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Preservice teachers' approaches to learning and their teaching approach preferences: Secondary teacher education program in focus

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Abstract: This study was intended to explore preservice teachers' entry characteristics, that is, approaches to learning and their teaching approach preference when joining teacher education programs. Descriptive survey method was employed. A total of 293 (293) randomly selected secondary preservice teachers enrolled in two Universities for Post Graduate Diploma in Teaching (PGDT) program were participated in the study. The Revised-Two-Factor Study Questionnaire and Approaches to Teaching Inventory were used for data collection. The study revealed that the preservice teachers have joined teacher education program with behaviorist orientation, which is not in harmony with the reform in teacher education.

Subjects: Teacher Training; Teaching & Learning; Curriculum Studies

Keywords: learning approach; deep approach; surface approach; teacher education

1. Introduction

In the last four decades, constructivism has received considerable attention in education, teacher preparation, and policy formation (Ballantyne, 2003; Canella & Reiff, 1994; Ismat, 1998; MacKinnon & Scarff-Seatter, 1997; Noel, 1993; Richardson, 1997). It has been heralded as a more natural,

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PUBLIC INTEREST STATEMENT

This study revealed that student-teachers have joined the teacher education program with surface learning approach, which is inconsistent with the desired one. The pedagogical approach in the teacher education program shall focus on helping student-teachers transform their knowledge; construct their own understanding; linking it to previous ideas and their own network of knowledge, experience and thinking thereby develop deep approach to learning. We argue that student-teachers who have developed deep approaches to learning are more likely to recognize the potential of constructivist teaching strategies for meaningful learning, thus, will adopt it when they become teachers. The study emphasized that the only way for student-teachers to adopt constructivist teaching strategies in their future classroom practice is, therefore, to experience their own learning through the use of constructivist principles. Student-teachers who adopt a deep approach conceive teaching as facilitating students' understanding and see learning as something that students themselves do.

relevant, productive, and empowering framework for instructing teacher education students thereby they adopt constructivist teaching strategies in their future classrooms as teachers (Cannella & Reiff, 1994; Noel, 1993).

Many other researchers (e.g. Darling-Hammond, 2000; Gordon & Debus, 2002; Hall, Ramsay, & Raven, 2004; and Lucas, 2001) also found out that constructivist-oriented teacher education program has a positive impact on student teachers' perceptions of their own teaching competencies, leading to increased confidence and also improved teaching practice within schools. Moreover, Khalid and Azeem (2012) added that constructivist approach is the emerging trends in initial teacher education with an emphasis on creative and innovative process of knowledge acquisition.

Cognizant of these, Ethiopia has adopted constructivist-oriented teacher education program since 2003 (Jeylan, 2011; Ministry of Education (MOE, 2009a); Mulugeta, 2009; Nasir & Kedir, 2011; and Workeneh & Tassew, 2013). However, despite the reform efforts that advocate student-centered constructivist teaching, teachers still heavily rely on more traditional pedagogies at all levels. MOE (2009a) has reported that the teacher's teaching approach has not shown improvement albeit consecutive and overlapping efforts to address it. Moreover, studies conducted in Ethiopian higher education institution and schools have shown that the actual implementation of constructivist teaching principles is doubtful and not go beyond lip services (Biniyam, 2014; Birhanu, 2010; and Oli, 2006). In other words, the old and traditional teaching approach where the teacher talk and students listen still continued dominating the teaching learning process in Ethiopian education system.

This study was framed based on the argument that the current teacher-centered educational practices in Ethiopia across all level of the education ladder might partly be attributed to the teachers' approaches to learning. Supporting this argument, Grasha and Yangerber-Hicks (2000) and Kablan and Kaya (2014) stated that approaches to learning and teaching approaches are mutually dependent meaning a teacher adopt a certain teaching approach that is consistent with his/her approaches to learning. In other words, teachers' teaching approach preference is related to their approach to learning.

It is also well documented that teacher's teaching approach is consistent with their approach to learning (Dunn & Dunn, 1979; Grasha & Yangerber-Hicks, 2000; Kablan & Kaya, 2014; Stitt-Gohdes as cited in Gilakjani, 2012). According to these studies, teachers teach the way they learned. In their investigation of teachers' teaching style, Dunn and Dunn (1979) found that teachers believe that the way they learn is the "easy" or "right" way and they, therefore, direct their student, offspring, and spouses toward mastering knowledge in much the same manner. Teaching approach, thus, Dunn and Dunn continues, tends to correspond to how each person learned, which partially explain why some teachers prefer traditional teaching approach while some others prefer constructivist.

Likewise, Campbell et al. (2001) have postulated that student-teachers who have developed deep (constructivist) approaches to learning are more likely to recognize the potential of constructivist teaching strategies for meaningful learning than are student-teachers with traditional learning approach (Surface approach), who tend to focus on the transmissive aspects of teaching and reproductive aspects of learning.

Thus, in the Ethiopian context, one can argue that the preservice teachers' learning approaches that they have developed over the years as students might be affecting their teaching styles. The purpose of this study was, therefore, to explore student-teachers' approaches to learning and their teaching approach preference and to reveal whether there is relationship between these two variables. To this end the following research questions were raised:

- (1) What learning approach do student-teachers developed?
- (2) What teaching approaches do student-teachers prefer to adopt when they become teachers?

- (3) Is there significant relationship between student-teachers' approaches to learning and their teaching approach preference?

2. Conceptual framework

2.1. Approaches to learning

According to Gilakjani (2012), learning approaches are the manners in which individuals perceive and process information in learning situations. Abedin, Jaafar, Husain, and Abdullah (2013) also defined it as the way an individual interacts with new information obtained. Learning approach preference is one aspect of learning approach and refers to the choice of one learning situation or condition over another. It is the manner in which a learner perceives, interacts with, and responds to the learning environment Celce-Marcia as cited in Gilakjani (2012).

MacKeracher as cited in Gilakjani (2012) also defined learning approach as the characteristic cognitive, affective, social, and physiological behaviors that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment. Abedin et al. (2013) further explained that when new information is obtained, learners will interpret or interact with the information with their own style or approach. The ways they evaluate the information are different from one to another as each person has his or her own learning approach meaning students have their own style to receive and respond to new experiences.

Literatures concerning approaches to learning usually identified two categories: deep and surface approach (Chan, 2007; Entwistle & Peterson, 2004; Gibbs & Coffey, 2004; Lam & Kember, 2006; Marton & Saljo, 1976; and Richardson, 2010). A surface approach means that learners adopt learning strategies such as rote learning to memorize or reproduce facts and details in compliance with externally imposed task demands, while a deep approach refers to learners engaging in actively searching for understanding by reflecting on the author's meaning when reading literature, integrating knowledge with personal experience and relating facts to conclusions.

Students using "surface-level processing" focus on the substance of information and emphasize rote learning and memorization techniques (Biggs & Tang, 2007). Student who adopts surface approaches to learning intends to avoid failure, instead of grasping key concepts and understanding their relation to other information and how the information applies in other circumstances (Beaten, Dochy, & Struyven, 2013).

Strengthening this, Abedin et al. (2013) emphasized that they tend to focus on and memorize only specific details rather than to understand all parts of information. Their intention is only to complete the task or learning requirements. Basically, those students who love to adopt this kind of approach are afraid of failure, thus, they tend to rely heavily on word-for-word notes; jotted down from what is said in lectures. They memorize the notes without making any effort to link different parts of the information; and they try to reproduce these notes in essays, tests and examinations

In contrast, students using "deep-level processing" focus not only on substance but also the underlying meaning of the information. Biggs and Tang (2007) contends that deep learning is represented by a personal commitment to understand the material which is reflected in using various strategies such as reading widely, combining a variety of resources, discussion ideas with others, reflecting on how individual pieces of information relate to larger constructs or patterns, and applying knowledge in real world situations. Integrating and synthesizing information with prior learning in ways that become part of one's thinking and approaching new phenomena and efforts to see things from different perspectives is also characteristic of deep learning (Duarte, 2013).

Students who adopt deep approach to learning, according to Abedin et al. (2013), have more systematic organization of ideas and are able to recall and apply easily the ideas or knowledge

they have acquired into practice. Abedin et al. (2013) further explained that they read wisely – relating the ideas with another subject; examining logic and arguments carefully and critically; then, checking evidence and relating it to conclusion.

Vermunt and Vermetten (2004) also added that the ability of applying newly understood principles in a variety of different contexts and situations is regarded as one attribute of deep learning, while the ability of applying new knowledge to particular tasks and problems but without transferability is considered as a result of surface learning. The deep learning approach, according to Chan (2007), is driven by the belief that knowledge is acquired through inquiry by oneself, rather than handed down by the authority.

A deep approach is characterized by students directing their attention to the underlying meaning of the task, whereas for a surface approach the attention is directed to the text itself leading to a reproductive orientation (Kember & Kwan, 2000). Marton and Saljo (1976) argued that students who adopt a deep approach take an active role and see learning as something that they themselves do, whereas those who adopt a surface approach take a passive role and see learning as something that just happens to them. Generally speaking, a student applying surface level processing concentrates on the text itself whereas a student who processes learning at deep level aims at interpreting the meaning of the text. No one is by nature a surface or deep learner. These are approaches students adopt to suit particular circumstances (Skinner, 2005).

2.2. 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. Teaching approach is made up of a range of behaviors that a teacher comfortably used consistently over time, situation, and content (Elliott as cited in Ahmed, 2013).

A majority of researchers distinguish between a teacher-centered/traditional and a student-centered/constructivist approach to teaching (Kember & Kwan, 2000; Lindblom-Ylana, Trigwell, Nevgi, Ashwin, 2006; Samuelowicz & Bain, 2001; Trigwell & Prosser, 1996; and 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, this usually takes the form of lecture consisting of explanation and examples (Fazel, 1995; Institute of Curriculum and Development Review (ICDR, 1999) and Postareff, Lindblom-Yla, 2008). This approach gives the priority role and responsibility to the teacher. The teacher is considered as the center of classroom activity, and is thought to hold most of the knowledge necessary for the students to be successful (Glasgow, 1994). The information to be learned is given to the learners in a completed form instead of letting the learners to interact with.

In the traditional approach, the teacher's role is to pass on knowledge and students have a predominantly passive and receptive function in education whereas in the constructivist teaching approach teachers and students have their own responsibilities in the learning process. Teachers are guiders and facilitators in learning environments fostering active processes of knowledge construction of students (Vermunt & Verloop, 1999).

Similarly, Nations (2007) contends that in traditional teaching approach, teachers passed on their own knowledge while students sat, passively listened, and did not have opportunities to explore and expand their learning. In traditional learning environments today, the teacher continues to direct and lead the instruction following structured lesson plans. In traditional lessons, skills are taught sequentially and lower-level skills are “mastered” before students are allowed to participate in activities that involve evaluation, synthesis, or analysis (higher-level activities).

The learner-centered approach reflects and is rooted, according to Brown as cited in Ahmed (2013), in constructivist philosophy of teaching in which learners are learning by doing and experiencing rather than depending on the teachers' wisdom and expertise to transmit knowledge. Similarly, Ahmed (2013) defines learner-centered teaching approach as "approach of instruction that is responsive, collaborative, problem-centered, and democratic in which both students and the instructor decide how, what, and when learning occurs" On the other hand, teacher-centered teaching approach is considered as "approach of instruction that is formal, controlled, and auto-crat in which the instructor directs how, what, and when students learn."

On the contrary, constructivist teaching is based on the belief that learning occurs when the learner constructs their personal knowledge and understanding and that it has to be an active process on behalf of the learner (Entwistle, Skinner, Entwistle, & Orr, 2000; Pritchard & Woollard, 2010). The social constructivist believes that the learning takes place through language and the dialogue between two or more learners. All constructivists support a pedagogy that promotes teaching techniques which build upon knowledge and concepts which learners already know or understand (Pritchard & Woollard, 2010).

Constructivist teaching is associated with learning that involves critical thinking, motivation, learner independence, feedback, dialogue, language, explanation, Socratic-style questioning, learning through teaching, contextualization, experiments, and real-world problem solving (Pritchard & Woollard, 2010; Slavin, 2006). Plass (1998) also discussed that constructivist teaching seeks to provide an environmentally rich, problem-solving context that encourages the learner's investigation, invention, insight, and inference. This is interpreted in the most general sense as encouraging learners to use active techniques, such as experiments and real-world problem solving, to create more knowledge and then to reflect on and to talk about what they are doing, thinking and understanding.

Nations (2007) added that in constructivist teaching approaches, lessons are less formal and rigid; lessons are more individualized and skills are relevant to students' experience and prior knowledge; students are provided with opportunities to participate in higher- and basic-level skills during the activities; group work is encouraged; and alternative methods of testing and assessment are used.

In the constructivist classroom, students are involved in more than listening; less emphasis is placed on transmitting information; 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).

In a student-centered classroom, as noted by Slavin (2006), the teacher becomes the "guide on the side" instead of the "sage on the stage" helping students to discover their own meaning instead of lecturing and controlling all classroom activities. Strengthening this, White (2001) added that the teacher acts as a facilitator of the teaching learning process; provide direction and feedback; help learners to construct new meanings from the information they acquire; and provide them with multiple opportunities to discover knowledge and practice skills in an environment designed to appeal them.

2.3. The relationship between approach to learning and teaching approach preferences

It is well documented that teacher's teaching approach is consistent with their approach to learning. Previous studies have produced results in agreement with this argument. According to these studies, teachers teach the way they learned (Dunn & Dunn, 1979; Grasha & Yangarber-Hicks, 2000; Kablan & Kaya, 2014; and Stitt-Gohdes as cited in Gilakjani, 2012). In their investigation of teachers' teaching style, Dunn and Dunn (1979) found that teachers believe that the way

they learn is the “easy” or right” way and they, therefore, direct their student, offspring, and spouses toward mastering knowledge in much the same manner.

Teaching approach, thus, Dunn and Dunn continues, tends to correspond to how each person learned, which partially explain why some teachers are traditional instructors while some others are constructivist. Ramsdon (1983) and Redden, Simon, and Aulls (2007) also reported that students whose teachers’ teaching approach encourages memorization and recall are more likely to adopt a surface approach to learning. Likewise, Campbell et al. (2001) have postulated that students who have developed deep (constructivist) approaches to learning are more likely to recognize the potential of constructivist teaching strategies for meaningful learning than are students with traditional learning approach (Surface approach), who tend to focus on the transmissive aspects of teaching and reproductive aspects of learning. Kablan and Kaya (2014) also concluded that it is likely that preservice teacher’s’ learning approach that they developed over the years as students might be affecting their teaching approaches.

Therefore, fostering constructivist approaches to learning in students with traditional learning preferences is a need if today’s student teachers are expected to actually use constructivist principle in their classroom as a teacher in the future. In other words one can possibly argue that teacher educator could facilitate constructivist teaching in schools only by letting student engage actively in the teaching learning process and construct their own knowledge which will led them develop deep approaches to learning. Fostering student teachers’ deep learning approach is as important as developing their constructivist conceptions of teaching and ways of teaching (Cheng, Tang, & Cheng, 2015).

3. Methodology

This study was intended to explore student-teachers’ entry characteristics, that is, learning approach and teaching approach preference when they join teacher education program. Quantitative research design, more specifically descriptive survey method was employed. Secondary preservice teachers admitted to Post Graduate Diploma in Teaching (PGDT) program in two Universities in the 2016/2017 academic year were population of the study. Accordingly, of the total of 900 students-teachers (500 in Bahir Dar and 400 in Haramaya University) admitted to PGDT program, 195 (one hundred ninety-five) and 155 (one hundred fifty) student-teachers were taken from Bahir Dar and Haramaya University respectively using stratified and random sampling techniques. However, the data of Two hundred ninety-three (293) students who have filled the questionnaire correctly were analyzed. The Revised Two-factor Study Process Questionnaire (R-SPQ-2F) developed by Biggs, Kember, and Leung (2001) was adapted. This questionnaire was derived from the original version of the Study Process Questionnaire (SPQ) with both modified and new items, and which ended up with 20 items in the final version. The scaling of this instrument was also a Likert-type with (5 = always or almost always true of me to 1 = never or only rarely true of me). The scale was validated by confirmatory factor analysis (CFI = .99, SRMR = .02). The reported Cronbach alpha values for Deep Approach and Surface Approach were .73 and .64, respectively. This instrument was also considered as simple and a better scale for measuring deep and surface approaches to learning in terms of validity and reliability (Chan, 2007).

On the other hand, in order to measure the students teachers’ teaching approach preference, Approaches to Teaching Inventory (ATI) developed by Trigwell and Prosser (2004) was employed. The approaches to teaching inventory contains 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.

To check reliability of the instruments within the Ethiopian context, pilot test was conducted. The result indicated the instrument (ATI) as reliable with Cronbach reliability coefficient for the whole

instrument was .72, while subscale reliabilities were .74 for traditional and .71 for constructivist. Similarly, Revised Two-factor Study Process Questionnaire was found to be reliable with Cronbach reliability coefficient for the whole instrument was .71, whereas the subscales reliabilities were .75 for deep approach and .79 for the surface approach items. The data was analyzed using means, standard deviations, paired and independent sample *t*-test, and Pearson correlation coefficient. The actual data was collected from the participants during the first week their entry to the year-long Post Graduate Diploma in Teaching (PGDT) program.

4. Context of the study

Following the implementation of a new education and training policy that call for student-centered teaching approach at all levels, ministry of education has adopted a framework of strategies and launched the Teacher Education System Overhaul (TESO) in 2003. It was intended to bring about paradigm shift in the Ethiopian teacher education system. The paradigm shift, as mentioned in the TESO document, involves (a) teaching which makes change in ideas and directly in pupils life (b) taking the real world in to the classroom and taking teachers out into the real world (c) democratizing teacher education giving teachers, students, and citizens confidence to make decisions and take initiatives, to take control of their world. In other words, it calls for a shift from teacher-centered to a student-centered approach (Ahmed, 2013; Derebssa, 2006; Semela, 2014 and Temechegn, 2006).

The policy document (TESO) sets up implementation strategies, among which one is a change in the structure and content of the curriculum. A major change includes reduction in duration of pre-service secondary teacher education from four years to three. Content wise, TESO has suggested a curriculum for the three-year degree program that allocates 30–32 credit hours for majors, 18 hours for minor ones, 35 hours for professional courses, and 25 hours for practicum. New courses such as action research, civics and ethics, English communication skills, and Information and communication technology are included. Methodologically, TESO has emphasized active learning strategies such as problem solving, inquiry, and practical activities that invite students for more participation.

However, after six years of actual implementation, it came as no surprise for most observers, including teacher-educators and practitioners that the landmark reform, which was believed to represent a paradigm shift, was indeed suffering from a number of drawbacks. Researchers have reported that implementation of student-centered teaching approach continued as challenge in Ethiopian schools (Derebssa, 2006; UNICEF, 2010). According to these and other authors, the deep-rooted Ethiopian tradition of using the lecture method as well as a lack of institutional support and a lack of content knowledge on the part of many teachers have constrained teachers from applying this type of teaching. Teachers and teacher educators have continued to employ purely didactic methods rather than the new active learning approach as promoted in the education and training policy and TESO.

Interestingly though, the reasons forwarded to side-line TESO were almost the same old justifications advanced to legitimize the same. As usual, the weaknesses of TESO were expressed in terms of teachers' "poor" attributes—inadequate subject-matter knowledge, failure to apply/implement student-centered/active learning methods, lack of interest to follow up and support students, etc. (MoE, 2009a). Thus, MoE sought for another new remedy that would replace TESO and bring about the desired changes on teachers in general and students learning in particular.

Accordingly, MoE has initiated reforms in the structure and content of secondary teacher education program (MOE, 2009b). The major structural reform made on teacher education that might be new in its kind was a change in model of teacher education. The concurrent teacher education models in which both subject matter and professional courses (methodology and teaching practice) are offered concurrently is replaced by consecutive model sometimes called end-on model in which students are prepared academically first in their subject area in which they

would have had a degree and then enroll for professional training later. The professional qualification that students would get later is known as Post Graduate Diploma in Teaching (PGDT).

The consecutive model of teacher education is the one that involves the recipients to have had a bachelor degree (BA, BSC, etc.) in a subject discipline (e.g., Amharic, History, Chemistry, Physics, etc.) and then later enroll for a postgraduate diploma (PGDT) in teaching. That is, a teacher first obtains a qualification (usually a University degree), and then, follows up for a further period to gain additional qualification in teaching, to ensure certification as a qualified teacher. This model is now in place since 2011. The main objectives of introducing this model of teacher education, as stated in the framework, is to fill the content and pedagogical gaps that were persistent in earlier secondary education teaching programs as observed in teaching and classroom practices in secondary schools (MOE, 2009b).

5. Result

This study was intended to explore preservice secondary teachers' approaches to learning and their teaching approaches preference. The study also tried to examine whether there is relationship between approach to learning and teaching approach preferences. The data collected through questionnaires are analyzed and the results are presented under.

Regarding student-teachers' learning approach preferences, means, standard deviation, and paired sample *t*-test were calculated. Table 1 shows that mean score of the surface approach was the highest (mean = 4.12 and SD = .21) and the mean score of the deep approach was the lowest (mean = 1.56, and SD = .20). Moreover, the result of the paired sample *T*-test demonstrated that there a significant difference between surface and deep learning approaches ($t(293) = 135.995$, $df = 292$, $p < 0.05$). This implies that the student-teachers have joined the post graduate diploma in teaching (PGDT) program with surface approaches to learning.

The data collected further analyzed to know whether there are statistically significant differences between student-teachers in the two Universities in terms of learning approach they developed when they join the PGDT program. As shown in Table 2, the independent sample *T*-test [$t(293) = .913$; $df = 291$; $p > 0.05$] result verified that there was no statistically significant differences between the student-teachers in the two Universities in their approach to learning. This means, the way the student-teachers deal with learning material is similar.

The study had also tried to identify student-teachers' teaching approach preferences. Accordingly, the data collected on 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 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.

Moreover, the data collected further analyzed to know whether there are statistically significant differences between student-teachers in the two Universities in terms of teaching approach preference. As can be understood from Table 4, the student-teachers in both Universities seem

Table 1. Student-teachers' approach to learning

Learning approach	Mean	SD	df	T statistics	P value
Surface	4.12	.21	292	135.995	.000*
Deep	1.56	.20			

* $p < 0.05$

Table 2. Independent sample t-test result of student teachers' learning approach at institution level

Approaches	Institution	n	M	SD	df	t	Sig.
Surface	Haramaya	155	4.11	.19	291	.913	.362*
	Bahir Dar	138	4.14	.22			
Deep	Haramaya	155	1.53	.12	291	1.790	.075**
	Bahir Dar	138	1.56	.21			

* $p > 0.05$; ** $p > 0.05$

Table 3. Student-teachers' teaching approach preference

Approaches	Mean	SD	df	T statistics	P value
Traditional	3.55	.27	292	50.197	.000*
Constructivist	1.96	.29			

* $p < 0.05$

Table 4. Independent sample t-test result of student-teachers' teaching approach preference at institution level

Approaches	Institution	n	M	SD	df	t	Sig.
Traditional	Haramaya	155	3.55	.28	291	.123	.902*
	Bahir Dar	138	3.55	.27			
Constructivist	Haramaya	155	1.99	.31	291	1.460	.145**
	Bahir Dar	138	1.94	.26			

* $p > 0.05$; ** $p > 0.05$

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.

The relationship between the student-teachers' approaches to learning and teaching approach preference was computed using Pearson product-moment correlation coefficient. As can be seen from Table 5, there was a strong and positive correlation between surface approaches to learning and traditional teaching approach preference, $r = .88$, $n = 293$, $p < .01$, with high mean score of surface approach associated with higher mean scores of traditional teaching approach preference. This means student-teachers' with surface approach to learning would adopt a traditional teaching approach whereas those with deep approach would likely adopt teaching approach that allow students engage in the teaching learning process.

Table 5. The relationship between student-teachers' approaches to learning and their teaching approach preference

Approaches to learning	Teaching approach	
	Traditional	Constructivist
Surface approach	.88**	-.74**
Deep approach	-.70**	.84**

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

6. Discussion

It was found that pre-service teachers had significantly higher surface approach scores and lower deep approach scores. In other words, the student-teachers prefer memorizing the learning material than exerting much effort in understanding it. This result is consistent with what Gordon and Debus (2002) have reported. In a longitudinal quasi-experimental study, Gordon and Debus found out that preservice teachers begin their training with surface learning approaches. Echoing this, Kablan and Kaya (2014) contends that students typically enter the first year of university using predominantly surface approaches. In contrary, Chan (2007) and Chamorro-Premuzic, Furnham, and Lewis (2007) found out that student-teachers have joined teacher education program with deep learning approach.

The inconsistency in the findings could be attributed to the differences in the student-teacher's previous schooling experience. It is well documented that no one is by nature a surface or deep learner rather it is the context, particularly the learning environment in which they are learning that lead them to take either of the directions (Biggs & Tang, 2007; Tacconi & Hunde, 2013; Redden et al., 2007 and Skinner, 2005). In other words, students whose previous schooling experience is characterized by behaviorist-oriented pedagogy in which teachers focus on what they do and on transmitting knowledge, students are more likely to develop surface learning approach. On the other hand, students whose previous schooling experience was constructivist oriented in which teachers focus on facilitating students' learning tend to develop deep approaches to learning.

Accordingly, the reason that the student-teachers participated in this study found to be surface learners is their past educational experience. In Ethiopia, the teaching learning process is teacher-centered in which teachers are experts that transmit knowledge to the less knowledgeable (and presumably receptive) students. The teacher is in front of the classroom and all students, with folded hands, face the instructor. The education system (teaching approach and assessment procedures) has shaped them to focus on the substance of information and emphasize rote learning and memorization techniques, that is, taking word-for-word notes; jotting down from what is said by teachers. They have been familiar with memorizing notes without making any effort to understand and linking it to previous knowledge; and they try to reproduce these notes in tests and examinations.

Thus, it is possible to argue that their usual practices or habits of rote learning and memorization work due to assessment requirement in their past learning experience have influenced their preference to learning. To say it differently, the long-rooted teacher-centered practice these student-teachers have gone through (Birhanu, 2010; Derebssa, 2006; Gezu, 2012; Workeneh & Tassew, 2013 and MOE, 2009a) made them surface learners.

There are a good numbers of researches that supports aforesaid argument that students learning approach preferences shaped by the techniques their teachers use for teaching and the way they carry out the assessment (e.g., Biggs & Tang, 2007; Kember & Gow, 1989; Ramsdon, 1983; Skinner, 2005 and Trigwell, Prosser, & Ginns, 2005). Students who were asked factual questions quite uniformly adopted a surface approach (Marton & Saljo, 1976). Thomas and Bain as cited in Kember and Gow (1989) also found out that students whose teachers use multiple choices and short-answer tests frequently tend to develop surface approach. Moreover, the finding that the student teachers' approaches to learning of the two Universities found to be approximately the same indicate that traditional teacher-centered approaches are commonly used in classrooms in Ethiopia.

Regarding their preferred teaching approach, the student-teachers favored traditional teaching approach over constructivist approach, and no significant difference of teaching approaches preference was found between student teachers in the two Universities. This paper also extended this by providing evidence of the relationships between student-teachers' approaches to learning and their teaching approach preference, that is, the study has revealed that the student-teachers' teaching approach preference is consistent with their approaches to learning. As most of the

student-teachers found to be surface learners, they reported higher preference of traditional teaching approach. In other words, the result of the study confirmed what other researchers (e.g., Biggs et al., 2001; Campbell et al., 2001; Kablan & Kaya, 2014 and Trigwell, Prosser, & Waterhouse, 1997) previously reported that taking a surface approach to learning is strongly and positively correlated with an information transmission and teacher-focused approach to teaching. It is more likely that student-teachers' learning approach that they developed over the years as students affect their teaching approach preferences. They prefer to adopt teaching strategies that are more aligned with their own learning approach (Kablan & Kaya, 2014).

7. Conclusion and implications

Despite the growing concern for improving learning quality at all levels through constructivist classroom practice in Ethiopia, the student-teachers who are going to teach next year were found to be surface learners. In terms of its potential impact on a teaching approach one adopted, higher surface approach scores were found to be associated with higher traditional teaching approach scores. This finding gives grounds for the argument that the student-teachers came to teacher education programs with a learning approach that is not suited to adopt constructivist teaching approach in the future. In other words, the learning approach the student-teachers brought to the teacher education program and their teaching approach preference is not compatible with the reform in the teacher education program. Thus, it seems reasonable to conclude that the actual implementation of constructivist teaching approaches in secondary schools will remain doubtful.

Regardless of the limitation of this study, the findings of the study have demonstrated that the student-teachers have joined the teacher education program with surface approach to learning and this has found to be significantly related with their traditional teaching approach preference. Such findings have some important implications for teacher educators wishing to improve the quality of teacher education in general and student-teachers' future classroom practice in particular.

It is well documented that constructivist teacher education stimulate student-teachers develop deep learning approach (Gordon & Debus, 2002; Hall et al., 2004; Lucas, 2001; Ramsdon, 1983; Sharma, 1997 and Trigwell et al., 2005) which in turn result in adopting constructivist teaching principles in their classroom as a teacher in the future (Dum & Dum, 1979; Grasha & Yangarber-Hicks, 2000; Kablan & Kaya, 2014). Therefore, for student-teachers with surface learning approach and teacher-centered teaching approach preferences, teacher education program which is practically constructivist-oriented is a need. For this to happen, the role of the teacher-educator is irreplaceable. He/she is expected to create constructivist learning environment and let student teachers actually experience constructivist teaching and learning strategies.

Despite introducing student-teachers to different learning and teaching strategies, constructivist teacher-educators could alert and guide them to reflect on their own learning approaches in order to help them develop deep learning approach thereby adopt constructivist-oriented teaching strategies in the future. Researchers have also suggested that student-teachers tend to develop deep learning approach when teacher-educators engaged them actively in a supportive and creative learning environment (Gordon & Debus, 2002; Hall et al., 2004; Lucas, 2001; Ramsdon, 1983; Sharma, 1997 and Trigwell et al., 2005). All these emphasize that the learning environment is a critical factor influencing the approach students takes to learning.

Strengthening the above suggestions, Gordon and Debus (2002), in a longitudinal quazi-experimental study, confirmed that the modifications to teaching methods, task requirements and assessment processes applied to the treatment group encouraged changes in pre-service teachers' approaches to learning by firstly reducing their use of surface approaches and later increasing the use of deep approaches. Such research outcome tells us that in the effort of bringing about significant change on student teachers' approaches to learning, considerable value lies in the careful construction of learning environments in teacher education. In other words, the students-teachers participated in this study could finally develop deep learning approach if their learning

environment designed in accordance with constructivist perspectives. Thus, the teacher-educators shall revisit their pedagogical approach and work on the ways that could enhance the depth of learning approaches so that the student-teachers' future classroom practice would be improved. To bring about improvements in learning naturally, telling student-teachers what learning approach they should adopt will not be enough. As constructivist teaching strategies are more likely to help students develop deep approach, teacher-educators should make use of such strategies practically

Finally, as there are no prior studies on learning approach profiles of student-teachers in the Ethiopian context, this study helps to gain some insights into the way in which students-teachers approach their learning environment and experiences. Moreover, as the data was obtained from two universities, the generalizability of the results is limited. However, given that the findings were highly similar for both institutions, there are some grounds for suggesting that student-teachers in other universities would display similar profiles.

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