Post Graduate Diploma in Teaching (PGDT) program in the two universities in the 2016/2017 academic year were population of the study. In determining the sample size, the researchers used the rule of thumb principle of sampling. According to different scholars in the field of social science researches (e.g., Janet, 2005; Lawrence, 2007; and Schreiber & Asner-Self, 2011), in a smaller population (under 1000), taking 30% of the total populations as a sample is considered as representative, 10% for moderately larger population (10,000), and 1% for large population (over 150, 000). Accordingly, of the total of 900 students-teachers (500 in Bahir Dar and 400 in Haramaya University) admitted to PGDT program, 150 (one hundred fifty) and 120 (one hundred twenty) student-teachers were taken randomly from Bahir Dar and Haramaya University respectively. However, in order to increase the response/return rate of questionnaires, fifty (50) more participants were selected which rises the total participants to 320 (three hundred twenty). Finally, the data of Two hundred ninety-three (293) student-teachers who have filled the questionnaires correctly were analyzed. Conception of Teaching and Learning Questionnaire (CTLQ) developed by Chan and Elliot (2004) and Approaches to Teaching Inventory (ATI) developed by Trigwell and Prosser (2004) were employed.

Data Collecting Tools

The conception for teaching and learning questionnaire was a two-factor 30 items questionnaire in which the first 18 items measure traditional conception whereas the remaining 12 items measures constructivist conception. The scaling of this instrument was a Likert-type with scales from 5=Strongly Agree to 1=Strongly Disagree. Exemplary items measuring the traditional conception of teaching and learning include statements such as: *'Teachers should have control over what students do all the time'; 'The major role of a teacher is to transmit knowledge to students'; and 'Teaching is simply telling, presenting or explaining the subject matter'. On the other hand, items addressing the constructivist conceptions of teaching and learning are the following: 'Effective teaching encourages more discussion and hands-on activities for students'; 'The focus of teaching is to help students construct knowledge from their learning experience instead of knowledge communication';*

and 'Learning means students have ample opportunities to explore, discuss and express their ideas'.

The approaches to teaching inventory contain 22 statements with responses based on a Likert scale of 1-5 (1 = "only rarely" to 5 = "almost always"). There are two 11 item subscales within the ATI. The first subscale represented the traditional/teacher centered approach and the second subscale is the constructivist/student centered scale. Exemplary items measuring the traditional teacher-centered approach to teaching, include statements such as:

> *In the subject I am teaching, students should focus their study on what I provide to them'; 'It is important to present a lots of facts to students so that they know what they have to learn for the subject'; and 'In the subject I am teaching, I will provide students with the information they will need to pass the formal assessment'. On the other hand, items addressing the constructivist teaching approach are the following: 'In the subject I am teaching, it is better for students to generate their own notes rather than copy mine'; 'In the subject I am teaching, I will give opportunities for students to discuss their changing understanding of the subject'; and 'I understand teaching as helping students develop new ways of thinking'.*

To check the reliability of the instruments, pilot test was conducted. The result indicated the instrument (ATI) as reliable with Cronbach reliability coefficient for the whole instrument was .72, while sub-scale reliabilities were .74 for traditional and .71 for constructivist items. Similarly, the CLTQ was found to be reliable with Cronbach reliability coefficient for the whole instrument was .74, whereas the sub-scales reliabilities were .81 for traditional and .73 for the constructivist items. The data was analyzed using correlation and independent and paired samples t-tests. The actual data was collected from the participants during the first week of the year-long training (PGDT program). In this study the term "beliefs" and "conceptions" are used interchangeably. The data collected were analyzed using means, t-test, and Pearson correlation coefficients.

Context of the Study

The participants of the PGDT (Post Graduate Diploma in Teaching) program have to complete three terms (3 months each) including 4 weeks of teaching practice before they can attain the status of qualified teacher. These trainings are aimed at introducing secondary pre-service teachers to general topics of education and psychology, such as foundations of education, learning theories, use of ICT, classroom management etc. In addition to these, courses that emphasize diversity and inclusion such as multicultural education and inclusive education are incorporated. These courses emphasise constructivist-oriented teaching practice (MoE, 2009).

RESULTS

This study was intended to explore pre-service secondary teachers' conceptions of teaching and learning and their teaching approach preferences. The data collected through questionnaires are analyzed and the results are presented as follows.

Table 1

Comparison of Pre-service Teachers' Traditional and Constructivist Conceptions of teaching and learning

Conceptions	Mean	SD	df	t-value	Sign.
Traditional	3.47	0,29	292	47.82	.000
Constructivist	2.08	0.22			

As shown in Table 1, most student teachers in the sample were found to possess traditional beliefs of teaching and learning. This was evidenced by the fact that the grand mean score obtained in the traditional conception (M= 3.47, SD= .29) was higher than constructivist conception (M=2.08 and SD= .22) categories. In addition, the paired sample t-test result [t (293) = 47.819, df = 292, p< 0.05) confirmed that the student-teachers had significantly stronger espousal of the traditional conception than the constructivist. In other words, for instance, student-teachers believed that learning occurs primarily through drill and practice and it mainly involves absorbing as much information as possible; teaching is simply telling, presenting or explaining the subject matter; and the major role of a teacher is to transmit knowledge to students.

Table 2

Institutional Comparison of Pre-service Teachers' Conceptions of Teaching and Learning

Conceptions	Institution	N	Mean	SD	df	t	Sign.
Traditional	Haramaya	155	3.49	.28	291	.99	.322
	Bahir Dar	138	3.46	.31			
Constructivist	Haramaya	155	2.06	.24	291	1.38	.168
	Bahir Dar	138	2.10	.20			

The data collected was further analyzed to know whether there were statistically significant differences between student-teachers of the two institutions in terms of their views about teaching and learning. As shown in Table 2, the student-teachers in both Universities seem to have almost similar mean scores in both conception categories. Furthermore, the independent sample t-test [t (293) = .993; df = 291; p>0.05] and [t(293) = 1.383; df = 291; p>0.05] result verified that there were no statistically significant differences in traditional and constructivist conceptions of teaching and learning between the student-teachers in the two Universities respectively. This means, the way the student teachers' conceive teaching and learning is similar.

Table 3

Comparison of pre-service Teachers' Teaching Approach Preference

Approaches	Mean	SD	df	t-value	Sign.
Traditional	3.55	0,27	292	50.197	.000
Constructivist	1.96	0.29			

The study had also tried to identify student-teachers' teaching approach preferences. Accordingly, the data collected in this regard revealed that the student teachers prefer traditional teaching approach (M = 3.55, SD = .27) over constructivist (M = 1.96, SD = .29). Moreover, as can be seen from Table 3, the result of the paired sample t-test demonstrated that there is a significant difference between traditional and constructivist teaching approach preference [t (293) = 50.197, df = 292, $p < 0.05$]. This implies that student-teachers prefer, as a teacher in the future, to focus on good presentation of more information to students and help them pass the formal assessment items.

Table 4

Institutional Comparison of Pre-service Teachers' Teaching Approach Preferences

Conceptions	Institution	N	Mean	SD	df	t	Sign.
Traditional	Haramaya	155	3.55	.28	291	.123	.902
	Bahir Dar	138	3.53	.27			
Constructivist	Haramaya	155	1.99	.31	291	1.46	.145
	Bahir Dar	138	1.94	.26			

The data collected was further analyzed to know whether there are statistically significant differences between student-teachers of the two institutions in terms of teaching approach preference. As can be understood from Table 4, the student-teachers in both Universities seem to have almost similar mean scores in both teaching approach categories. Moreover, the independent sample t-test [t (293) = .123; df = 291; $p > 0.05$] result verified that there were no statistically significant differences between the student-teachers in the two Universities in their teaching approach preferences. This means, the student-teachers in both universities have similar teaching approach preferences i.e. traditional teaching approach.

Table 5

Correlation between Teaching Conceptions and Teaching Approaches among the Pre-Service Teachers

	Traditional approach	Constructivist approach
Traditional conception	.86**	-.74**
Constructivist conception	-.73**	.67**

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

The relationship between conceptions of teaching and learning and the teaching approach preference of student-teachers was also investigated using Pearson product-moment correlation coefficient. Accordingly, the data, as can be seen from Table 5, revealed that there is relationship between beliefs and likely practices. The student-teachers' conceptions of teaching and learning was found to be positively correlated with their teaching approach preference, $r = .86$, $n = 293$, $p < .01$, with high mean score of traditional conceptions associated with higher mean scores of traditional teaching approach preference.

DISCUSSION

As it is well discussed in the literature above, the well established beliefs which pre-service student-teachers bring to their teacher preparation influence what they are able to learn. They serve as filters for making sense of the knowledge and experiences they encounter. They may also function as a barrier to change by limiting the ideas that teacher education students are able and willing to entertain. These taken-for-granted beliefs may mislead prospective teachers into thinking that they knew more about teaching than they actually do and make it harder for them to form new ideas and new habits of thought and action.

This study found that the student-teachers have joined the PGDT program in the target institutions with traditional conceptions of teaching and learning. The result of the study is parallel with previous studies (e.g., Alger, 2009; Anderson & Piazza, 1996; Chai et al., 2009; Gill et al., 2004; Handal & Herrington, 2003; Leavy, McSorley, & Bote, 2007; Yung, Wong, Cheng, Hui, & Hodson, 2007) who have reported that pre-service teachers came into the profession with behaviorist/teacher-centered conceptions of teaching and learning. In an action research-based study by Leavy et al. (2007) in USA and Ireland, for instance, pre-service teachers reported predominantly behaviorist beliefs of teaching and learning at their entry to teacher education program. Similarly, a study conducted in Singapore by Chai et al. (2009) also revealed that student-teachers, before the training, reported traditional conception of teaching and learning.

Contrary to this, the study conducted by (Aldrich & Thomas, 2005; Cheng et al., 2009; Coskun & Grainger, 2014; and Eren, 2010) found out that student-teachers have tendencies toward constructivist views of teaching and learning. For instance, a study conducted by Eren

(2010) with a sample of 304 prospective teachers showed that the student-teachers had constructivist conception of teaching and learning.

One of the reasons for such inconsistencies is that beliefs in student-teachers are mainly a construct resulting from their previous experiences in K-12 schooling and quite possibly in university. As explained by Guilfoyle et al. (1995) as cited in Swennen et al., (2009), student-teachers bring with them mature beliefs about teaching and learning that tend to be more congruent with their past experiences than with the views we are asking them to consider. In other words, a student-teacher who has gone through traditional teaching practice at lower education levels tend to consider the teacher as source of knowledge and believe that his/her role is to convey information to his/her students. On the other hand, a student teacher whose lower grade level schooling is student-centered tend to view learning as meaning making and student's own responsibility and teaching as helping students construct knowledge by themselves.

Taking the above argument into account, accordingly, the finding of the current study is not surprising i.e. the student-teachers' inclination towards traditional view of teaching and learning is due to their past educational experience. They are the product of behaviorist-oriented education system from k-12. Ethiopian students at all levels are usually brought up in a traditional teaching and learning environment. These student-teachers have experienced academic success in learning environments that were teacher-centered and relied heavily on lecture, thus, it is obvious that the way they view teaching and learning, at least initially, is behaviorist. Student-teachers' conceptions of teaching and learning, as explained by Hewson and Hewson (1987), are reflective of their K-12 learning experiences. Moreover, the study revealed that there is no difference in conception of teaching and learning and teaching approach preference between the student-teachers in the two Universities. This indicates that the student-teachers are the products of similar prior educational experience.

The authors are uncertain if such beliefs would be modified (changed) when the student-teachers complete the year-long PGDT program. Previous researches in other countries reported that student-teachers have shown significant changes in their beliefs (from traditional to constructivist view of teaching and learning) at the end of the teacher education program given that the student-teachers are provided with a learning environment where critical analysis and structured reflection on formal course knowledge and everyday practical experience are common learning activities (Alger; 2009; Bay, Vural, Demir, & Bağceci, 2015; Chai et al., 2009; and Leavy et al., 2007).

Regarding their preferred teaching approach, the student-teachers favored traditional teaching approach over constructivist approach, and there was no statistically significant difference in terms of teaching approaches preference between student-teachers in the two Universities. On the other hand, significant correlations were found between the student-teachers' conceptions of teaching and learning and their teaching approach preferences i.e. positive and significant correlation between the traditional conceptions of teaching and learning and the traditional teaching approach. In this regard, the result of this study was also found to be in agreement with previous studies (e.g., Devlin, 2006; Feixas & Euler, 2013; Garrison & Neiman, 2003;

Gilakjani, 2012; Trigwell & Prosser, 1996; and Yilmaz & Cavas, 2008). Chai (2010) and Trigwell and Prosser (1996), for instance, reported that teachers with teacher-centered conception of teaching tend to report a preference towards traditional teaching practices.

Moreover, as teaching behavior is frequently shaped by prior educational experiences, it is unrealistic to expect these student-teachers to report a preference to traditional teaching approach. Their prior educational experiences were not constructivist-based experiences. To put it differently, the traditional didactic schooling experience which these pre-service secondary teachers have gone through shaped them to prefer what they are familiar with. Therefore, one can possibly argue that if students are exposed to a learning environment that encourage self-discovery, reflection, dialogue, etc in lower grade levels they are more likely to adopt the same teaching practice when they become teachers in the future.

CONCLUSION AND IMPLICATIONS

Despite the fiscal provisions, the success of educational reforms are partly determined by the belief system that the teachers hold about teaching and learning, thus, identifying student-teachers' entry beliefs about teaching and learning would have paramount importance as it informs the teacher-educator and policy designers about the specific area that the teacher education program should target on and the means through which the target could be achieved. On this regard, the result of this study indicated that the student-teachers have joined teacher education program with traditional beliefs of teaching and learning. Furthermore, they tend to prefer traditional teacher-centered teaching approach which is consistent with their conceptions of teaching and learning. This result seems to support the conclusion that teachers' beliefs about teaching shape their instructional decisions in the classroom. Therefore, the implications of this study would be threefold.

First, as these findings were obtained at the beginning of their teacher education, the teacher education program should target on influencing the deep-seated beliefs of these student-teachers which means that student teachers need to be exposed to a constructivist learning environment that challenge and deconstruct the existing beliefs. In other words, the pedagogical approaches should take the student-teachers' belief into account and aim at changing these beliefs as a pre-requisite for implementing the reforms in Ethiopia.

In doing so, the first and foremost remedy through which constructivism takes root, as underlined by several scholars in the field of teacher education (e.g., Andrew, 2007; Darling-Hammond, 2005; Hogg & Yates, 2013; Loughran, 1996, 2010; Richardson, 2010; Wang, 2002), is that the teacher-educator should model the kind of interactive teaching they are preaching and to create opportunities for student-teachers to experience it as learners. If student-teachers see constructivist teaching strategies modeled within their own classrooms, they will be more comfortable with constructivist-based teaching principles and more likely to use them in their future classrooms (Andrew, 2007; Loughran, 2006). It seemed to be not enough to teach, Martell (2014) and Loughran (1996) argue, student-teachers how to make a lesson active and interactive instead they require actual experience of such lessons. In other words, if student-teachers are to adopt constructivist teaching in the future, they need to

continually be given opportunities to view it in action. Not only that, such exposition to constructivist teaching need to be in ways that allow it to be observed and understood across a range of local teaching and learning contexts and in a number of observable forms.

Teacher-educators should provide student-teachers with opportunities to link theory and practice; develop skills and strategies; and cultivate habits of analysis and reflection. This could be done, for instance, through focused observation, and analysis of cases, micro teaching, and other laboratory experiences (Loughran, 1996). Student-teachers should also be asked to observe or recall different instructional experiences and actively reflect on their learning and critically think through the problems and issues related to these different instructional approaches. In this way, they are more likely to rethink traditional didactic approaches as they obtain first-hand knowledge of how constructivist instructional approaches are applied. Series of micro-lessons are means of exposing student-teachers to constructivist learning theories and environments and make them reflect upon their prior experiences as students (Lim & Chan, 2007).

Second, comparative studies of pre-service and in-service teacher education students may also be conducted to see the influence of, for instance, maturity and teaching experiences on beliefs about teaching and learning thereby the impacts of previous teacher education program could be explored. Third, how these pre-service teachers' beliefs may have changed in the course of their year-long PGDT (Post Graduate Diploma in Teaching) program and subsequently during their first few years of teaching would be an area of interest for the teacher educators and program designers. In addition, the questions of whether the current teacher education program is operating in a way that really contributes to change in the student-teachers' beliefs might be of interest for other researchers as well. Finally, longitudinal studies that trace how teachers' beliefs change as they enter into the profession can also offer valuable information for teacher professional development.

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