Teachers’ Perception and Implementation of Constructivist Learning: In the case of Ethiopian Institute of Textile and Fashion Technology, Ethiopia
Lantbeye Wudeneh
Bahir Dar University

ABSTRACT
A special attention has been given to education system in Ethiopia especially in the Ethiopian Institute of Textile and Fashion design, Bahir Dar University after Educational Sector Development Program (ESDP I, 2003) was developed and implemented. Initially, before ESDP I, the ways of teaching and learning were mainly based on behaviorist approaches. This behaviorist approach to learning and teaching is gradually changed to cognitive and constructivist approaches which are mostly used in advanced education systems. These approaches to learning and teaching are mainly focused on learners themselves. Therefore, student-centered and active learning became the slogans in education system in Ethiopia. This study investigates the teachers’ perception and implementation of constructivist learning and teaching methods in Ethiopia specifically in the Ethiopian Institute of Textile and Fashion Design Technology, Bahia Dar University. It is vast to investigate each and every aspect of constructivist learning. So, the researcher selected to investigate the mostly used methods (question-answer, individual and group-work) considering constructivism in the Ethiopian Institute of Textile and Fashion Design Technology (EITEX). The mentioned methods are investigated in the light of constructivism. The researcher investigated the methods considering four criteria of constructivist method given by Navistar et.al, (2009). The criteria are: assessing student’s prior knowledge, differentiating what is already known and what should be learnt, changing students pre-concept in the context of new knowledge and reflection on learning. To examine teachers’ use and implementation of constructivist learning and teaching methods, the questionnaire was employed. The findings showed that around half of the teachers have positively perceived and implemented the mentioned methods in line with constructivism, while remaining teachers still implement these methods as a traditional way of teaching. Moreover, teachers seem to be more constructivists in perception and applying individual work method as compared to group-work activities. In some cases, teachers who participated in pedagogical workshops answered questionnaire more in line with constructivism as compare to the teachers who did not participate in pedagogical workshops in the past.
1. INTRODUCTION

Education grips the process of the development and learning of the child on various dimensions, facilitated by the teacher, who is directed by a curriculum. Effective education is a process where the teacher, children and the schools engaged and took part actively (Behar, 2014). However, our present education system gave emphasis to preparing students for tests and don’t cultivate deep learning and thus, it is in the midst of a crisis of quality-starting from primary schools to universities. Here, the central view is that our students are not learning as much as they ideally ought to and what is more worrying is that rote learning and memorization seems to be the leading mode at all levels. This is because of the fact that the traditional teaching approach (lecture method) has been commonly implemented by teachers in Ethiopian schools (primary to University) and rote memorization on the part of the students and does not involve students in inventive thinking and involvement in the creative part of activities. Most of the time, throughout teaching learning process, instruction vestiges independent which is considered to be an orthodox activity. The future trends in education changed the present scenario and agreed to the constructivist approach, which is moral, and more focused on innovative activities and knowledge acquisition and therefore, the academic results of the students of constructivist classrooms are better than traditional classrooms. It was found that constructivist instructed students had higher scores than the students who were exposed to conventional method of teaching. The problem lies in the learning environment in a conventional classrooms, the classroom environment is teacher centered which makes learning process boring for less competent students. Student’s attention wanes frequently and they are not able to retain the information for long time period and are often caught daydreaming, talking and pestering other students. The individual differences existing between learners, their background knowledge and learning styles are often ignored in the conventional classrooms.

Present educational system provide a unique and standardized teaching material to all learners which tend to benefit to those whose learning style and background knowledge fits well with the teaching material. If the teaching style closely matches the students preferred style of acquiring knowledge, learning becomes easier and more natural, results improve and learning time is reduced. In few words, traditional teaching material and strategies generally tend to benefit some students more than others (Franzoni & Asser, 2009).

The improvement in learning outcomes is possible by shifting the focus of teaching learning process on concept development and deep understanding. Till now, most of the focus has been to ensure access to education. Therefore, a question arises on the philosophical underpinnings of the long dominant pretest-teach-post teach model of education. Despite completing all their tests, too many students simply are not learning (Brooks & Brooks, 1999). There arises a need to adopt a new pedagogy which encourages the learner to construct a sense of her own self, the development of her autonomy, alongside her progress within the group for interpersonal growth. Pedagogy is a vehicle of articulating learning goals and identifying the forms of activities that promote development toward those goals. Constructivist pedagogy is one such approach where activities are proposed to students that are meaningful for them and the learner reflects, searches, uses her capacity for taking initiatives and for being creative. Constructivist pedagogy in which activity supplements lecture, learners are provided opportunities to construct their own understanding on the basis of an interaction between what they already know.

The need for constructivist approach arises when behaviorism fall short of producing positive effects within the complex context of the classroom and left teachers feeling shortchanged and cheated by a system that placed the guilt for students' failure to learn in
their hands.

1.1 Background of the study

The government of Ethiopia especially Ministry of Education (MoE) has made serious efforts since ESDP-I, 2003 to reconstruct and develop the education system of Ethiopia. When the new education system was initiated ESDP I, the new curriculum was designed there were not enough of expert teachers all over Ethiopia. Teachers who entered newly to education system had not participated in trainings where they could become familiar with advanced and effective methods of teaching. Initially, teachers used only behaviorist approaches for learning achievement, generally based on traditional methods. In these methods, students were not allowed to actively participate in the learning process. This problem is still seen in the Institutions, Colleges and Universities. However, efforts are going on to familiarize teachers with active and constructive approach to learning in Ethiopia by designing and implementing a Higher Diploma program. As, constructivist way of learning require sufficient resources in order to achieve learning properly; that is why, new textbook and new laboratory buildings and equipment are very much enriched regarding constructivist methods for teachers and activities of students. Similarly, many of the Institutes including Entex nowadays have laboratory for practical work. These are the opportunities for teachers to use constructivist methods as much as possible.

MoE/ EiTEX has made serious efforts to train teachers in the field of didactics and pedagogy by designing higher diploma program in order to boost learning achievement of students. Similarly, curriculum is designed for the Institute based on constructivist approach and active learning. The curriculum focus has been on how students implement the knowledge and skills learned. Government of Ethiopia especially Moe the Institution of EiTEX and BDU sometimes carry out methodological trainings for teachers. Methods which are shown in these trainings are based on constructivist learning. For example, peer learning, group working, group discussion and so on. The purpose of these seminars is to make acquainted teachers with active and constructive learning. The result might be the understanding of actual methods of constructivism or only a mechanical application of learned activities.

In spite of above efforts, the mechanism of constructive learning might not be clear for many of the teachers and very little research is done in this area. According to Carlson and Masonry (2005), teachers are not good enough in pedagogical knowledge. They teach the way they have learnt in school or institution long time before. Students in this case are passive in the class and do not actively participate in learning activities. Schulman (1986) defined pedagogical knowledge as a knowledge by which content knowledge can be transferred. Moreover, lack of research is seen in the field of education especially for active and constructive learning. Carlson and Masonry (2005; 2007) and few other writers, for example, Handrail, (2013) conducted their research in the field of active and constructivist learning. Thus, very little research is done in order to investigate the situation of active and constructive learning in Ethiopia special reference to Ethiopian Institute of Textile and Fashion Technology, Bahia Dar University (BDU). So, the researcher felt the need to investigate and find out the teachers’ perceptions /views and Implementation about and use of constructivist approach to learning.

1.2 Statement of the Problem

Teachers who teach in the Ethiopian Institute of Textile and Fashion are not sufficiently trained in the field of pedagogy. They are only trained in and have subject knowledge. It is because; there is no special pedagogy in the Institute curriculum to be studied. However, recently the MoE/Bahr Dar University (BDU) has designed lots of workshops and seminars with the support of different governmental and non-governmental organizations like HDP, PGDT etc programs to train Ethiopian including Entex teachers in pedagogical skills. Some teachers have trained
or at least seen the printed materials about active and constructivist learning. Nevertheless, they may have some problems in application of constructivist way of learning because it is not easy to change one’s habit in a limited time. It needs more time to change teachers from teacher-centeredness to student-centeredness (constructivist way of learning). The Institute teachers used to teach in a teacher-centered manner for a long time, so it would be hard for them to use constructivist way of learning in a proper way. Some of them may misinterpret the constructivist and active way of learning. Furthermore, some of the teachers dominate the class and do not allow students to actively participate in learning process. Surface learning occurs when the methods of constructivist way of learning is not used by teachers in the class. The focus of constructivist way of learning is on the learners in order to avoid surface learning. Consequently, learning achievement of students will increase if teachers use the methods of constructivist way of learning (Boghossian, 2006). According to Økland (2012), many studies worldwide show that, by implementing constructive and active way of learning students learn more. He further writes that, “Increase in learning outcome among students may follow as a result of students being more actively engaged in the learning process” (p.121). However, this study is not conducted to find out the effectiveness and learning achievement of constructivist learning. So, the focus is about teachers’ perception and implementation of constructivist way of learning especially about the three mostly used methods (question-answer, individual and group working) in Garment engineering, Textile engineering and leaser technology courses of 2nd year and above.

1.3 Objective of the study
The main objective of this study is to explore Ethiopian Institute of Textile and Fashion design teachers’ perception and implementation or use of constructivist way of learning in the institute of Textile and Fashion design, Bahir Dar University. In order to explore the aim of the study following research questions has been put.

1.3 Research Questions
1. What is the perception of teachers about question-answer, group and individual work considering constructivist way of learning?
2. To what extent do teachers use question-answer, group and individual work according to constructivist way of learning?

2. LITERATURE REVIEW
2.1 Need of constructivism
Following the legacy of behaviorism, constructivism has been welcomed as a theory of knowing that more fully explains the complexity of the teaching-learning process (Jones & Araje, 2002). The present article concentrates on the implementation of an alternative pedagogy based on the principles of constructivism theory given by Piaget (1967), Vygotsky (1978) and other theoreticians including psychologists and sociologists. If we accept constructivist theory, then we have to give up platonic and all subsequent realistic views of epistemology. We have to recognize that there is no such thing as knowledge “out there”, independent of the knower but only knowledge we construct for ourselves as we learn is the true knowledge. If we believe that knowledge consists of learning about the real world “out there”, then the power of organizing and presenting the knowledge is passed on to the teacher who ultimately passes this on to the learner. In the process of disseminating knowledge to learners the teacher may use activities and opportunities to experiment but here the teacher is helping the learner to understand the world but don’t ask the learner to construct his/her own world.

The understanding of the difference between the world “out there” and the students own world helps a teacher to decide the type of pedagogy he will follow to create a constructivist classroom. When the teacher structures situations for his/her students then she is...
Restricting the learners to carry out their own mental actions. These two worlds, the world “out there” and “own world” puts the teacher in a dilemma of presenting the knowledge or to help students to construct their own knowledge. Teacher opting for the second option intensifies her problem because the curriculum designed by the experts, classrooms environment created and followed in a school, instructional design adopted by a teacher and learning habits of the students’ needs a major redesigning by the teacher. The theories of learning, strategies of teaching and learning and the pedagogies are the guiding principles in framing an instructional design. The instructional design following constructivist ideology avoids directing a pupil towards a solution to the problem rather it encourages self-conceptualization of the solution. There is a need to develop a learning design using constructivist-learning strategies, which follows the principles of social constructivism and also aims at developing social and emotional skills in students by using social constructivism in classrooms.

Constructivism is one of the modern learning theories and it claims that learners themselves construct knowledge. In constructivism, students explore learning environment in order to construct knowledge, they do not passively read or listen to the teacher (Schunk, 2012). So, active learning, where students are responsible for their learning and construct knowledge is effective learning in order to get knowledge and understanding the concepts (Powell & Kalina, 2009). Constructivist learning environment is defined by Uredi (2013) as “an environment where active participation of students to real-life experiences have been provided and problem-based situation have been created to improve conceptual change” (ibid, p.50). There are many methods and models which represent constructivist approach for learning. For example, discovery learning, inquiry-based teaching, peer-assisted learning, discussion and debates, reflective teaching, using feedback, and so on are the methods used in constructivist learning environment (Schunk, 2012). Based on constructivism, knowledge cannot be acquired as an external fact, but it is constructed internally by the help of pre-knowledge. Teachers in constructivist learning provide and facilitate learning environment. According to Baviskar (2009), the role of teacher is to motivate learner to learn. This motivation includes providing resources, posing appropriate problems, questioning at right time, and connecting these questions and resources with students’ prior knowledge. So, teachers take the responsibility of instruction for learning and students themselves try to learn using teacher’s instructions. For example, teacher asks question for which a direct answer is not available, teacher informs students that there is no grades for answer, students try to find out answer, and consequently knowledge is constructed.

2.2 Constructivism, one of the modern learning theories

One of the modern learning theories is constructivism, which is mainly based on Piaget and Vygotsky theories. It is a learning theory because it concentrates on the question “how do learners acquire knowledge?” (Gigbels & Loyens, 2009, P.500). Loyens et al. (2009) defined constructivism by four characteristics: knowledge construction, cooperative learning, metacognition and authentic learning task. Firstly, authentic learning task – students solve the problems which are relevant to their real-life situation. Secondly, cooperative learning – collaboration and interaction with others influence learner construct new knowledge. It is derived from the argument of Vygotsky; he argues that, knowledge is constructed through interaction with others in society. He further claims that ZPD (Zone of Proximal Development) is the important factor in human being that cause in an individual to construct new knowledge by some help of others. When knowledge is in the ZPD of an individual it is just above the understanding level of that individual and in order to construct knowledge there is need for a helper. Teacher or other fellow of
student performs the role of helper in this case (ibid). So, teacher’s central task is to structure learning environment and maximize the learning outcomes of students which is in the ZPD of students. Thirdly, meta cognition – new knowledge is acquired through self-regulating processes which includes goal setting, self-regulation and self-assessment, where students become responsible for their own learning. Finally, knowledge construction – learner himself constructs knowledge by discovering, where pre-knowledge plays an important role.

It means that, when a learner constructs new knowledge he/she should already have some idea about new knowledge to construct which help learner to learn cognitively. Likewise, it is written by (Schunk, 2012) that in constructivism knowledge is constructed inside an individual and it is not an external phenomenon to be achieved. Human mind does not copy the reality from outside; instead it constructs the reality; that is why, what is knowledge for one may not be knowledge for other (Boghossian, 2006). Wood (2007) has written the claim of Piaget that knowledge is presented in the form of schema (thinking) in mind and schema is constructed in mind based on pre-knowledge of an individual (Yilmaz, 2011). He further claims that, a child passes through certain stages and cognitive development occurs by equilibration (balancing knowledge for child) which is the result of assimilation (new knowledge comes to schema, but with conflict) and accommodation (new knowledge is associated and accepted to schema) (Powell & Kalina et.al, 2009; Schunk, 2012). There are two perspectives to constructivism: cognitive or individual constructivism and social constructivism (Olsen, 2000; Powell & Kalina et.al, 2009). It means that, knowledge is constructed either by individually working or in group working. Individual constructivism is based on Piaget theory of cognitive development and mainly focuses on how an individual construct knowledge by him/herself through working individually and cognitively. This is perceived and can be called as individual work method in the school environment. On the other hand, social constructivism is based on Vygotsky theory of social interaction of an individual with society where culture and language are the key elements of interaction. This is perceived and can be called as group-working method in the school environment. Both of the methods (individual and group work) are achieved and enhanced by another method of question-answer (ibid).

According to Piaget a child passes through four different stages of cognitive development where s/he will be ready for different level of understanding and constructing knowledge (Powell & Kalina et.al, 2009; Schunk, 2012). First is sensorimotor stage, which is in the age interval 0-2 years. In this stage child can only sense physical tools and environment which is seen able to him. Second one is the pre-operational stage which is in the age range (2-7) years. In this stage child develop his/her language skills, but still cannot grasp others’ ideas and thoughts. Third one is the concrete operational stage which is in the age range (7-11) years. In this stage children’s thinking is developed and they provide logical reasoning for their activities. Finally, is the formal operational stage which is in the age range (11- adulthood). In this stage high level and abstract thinking of student is developed and student use these abstract thinking in problem solving. So, child or student is passes through different cognitive stages and become ready to get knowledge accordingly. Teacher has to be aware of these stages and facilitate appropriate learning environment for students in order to achieve sufficient knowledge intellectually (ibid). Hence, individual or cognitive constructivism is the base for individual-work method.

Social constructivism is described by Vygotsky and he has claimed that, knowledge is constructed through the interaction with others i.e. teacher-student or student-student (Powell & Kalina et.al, 2009; Tenenbaum et.al, 2001). According to Vygotsky, knowledge is
constructed in ZPD by scaffolding. Scaffolding is the process of teacher’s or student’s helping with other student in order to construct new knowledge. This process is performed in such a way that, student is given a task to which he/she has some familiarity to perform with a support system from teacher. This support system will help student to complete the task. Cooperative learning which is performed among students is a suitable way of learning in social constructivism. Through cooperative learning knowledge is constructed and internalization take place when there is social interaction. In conclusion, social constructivism is the base for group-working method. Both of the above constructivist approaches to learning (individual constructivism and social constructivism) value for inquiry teaching method which leads to using question-answer in the class (Powell & Kalina et.al, 2009).

2.3 Constructivist learning environment: a classroom where constructivist methods are used

Constructivist learning environment is that where students actively participate in learning process, connect their real-life experiences with knowledge and through problem posing change their conceptual understanding (Uredi, 2013). Schunk (2012) has written the difference between constructivist and traditional classrooms in his book as: constructivist classroom is one in which the teacher interacts with students by seeking their point of view; assessment is related to the teaching; students often work in groups and interact with each other; and the key focus is on the student constructing knowledge. Conversely, traditional classroom is the one in which focus is on the basic skills; teachers find the information and correct answer to the question; assessment of student is separated from teaching and generally done by test; and student often work alone without two way interaction with teacher or other student (Schunk, 2012). Furthermore, constructivist learning environment can also be called as new learning environment or the learning environment that enhances meaningful learning. On the other hand, lecture can also be meaningful learning process which leads to constructing knowledge, but constructivist learning environment is the educational application of constructivism. It means that, it is an environment where instructions are designed in a way that students actively participate in a sense-making knowledge construction by applying the tools and criteria of constructivism (Gigbels & Loyens, 2009). So, considering the above explanation mathematics classes will be observed for constructivist learning.

2.4 Mostly used constructivist methods

Cooperative learning, discovery learning and inquiry teaching are among the methods used in constructivist learning environment (Schunk, 2012). Additionally, these are the methods many Ethiopian teachers use in their teaching practices when they teach the subjects. However, Baviskar et.al, (2009) has written that, a lesson can be constructivist when there is great opportunity for students to learn regardless of the methods used.

2.5 Group work method

Group work which is based on cooperative learning is a constructivist way of learning and it is connected to social constructivist perspective of constructivism (Powell & Kalina, 2009). According to Vygotsky social interaction and collaboration are the main factors for construction of knowledge (ibid). Schunk (2012) writes that, it is mostly used constructivist method and its purpose is to develop student ability to work collaboratively. He further writes some points which have to be considered in cooperative learning: it is used for the task which will be time consuming for one person. Task should have parts and everyone in the group has to complete a task and finally merge their results. The members of the group are better to be those who work well and develop & practice cooperative skills. Teacher should ensure that each group has reasonable result of success in their work. Group needs the guidance too - what to achieve and how to behave while working.
together. Finally, each member of the group should be accountable in group working (ibid). On the other hand, Schreiber and Valle (2013) has written that, constructivist group-work is the one in which members are assigned carefully where number of members will be 5-7 and should not switch among groups; members of the groups have to be as diverse as possible; grads of the members depends on the activities he/she performs in the group; members are tested individually and in group and; members are assigned a project to perform in group collectively. According to Schunk (2012), there are two methods mostly used in cooperative learning as a group-work: jigsaw and STAD (student-teams-achievement-divisions). Jigsaw method is used when the topic has many subparts. Firstly, each group takes one part, and then the group members are exchanged with other group members and describe their own parts in new group. Here everyone has the responsibility of explaining own part and understanding others’ parts. STAD is better when a topic has clear answers and results. However, members of the group work together while they are tested individually and the score of each individual will be added to the group. So, every individual is motivated to achieve scores for his/her group by responding correctly and wining the competition (ibid).

2.6 Individual work method

Discovery learning is generally performed individually because by discovery, knowledge is obtained for oneself; it is based on cognitive constructivism. It is also called as problem solving, experimental and constructivist learning (Schunk, 2012). In discovery learning students perform examples and solve problems in order to achieve a general role. So, discovery learning is a type of inductive reasoning and involves students in higher-level thinking which implies that, learners not only acquire factual information but also develop his/her analytical skill (ibid; Yilmaz, 2011). Discovery learning is not letting students do what they want to do. Instead, teacher arranges the activities and students investigate and explore the situation through problem solving. Additionally, Mayer (2004) has written that guided discovery learning has positive and effective learning result than pure discovery learning. He has examined students’ learning results for discovery of programming language, and discovery of conservation strategies where guided discovery had better result as compare to pure discovery.

2.7 Question-answer method

Inquiry teaching is based on Socratic teaching methods, where a teacher guides the process by asking general principles and applies them to a new situation (ibid; Baviskar et. al, 2009; Powell & Kalina, 2009). The process of asking gradually goes from known to “misleading question” and “question a prediction made without enough information” (Schunk, 2012, p.286). It is used for testing hypothesis, making prediction, differentiating necessary from sufficient conditions. Though it is designed for one-to-one interaction it is also used for small group interaction with teacher. Teacher in this case should have sufficient knowledge in order to answer what is students’ level of thinking. Similarly, student should have basic knowledge of what is going to be discussed in this process. Change (2009) has written that, question-answer which uses challenge, reveals and leads to new knowledge is powerful tool for teaching. Questions have a significant role in learning and teaching, but it mainly depends on teacher how he/she formulates the questions. Question-answer will be important for students’ learning when teacher use it by considering the following conditions. First, there should be a hint for student what to learn. Secondly, it should affect students who learnt and how much they learnt. Finally, consider wait time according to different situations (Mauigoa-Tekene, 2006). According to Black et.al, (2003) wait time in question-answer gives each student the opportunity to actively participate in learning process and answer for the posed question. Conversely, in traditional teaching question-answer are used for evaluating students’ level of education not for
2.8 Characteristics of constructivist method

Schunk (2012) has written that above methods are constructivist ways of teaching. However, Baviskar et.al, (2009), claims that, group work or other methods may or may not be constructivist methods. It depends on the way it is implemented. They further write that, a method will be designated as constructivist if it meets the following four criteria. “The first criterion is eliciting prior knowledge” (ibid, p.543). It means that, educator has to be informed the prior knowledge of the student. Otherwise, new knowledge will not incorporate to the construct of student. There are different ways by which teacher can determine or find out about students’ prior knowledge. For example, formal tests, asking informal questions, formal interviews, and concept-mapping where student’s skills and knowledge can be showed. “The second criterion is creating cognitive dissonance”. It means that, students should be informed about the difference between prior knowledge and new knowledge. New knowledge has to be challenged for the student and will have some relation to prior knowledge. “The third criterion is application of the knowledge with feedback”. It means that, learner has to alter his prior knowledge in the context of new knowledge. Otherwise, misinterpretation or rejection will occur. “The forth criterion is reflection on learning” (ibid, p.544). It means that, when students acquired new knowledge they would be able to express what they have learnt. This could be done through different techniques of assessment. Another criterion that is given by Schunk (2012) to constructivist method is students’ outcomes and involvement. Considering above explanations a real constructivist method can be differentiated from a simple activity that is performed by teachers in the classroom.

2.9 Teacher’s principles for constructivist learning environment

According to Powell and Kalina (2009), in constructivist learning environment teachers play the role of “facilitator and guide, and not of a director or dictator” (p.7). They have written further that teachers from any subject-area have to understand and promote psychological or strategic tools based on Piaget and Vygotsky theories in order to provide constructivist learning environment for students. A constructivist teacher uses effective tools and strategies like conversation, discussion and inquiry in order to involve students in communication and thinking. Teachers can develop individual learning methods like discovery learning and social interactive activities like collaborative learning by understanding communicating tools and strategies. Conversely, Fall (2010) has written that, there is no common agreement about constructivist principles. However, there are some principles that are accepted by many as constructivist principles.

Olsen (2000) and Fall (2010) have written some common principles which are applied by constructivist teachers. The first principle is to encourage students’ freedom and leadership. Before sharing information about a concept, one should take students’ views about the mentioned concept. It means that giving students the opportunity to drive lesson. Allow students to have dialogue with teacher and among students. Encourage students to elaborate their ideas and anticipate its result. Use wait time after asking question from students. Promote inquiry among students to exchange information before understanding the concept. Encourage students’ reflections and considering these reflections curriculum is designed. Search for students’ misconceptions & alternatives and prepare lesson accordingly.

However, Olsen has written some extra principles for constructivist teacher. According to him, a constructivist teacher uses the terms of cognitive science like predict, analyze and develop for students’ activities. He challenge student thinking by providing conflicting ideas not for demeaning students. Sometimes,
students are grouped based on their intellectual ability. Similarly, Phye (1997, cited in Olsen, 2000) showed some general principles of constructivist teacher as motivating students for learning, valuing students’ prior knowledge, posing problem situation for students and, the environment of learning is such that, students learn how to learn and not what to learn. As a result, considering the above explanation teachers’ views can be found whether the learning environment he/she prepares for student is constructivist or not.

3. METHOD AND DATA ANALYSIS

3.1 Methods

This study is based on quantitative research strategy where questionnaires were used as data collection tools. Bryman (2010) has written that, quantitative research is used when theory and concept are tested in a research. Additionally, Cohen et.al, (2010) advised that, quantitative approach to research deals with numbers and uses the tools like questionnaires and structured observations for collecting the data. So, this study is based on quantitative research strategy because it used questionnaire. Questionnaire is useful to obtain the factual information from people about an issue and better to be of different types (ibid). So, different types of questions were used in questionnaire in order to find out views of teachers about question-answer, individual and group working methods considering constructivism. The researcher has used dichotomous types of questions with yes and no answers. Additionally, multiple-choice questions where respondent could select one or more than one answer are used. Moreover, Likert scales were used in questions to find out teachers’ level of agreement with the given statements. In order to find out the actual practice of question-answer, individual and group working methods based on constructivism.

This study was done in the Ethiopian Institute of Textile and Fashion design (EiTEX), Bahir Dar University, Ethiopia in three programs teachers (Textile production, Leaser Technology and Fashion design) selected based on random sampling technique in each programs. As a rule of ethic in research, the researcher had informed the program heads of the institute and teachers by showing them a letter issued by the Institute scientific director. Similarly, the researcher informed them about the purpose of study by explaining them that it is research paper, but not for their evaluation. Teachers in the Institute either graduated from bachelors or above. However, teachers participated in pedagogical workshops for different durations. Mainly pedagogical workshops, higher diploma program are conducted through Bahir Dar University for the institute teachers. These workshops are designed for one year. Some teachers also attend short pedagogical training prepared by the Institute.

3.2 Data collection and analysis

Data collection for this study is done in Academic year of 2019 where all teachers are available for regular teaching activities in the Institute for one semester. A questionnaire was made considering two theoretical areas (characteristics of constructivism and criteria of constructivist methods). First, characteristics of constructivism, these are taken from Loyens et.al, (2009) which are mentioned above in the literature review (authentic learning task, cooperative learning, metacognition and knowledge construction). Second, criteria of constructivist methods are taken from Baviskare et.al, (2009). They are also mentioned in the literature review (eliciting prior knowledge, creating cognitive dissonance, application of knowledge with feedback and reflection on learning). Considering above characteristics, questions were prepared. Questionnaires were distributed to teachers, which are in the three programs. The data by questionnaires has been collected from 82 teachers. The researcher gave questionnaires to teachers personally in hand. Some teachers took the questionnaire with them and completed them on their own in their home which according to Cohen et.al, (2010), is good for respondents to
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avoid potential pressure and answer the questions confidently without any influence of researcher. Response rate for this study was 95%. Only 3 out of 85 questionnaires were not returned by teachers. After data collection the researcher inserted raw data to a program called SPSS version 20, which was used to analyze and perform mathematical operation on data. Answers of all the questions were labeled by a code (number), which were easy to be analyzed. Tables were made based on the answers respondents have given in both numbers and percentage. After preparing the tables, it was imported to MS-Word program.

3.3 Delimitation of the study
All teachers who teach 2nd year and above from the three programs In the Ethiopian Textile and Fashion Technology Bahir Dar university, Ethiopia (Textile engineering, Garment Engineering and Leaser Technology programs) were taken as sample. So, sample size can be generalized to population size 30 in quantitative research strategy. Thirdly, since the researcher selected the convenience sampling strategy for his research which is non-probability sampling strategy. So, the area the researcher selected for sampling include female and male teachers to include their views in the study. Fourthly, the researcher submitted questionnaire to more than one teacher in every program based on number of course teachers.

4. FINDINGS
This chapter presents major findings of the study. Firstly, short information of participants and their views about constructivist learning is presented considering four characteristics of constructivism. Secondly, teachers’ perceptions about individual and group work methods are presented based on constructivist method criteria. Also, their views are reflected about question-answer method. Thirdly, findings based on classroom observation are presented from which it can be understood how much teachers use and apply constructivist criteria for learning and above mentioned methods.

4.1 Demographic Characteristics of the Participants
Participants in this research were 85 teachers who taught Garment, Textile, Leaser Technology and other general courses in 2nd year and above. Around one third of them 17 were bachelor, while 62 participants had MSc degree in Textile engineering, Leaser Technology Fashion Technology and other general courses. The percentage of teachers participated in pedagogical workshops was 4,1,1,2,1,12, and 28 for the periods of 3 weeks,1month,2 months,3 months,4 months,5 months,6 months and 1 year, respectively, while 30.48 % teachers did not participate at any pedagogical workshop at all. To conclude, 10.97% of the teachers participated for less than one month, while 69.51% of them participated for more than or equal to two months. Majority (57.31.9%) of them had age less than or equal to 30 years, while 46.34 % of them were above 30. Percentages of teaching experience of the teachers were 10, 37, 22 and 12 for the year ranges 0-1, 2-5, 6-10 and 11-20 respectively, while 1 of them had more than 22 years teaching experience. 21.95% of them taught in the classes that have average students less than 30, while 78.04% taught in classes where the number of students is more than 30.

4.2 Teachers’ views on learning, considering constructivism
In the following section four characteristics or tools of constructivism (authentic learning task, metacognition, cooperative learning and knowledge construction) are presented.

4.2.1 Authentic learning task
Almost half (48.78%) of the teachers answered that task given to students individually should have close relationship with students’ real-life. While, the same percentage for group-work said that, the task should be from reference book (textbook) and its relationship with real-life is not so important (see Table 1 below). It indicates that, in individual work method almost half of the teachers connect the task to students’ real-life.

https://escipub.com/american-journal-of-educational-research-and-reviews/
While, for group work method, very few teachers relate the task to students’ real-life.

4.2.2 Metacognition and cooperative learning
Considering self-regulation of the task, almost half (49%) of all the teachers answered that, when students complete their work, they themselves have to regulate their work. After regulating their work, students can interact with fellow students to complete the task (see Table 2). So, nearly half of all the teachers perceive that the students themselves should have control on their learning and they can interact socially with others too. This way of students’ learning is partly related to metacognition.

Table 1. Relationship of task with student’s real-life

<table>
<thead>
<tr>
<th>Options</th>
<th>Individual work</th>
<th>Group-work</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>The task should have close relationship with real-life.</td>
<td>40</td>
<td>48.78</td>
</tr>
<tr>
<td>The task may or may not have relationship with real-life.</td>
<td>15</td>
<td>18.29</td>
</tr>
<tr>
<td>The task should be from the book and no matter if it has relationship with real-life or not.</td>
<td>27</td>
<td>32.92</td>
</tr>
<tr>
<td>Total</td>
<td>82</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 2. Regulation of student task

15. How should a student perform his individual task?

<table>
<thead>
<tr>
<th>Options</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>He should collaboratively work with fellow students and together complete the task.</td>
<td>24</td>
<td>29</td>
</tr>
<tr>
<td>He should individually complete his work without any interaction with others.</td>
<td>18</td>
<td>22</td>
</tr>
<tr>
<td>Student’s personal experience is important; he personally regulates the way he performs the task; still he may interact with fellow student to complete his individual task.</td>
<td>40</td>
<td>49</td>
</tr>
<tr>
<td>Total</td>
<td>82</td>
<td>100</td>
</tr>
</tbody>
</table>
4.2.3 Knowledge construction
Regarding individual work, 85.36% teachers agreed that the knowledge is constructed by performing individual work activities, while 9.74% and 4.87% of them disagreed and remained neutral, respectively, with the statement. In relation to group-work, 95.11% of teachers agreed that the students can construct new knowledge by performing group work activities, while 3.64% and 1.21% of them, respectively, disagreed and remained neutral with the statement (see Table 3 below). It indicates that, nearly all of the teachers believe that knowledge is constructed as a result of performing individual and group work activities.

Table 3. Teachers’ view about knowledge construction.

<table>
<thead>
<tr>
<th>Options</th>
<th>Individual work</th>
<th>Group-work</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>2</td>
<td>2.43</td>
</tr>
<tr>
<td>Disagree</td>
<td>6</td>
<td>7.31</td>
</tr>
<tr>
<td>I do not know</td>
<td>4</td>
<td>4.87</td>
</tr>
<tr>
<td>Agree</td>
<td>46</td>
<td>56.09</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>24</td>
<td>29.27</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>82</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

4.3 Teachers’ view about individual work and group work methods
In the following section four criteria of constructivist method, which are shown in literature review, are presented from teachers answers about individual and group working methods. Additionally, some other constructivist learning principles are presented.

4.3.1 Relationship between new and prior knowledge
Majority of the teachers (82.93%) seem to perceive according to their answers that, when students perform tasks individually, their prior-knowledge should have close relationship with new knowledge. While this percentage decreases to 69.52% in the case of group work; see table 4. It indicates that, most of the teachers consider this constructivist method criterion for their teaching. Majority of the teachers give importance to relationship between prior and new knowledge in the case of individual work method. However, for group work method, the number of teachers is less as compared to individual work method who considers this relationship.
Table 4. Relationship between new and prior knowledge in learning

<table>
<thead>
<tr>
<th>27. Should there be any relationship between new and prior knowledge?</th>
<th>Individual work</th>
<th>Group-work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Options</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>New knowledge should be totally new and not have any relationship with prior knowledge.</td>
<td>14</td>
<td>17.07</td>
</tr>
<tr>
<td>New knowledge should alter students’ prior knowledge.</td>
<td>68</td>
<td>82.93</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>82</td>
<td>100</td>
</tr>
</tbody>
</table>

4.3.2 Learning result, for both individual and group working methods

In all of the above tables the perceptions (based on answers for questionnaire) of all the teachers, regardless of the periods participated in pedagogical workshop were the same. However, there is some difference in the following section of the findings between the Teachers Participated in Pedagogical Workshops (TPPW) for more than or equal to 2 months and those who only participated for a month or shorter. Those teachers whose Participation in Pedagogical Workshops (PPW) is less than or equal to a month, 62% of them answered that, as a result of individual work method students will alter their prior knowledge in the context of new knowledge. While for group working this percentage decreased to 50%. However, those teachers whose PPW is more than or equal to 2 months, 67% of them said that student will alter their prior knowledge in the context of new knowledge while this percentage for group-work was 60; see table 5. In conclusion, in this criterion teacher who participated in pedagogical workshop for more than two months are more likely to consider above criterion based on their answers as compare to those who participated less than one month or not at all.

Table 5. Result of learning in both individual and group work methods

<table>
<thead>
<tr>
<th>25. What will be the result when a student performs task by individual and group-work?</th>
<th>Pedagogy Training&lt;1 month</th>
<th>Pedagogy Training&gt;=2 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Options</td>
<td>Individual work</td>
<td>Group work</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Student will learn new knowledge to which he was not familiar</td>
<td>3</td>
<td>38</td>
</tr>
<tr>
<td>Student will alter his prior knowledge in the context of new knowledge</td>
<td>5</td>
<td>62</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>8</td>
<td>100</td>
</tr>
</tbody>
</table>
4.3.3 Teachers’ approaches to apply individual and group working methods

More than half (52.43%) of the teachers perceived that, during group work activities, the group as a whole should achieve the result. Likewise, 47.56% of sample teachers indicated that every member should be accountable and contribute to group work activity for achieving the result. Moreover, 59.75% of the teachers showed that the students have to regulate the work when they perform their individual work (see Figure 1 below). Cooperative learning, where every member of the group is accountable for achieving group working result is very essential in constructivism. However, less than half of the teachers believe they implement group working in such a way that every student have to be accounted for achieving group working result. Similarly, around half of the teachers thought they implement individual work method in such a way that students regulate their work and take the responsibility of their learning.

Figure 1. How to implement individual and group work methods

4.4 Teachers’ perceptions about Question-answer method

Question-answer method is also checked for the criteria of constructivist method as it has been done for individual and group work methods.  

4.4.1 Topics and result for question-answer method

Majority (89%) of the teachers agreed that the topic which is used in question and answer session should be related to the real-life of students. In addition, 89% of the teachers also agreed that, when implementing question-answer method, students should be able to express what they have learnt in question and answer session. However, 33% of teachers disagreed with the statement that, question-answer sessions should be challenging and related to the prior knowledge of the students (see Table 6). This indicates that most of the teachers seem to perceive based on their answers that, what they ask in question-answer must be connected or have relevant connection with students’ real-life. Similarly, they thought...
that question-answer should be used in such a way that fosters students to express what they have learnt. Furthermore, most of the teachers (67%) believed that they ask questions that are challenging for students and related to their prior knowledge. These ways of teachers' thinking fits into the criteria of constructivist method for question-answer method.

Table 6. Percentage of topics and result in question-answer session

<table>
<thead>
<tr>
<th>Options</th>
<th>Level of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Agree</td>
</tr>
<tr>
<td></td>
<td>%</td>
</tr>
<tr>
<td>The topic which is used in question-answer session should be related to the real life situation of the student.</td>
<td>0</td>
</tr>
<tr>
<td>As a result of question-answer session students should be able to express what he/she has learnt from question-answer session.</td>
<td>1</td>
</tr>
<tr>
<td>Question-answer session should be challenging for students and be related to their prior knowledge.</td>
<td>3</td>
</tr>
</tbody>
</table>

4.4.2 Outcomes of question-answer for teachers

From 13 teachers who have participated in pedagogical training workshops for less than or equal to one month, 7(54%) indicated that the students recall what they have learnt in previous lessons during the implementation of question and answer method. On the other hand, 5 (38%) teachers, from those who participated for less than or equal to one month, reported that they have used question and answer method to assess their students’ prior knowledge about the topic.

In the same vein, from 45 teachers who participated in pedagogical training workshop for more than or equal to two months, 26(58%) teachers attested that they had used the question and answer method to assess students’ prior knowledge about the topic, while 14(31%) of them reported that this method was used to let students recall what they have learnt (see Table 7). As a result, most of the teachers who participated in pedagogical workshops (TPPW) for more than two months implemented question-answer to assess students’ prior knowledge about new topic, which is one of the criteria of constructivist method. Conversely, most of the TPPW for less than one month implemented question-answer method for recalling students’ knowledge.
Table 7. What is question-answer method used for?

<table>
<thead>
<tr>
<th>Options</th>
<th>Pedagogy month</th>
<th>Training&lt;=1 month</th>
<th>pedagogy&gt;=2 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students recall what they have learnt.</td>
<td>7</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>54</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>To assess my students’ pre-knowledge about a topic.</td>
<td>5</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td></td>
<td>38</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>To control the classroom.</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>45</td>
<td>100</td>
</tr>
</tbody>
</table>

5. DISCUSSION

5.1 Constructivist learning

As it is mentioned in literature review, learning will be constructivist when it has four characteristics: connection of learning task with real-life, cooperative learning, taking responsibility of learning by students themselves and knowledge construction by students. Firstly, findings from teachers’ answers illustrate that; almost half of the teachers relate the task with real-life when students are given individual work. However, nearly one fourth of them consider this tool of constructivism for students’ learning in group-work activity while one third of teachers actually implement this tool of constructivism in their teaching practices. It indicates that, some of the teachers think, what students learn in school is important for their real-life. They understand that, learning in the institute is what students have to implement in their life. So, some teachers relate what students learn in school with their daily life. It is done by either teachers compare or make a connection between learning task and facts used in real-life. This is what other studies indicate that, when students cannot learn the courses, it is because they do not relate the topics of courses to their real-life situation. Secondly, almost half of the teachers answered that, students have to regulate their learning by themselves and cooperation is also important for students to complete the task. This indicates that, half of the teachers give more responsibility to students in their learning. They perceive according to their answers to actively involve students in learning process. When students actively engage in their learning, they learn better and constructively (Økland, 2012). Similarly, it is one of the purposes of MoE to promote active learning in Ethiopia education system. MoE has explicitly stated in its strategic plan that, students should be actively involved in their learning in order to implement skills and knowledge they acquired in their life practically (Ministry of Education, 2010). Finally, nearly all of the teachers believe that knowledge is constructed in-group and individual working while they give more preference to group working as compared to individual work. By knowledge construction teachers might mean knowledge gain because when student could express what they learnt, teachers think students constructed knowledge. Teachers perceive based on their answers that,
students learn and construct knowledge when they teach. Learning is constructivist if there is more opportunity for students to learn (Baviskar et al., 2009).

In conclusion, considering four characteristics of constructivism, nearly half of all the teachers say they consider criteria and tools of constructivism for their teaching. However, not more than one fourth of all the teachers implement and consider characteristics of constructivist learning in their teaching practices. This implies that, though around half of the teachers believe to implement constructivist way of learning in their teaching, but they do not implement as much as they perceive. The reason behind the difference between their view and practices might be lack of enough resources in their schools. For example, teachers and students use only blackboard, chalk, book and notebook in their classes. Conversely, constructivist-learning environment need enough resources which are needed for practical work to enhance students’ learning (Baviskar et al., 2009).

5.2 Individual and group work methods

Individual and group working methods are seen considering four criteria of constructivist method. Firstly, there should be connection between prior and new knowledge. This is one of the criteria of constructivist method that, new knowledge has to be connected to students’ prior knowledge. Similarly, it is very important for student to relate new knowledge with prior-knowledge when she/he learns the courses. Teachers have to equally consider this constructivist criterion for both individual and group-work methods. However, findings from questionnaire as well as classroom observations indicate that, many of the teachers implement individual work method more constructivist in the field of making connection between prior and new knowledge as compare to group work method.

Secondly, conceptual changes i.e. alter prior-knowledge in the context of new knowledge. This is also an essential criterion for constructivist method. According to constructivism, knowledge cannot be constructed in the form of totally new phenomenon instead; it should have some relation with the prior knowledge of the learner. Only relation is not as effective if there is no alteration in prior knowledge. This criterion is important in all the subjects. Additionally, both of the teachers’ categories (TPPW<= 1 month and Pedagogy Training>= 2 months) value more for individual work method as compared to group work activity considering constructivist method criterion (altering prior knowledge in the context of new knowledge).

Thirdly, assessing students’ prior knowledge, most of the teachers (48% and 40% for often and always respectively) assess students’ prior knowledge in both individual and group working methods. This idea is supported by Black et al., (2003) who write that formative assessment has to be done in teaching. Formative assessment is assessment for learning i.e. assessment done, for example, to find out how much students know about the topic, which is going to be taught (ibid).

Findings from questionnaires show that, before teachers start new lesson or giving new topic to students they firstly understand students’ prior knowledge about new topic. However, only 35% of the teachers implemented the above criterion in their teaching practices according to my observations.

Findings indicate that, most of the teachers think by implementing group working method students will be more able to express what they learn as compared to applying individual work method. The result of findings which indicate that students learn better in the group activities as compare to individual working is supported by another study conducted by Kirschner et al., in 2009. They argue based on cognitive load theory, which says, working memory of an individual can process four plus minus one instructions of a task at a time where the instructions of the task are interrelated to each other. So, complex task in-group work is learnt better because the instructions of the task are distributed among many individuals’ working memories to work on, and task is learnt by group
members easily (ibid). This is what the teachers in the researcher’s study may perceive and believe. Teachers in the researcher’s study might not have the knowledge of cognitive load theory, but their perception is same as it is considered based on cognitive load theory. However, they do not consider the type of task whether to be simple or complex for group work activities. They prefer the group working activities as compare to individual work.

In conclusion, considering four criteria of constructivist methods, teachers tend to perceive individual work constructivist than group work to students in the fields of connecting students’ prior knowledge with their new knowledge, and think that, “prior knowledge will be altered in the context of new knowledge”. Conversely, teachers do not concentrate more on above two criteria for group work.

Lastly, majority of the teachers are constructivist for fourth criterion i.e. assessing students’ prior knowledge for both individual and group working methods but their teaching practices are not in line with how they think.

To reflect, there is a contradiction between teachers’ views and theory of constructivism. According to teachers’ views they consider most of the constructivist method’s criteria for individual work method, but learning occurs better in-group work method. In Ethiopian context, especially in the Ethiopian Institute of Textile and Fashion Technology (EiTEX) context, this conflict might be because of not enough time and resources with students to perform task individually as homework. Similarly, constructivist individual work activity needs enough resources like work shop materials like pattern paper sewing threads and library like for leaser technology programs or any other source of information (Baviskar et.al, 2009). Conversely, though teachers do not consider and implement criteria of constructivist method in-group work as compare to individual work method still students can learn better by group work method. In this case, the reason might be better interaction and sharing views among students for an issue. Also, in this case there is not matter of time and many resources as compare to individual work activity. In-group work activity students perform their task through interaction among each other immediately during lesson session. They exchange their thoughts and experiences with each other. Consequently, students are able to express what they learn in-group work activity as compare to individual work activity.

5.3 Question-answer

Similar to individual and group working methods question-answer can also be used by teachers as a constructivist method for learning. Opposite to individual and group working methods, most of the teachers use question-answer as a constructivist method. Majority of the teachers agreed that, what we ask in question-answer is related to the students’ real life, which is one of the criteria of constructivism, but they do not wait for students’ answer. What teachers say and what they apply in real teaching are different. Teachers claim that they ask in question-answer what is challenging and related to prior knowledge of the students.

Considering criteria of constructivist method, majority of the teachers do agree that, in the result of question-answer session students should be able to express what they have learnt from question-answer. Most of the teachers implement question-answer method in their teaching in order to determine students’ misconceptions about an issue. This is in the form of a debate or explanation. Additionally, nearly half of the teachers whose PPW is more than two months use question-answer as a tool for assessing students’ prior knowledge. However, only 38 % of teachers whose PPW is less than or equal to one month implement question-answer to assess students’ prior knowledge. So based on teachers’ answers, teachers who attended pedagogical workshops for more than two months are seem to be more constructivist in question-answer method as compared to those who attended pedagogical workshops for less than one month. When
teachers were asked about why they implement question-answer method in their teaching, the response was different according to their participation in pedagogical workshops. Teachers who participated in pedagogical workshops longer perceived to use question-answer for assessing students’ prior-knowledge, which is one of the criteria of constructivist method. However, those teachers who did not participated on pedagogical workshop or participated for a short time perceived to use question-answer for recalling students’ prior knowledge, which is not in line with constructivism. So, pedagogical workshops are also useful and help teachers understand and apply teaching methods more constructivist as compare to the teachers they did not participated in pedagogical workshops.

Though, some of the constructivist method criteria are considered and implemented by teachers still it cannot be said that teachers use these methods as constructivist method. According to Baviscar (2009), a method will be constructivist when all four criteria of constructivist method simultaneously applied and seen in the method. So, considering all four criteria of constructivist method, findings show that there is very little chance for teachers to simultaneously consider all constructivist method criteria in any of the three mentioned methods because, a teacher might consider one or two criteria and may not consider three or two others.

Overall, findings show that there is a big difference between what teachers perceive about constructivist learning and their teaching practices. It implies that, learning environment in the EiTEX is still traditional. According to Schunk, (2012), traditional classroom is the one in which focus is on basic skills, teacher find correct answer for question and, assessment is separated from teaching and generally done by test. Findings from classroom observation indicate that, in EiTEX classroom teachers take the responsibility of transferring knowledge by focusing on facts. Similarly, teacher is a good teacher who can solve any type of problems in the classroom. In the researcher’s point of view, to have constructivist learning in the EiTEX, firstly teachers have to be theoretically aware of constructivist way of learning. Secondly, learning environment has to be changed from traditional to constructivist. Nowadays, nearly all teachers can have access to Teacher Training College (TTC) where they can get theoretical information about constructivist learning. Likewise, the most important for constructivist learning is that teachers implement constructivist way of learning in their teaching practices. It can be done when students take the responsibility of their learning and they are given more opportunity to actively involve in their learning process through interaction with other student in the class.

6. CONCLUSION

This study investigated the teachers’ perception and implementation of question-answer, individual and group working methods considering constructivism when teaching in the three first degree programs of Ethiopian Institute of Textile and Fashion Technology (EiTEX). The teachers varied in terms of participation in pedagogical workshops. There were still some differences in their views about mentioned constructivist learning methods, although most of them had similar perception and implementation of these methods. The average number of the teachers perceived the question-answer, individual and group working methods in line with constructivism, though their implementation of these methods was not as much according to constructivism as they think of. However, teachers implement most of the constructivist criteria for individual work method as compared to group work. Clearly put, more than half percent of the teachers had a good trend in connecting the topic to the students’ real-life situations in individual work activities, while only 30 percent of the teachers had attempted to connect the topic to students’ real life situation in group work activities. The study also showed that the teachers mostly used the
constructivist learning method criteria to select learning activities while teaching through individual work methods, although they had some limitations to do so while selecting group work activities. Accordingly, 85 percent of the teachers had a good trend of connecting new knowledge of the students with their prior knowledge when they engage in individual work learning activities, although 67 percent of them had such a trend when the students engage in group works.

In some areas of learning, teachers who had taken pedagogical training for more than 2 months seem to be more constructivists in their views and implementing the mentioned methods as compared to those who took pedagogical training for less than one month. In this regard, around 65 percent of teachers who had more than 2 months of pedagogical training claimed that the students should alter their prior knowledge in the context of new knowledge, while around 55 percent of teachers who had taken pedagogical training for less than one month agreed with above idea. Based on this finding, it seems possible to infer that the teachers who participated longer in pedagogical training workshops have better perception of question-answer, individual and group work methods in conformity with assumptions of constructivism. To conclude, the teaching and learning in EiTEX was neither fully based on the principles and assumptions of constructivism nor three mentioned methods are completely perceived and implemented as constructivist methods considering constructivist method criteria. Teachers’ views are varied for different aspects of constructivism. Teachers mostly consider constructivist method’s criteria for individual work method as compare to group-work method. For further studies the researcher suggests to investigate the learning outcomes and effectiveness of question-answer, individual and group work methods vis-à-vis constructivist criteria.

REFERENCES


