LEARNING TOGETHER:
Collaborative action research to improve practice at the Asmara Community College of Education

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Content

Background

The Asmara Community College Education in the only teachers' education college producing primary school teachers in the country. Teacher Education in Eritrea began during the time of the British Military Administration in 1943. In the last seven decades, thousands of teachers were trained in the college and played an active role spreading education far and wide.

The teaching profession enjoyed a high social status till the 1970's. However, with the intensification of the independence struggle due to the repressive and brutal retaliation by the Ethiopian army, things went from bad to worse as far as education and especially teaching as a profession was concerned. Teachers began to work against all odds. Education suffered a lot and teaching as a profession was dealt a great blow. At one point the teachers' college was closed and became a military hospital.

In 1991 Eritrea was liberated. One of the first attempts of the Eritrean government was to revive the growth of education. To this end of the college began to function at first by offering short-term courses. This was made because the need for teachers in the country was acute. From 1994 the college started regular one year programs and began to produce as many teachers as possible at a certificate level. Up to 2012 more than 11,000 teachers were trained.

Our school system consists of two years of kindergarten, five years of primary, three years of junior secondary and four years of secondary education. At the elementary level the medium of instruction is the mother tongue. English becomes the medium of instruction from grade six onwards. All students leave for Sawa at grade twelve for their academic and military training. This gives them a good chance to know each other and learn from each others' experiences.

In 2012, after making the necessary preparation, the college was upgraded to a diploma level. It was recognized by the National Commission for Higher Education. A two-year program was started and five batches have already graduated. In 2015 the college wanted to attract more qualified candidates. A new recruitment criteria was designed where students from the six administrative regions and from all ethnic groups were given the chance to participate. The gender issue has been taken seriously. We are recruiting students after they finish grade ten. In so doing the contact hours have been increased. The attempt was made to attract better students with good marks. Examinations and interviews are part of the entry requirements. We have started this program in the 2015-2016 academic year; the prospects are high and encouraging signs have been seen. It should be remembered that students get their education free of change, including food and lodging.

In 2016-2017 academic year the college accepted a total of 1150 students, the majority of these were grades 11 and 12. There are about 250 student in the diploma section in three different departments: social science, natural science and educational administration. Indeed, tireless efforts are being conducted to manage the training programs. The college functions the entire year because summer school classes are offered for existing teachers. The summer-in-service program takes place during the months of July and August and thousands have been upgraded so far. We believe that the college will be able to accommodate more people with a little more expansion and renovations. The futurity of the college is indeed bright.

Introduction

Critical self-study

Focused discussions about the feasibility of our *institutional self-study* started early in October 2016. The intention was to engage most staff in a strategy of *communal, practice-based,* and *evidence-constructed* learning and teaching duties. Hence, the collaborative action research project (CARP) had three-fold objectives: Construct cooperative professional behaviors, focus on college-specific practices and performances, cultivate systematic inquiries for maturing our educational duties.

Joint construct, common concerns

Successive meetings and workshops involving all staff greatly facilitated in discussing and filtering out critical challenges that evolved into highly relevant research questions from the contextual experiences of the college. They helped in laying out the foundations for categorizing the CARP into six cross-departmental and thirteen departmental themes. The cross-departmental themes were conducted by inter-departmental collaboration while most of the departmental themes were conducted by department staff. The project's undivided character was the involvement of administrative and general service staff. The role of the coordinating committee was instrumental in the initial stages of the project for making sure that all the departments were represented in all the study teams.

Multi-dimensional intention

CARP was a multi-dimensional intention of staff development initiative. It was meant to profoundly help us understand our context and our role in facilitating the active engagement of our learners. We have come to understand that most of us are far below accomplishing matured professional duties. CARP has helped us to further explore some complex and highly interwoven issues of our college responsibilities related to developing our learners, teachers, and educators' professional diversities and characteristics. These will include the development of institutional purpose, effectiveness of programs, and their respective organizational traits along with the development of college wide policies and strategies.

Contributions

Sixteen, 84 percent, studies were accepted for printing. A minimum of two and a maximum of seven staff participated in the process of each study. A total of 61 staff started and 52 (85%) were in the accepted studies for printing. The females in the accepted studies were only 10%, also indicating the presence of few female educators in our college. A female volunteer among our Finn Church Aid (FCA) colleagues was involved in one of the teams. Some of our staff did not observe the CARP as an essential strategy for improving their professional experience and somehow distanced themselves from the project.

Gaps and interventions

Inattention of most staff towards the critical importance of *collaborative commitment* was lacking due to the reliance of most staff to work in seclusion. Attitudes to *value practice* as a source for improving intentions and creating professional knowledge was also minimal. Furthermore, reflective habits and *systematic inquiry* was not regarded and practiced by almost all staff as an inherent duty of being effective educators. Hence, most staff had compound limitations to go through the process and hence the need for continuous support was essential. A team for closely serving as *critical colleague* (as opposed to the traditional advisor-editor agency) from among the senior staff was all the year ready to serve the needs of the study teams and members from Monday to Friday, in mornings and afternoons. It will thus take some time for our staff to enter into a more effective *collaborative action research*!

Pedagogy to relate and engage

Through CARP, we were asking ourselves to critically look at and systematically reflect upon our inadequacies in becoming a learning college. Most of all, we have envisaged to avoid pointing our fingers at our leaners for failing to become successful achievers because we are part and parcel of their failure. The process has helped to seriously note that trying to blame others about the causes of our inadequacies won't really help us improve our educational practices. We have learned that the role of formal and informal circle discussions and dialogues should be typical scenes in our college. We have realized that our main shortfall is in our pedagogy, a pedagogy to relate and pedagogy to engage. That was why most of the studies were about *our pedagogy*! The principles of critical colleagues should greatly contribute to the qualities of how we facilitate, guide, lead, and research the engagement of our learners by closely modeling our educational intentions.

Further queries

The basic questions we were still asking ourselves to go further in embarking into ensuing initiatives to continue to engage in genuine collaborative action research are thus:

- How far and how many of us are willing to work in a proactive collaborative endeavors?
- How far have we observed that practice is the source of our professional attitudes, skills, and knowledge and hence the cradle of our creativity?
- What should be the role of the teams to encourage and heighten individual participation in team efforts?
- How many of us are ready to enter into well-organized professional readings both individually and in teams?
- How many of us have been interested to closely develop their skills in collaborative action research?
- How many of us clearly grasped the need of essential writing and computer skills for research and tried to go beyond institutional dependency to develop our skills in working in a paperless environment?

Results ensuing our queries

If we are able to answer these and other related questions with consistent integrity, the commitments we will enter to conduct collaborative inquiry into our professional practice will inevitably be more authentic to enrich our learning and teaching process. It will also take

less resources in general and less time in particular. We believe collaborative commitment with integrity is the sources of educational distinction.

Appreciation
We extend our unrestricted appreciation for the overpowering role of our learners and our staff who played indispensable roles despite incongruous events and capabilities to finish at least 85 percent of our intended feats. It is also appropriate to extend our profound gratitude to our Director, Alem Ghebrecal, who was courageous to allow us to critically look at our college practices. The relevance of the study themes is plenty enough to tell his courage to be critically explored. We also heartily thank the FCA and our Finnish colleagues who took the initiative to support us during the CARP process from the beginning of the project. It is only together that we can make our college an institution where we can construct what is important for our learners.

Critical colleagues:
Woldeghebriel Tesfay, Berhane Demoz
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Learners' interest to the teaching profession at ACCE

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Abstract
The attitudes that learners bring with them to Asmara Community College of Education (ACCE) constitute an important foundation for learning to become teachers. The purpose of this study is to investigate the interest of grade 11 (G11) and 12 (G12) learners at the ACCE towards the teaching profession. The study uses both empirical data and literature review to explore the perception of learners towards the teaching profession. Data were collected through open-ended interviews and questionnaires from purposely selected sample of learners and their educators. The study reveals that learners at the ACCE have low desire to become teachers although they joined the college to become teachers upon their own choice. The findings are expected to prompt educators to closely observe their own practices to exemplify and perform approaches that promote the interest of learners towards the teaching profession.

Key words: Learners interest, teaching profession, educators, ACCE

1. Background

The provision of quality education significantly influences the quality of human resources a country may have and quality education is greatly related to the quality of teachers at all levels of the school system. Recently the ACCE has introduced a program for preparing teachers for primary schools that are selected from secondary school learners who completed Grade 10 from all over the country. The program runs for two years. One of the selection criteria includes the learners own interest to teach in elementary schools. They also sit for English and Math entrance tests and are interviewed for their interest towards teaching.

Studying in the college for two years, the learners receive the necessary academic education and basic professional preparation. While each learner enters the college with a different background, ability and interest, they are all expected to become teachers upon their graduation. During the study, there were two sets of learners, G12 learners who stayed in college for more than three semesters and G11 learners who stayed in the college more than one semester. During the semesters, the educators have been expressing their concern on whether most of the learners have the necessary interest to become teachers. We were thus drawn to study whether these observations were valid and embarked on finding answers to the following questions:

- How does the learners' interest towards the teaching profession look like?
- What is the ACCE doing to enhance the learners' interest towards the teaching profession?
- What should be done to further enhance learners' interest towards the profession?

2. Research approaches and methods

To explore the actual interest of the learners towards the teaching profession, a qualitative interpretive research approach was used. A purposive sampling technique was used to

select the sections for deeply understanding the research questions. According to Fraenkel and Wallen (1993: 383), "practical qualitative researchers use this technique, since they want to ensure that they obtain a sample that possesses certain characteristics relevant to the study." The main goal of purposive sampling was to select cases that are likely to give rich information for the study. Two sections from G12 and two sections from G11, one form natural and another from social science stream respectively were selected from among 6 and 7 sections respectively. Ten learners from each section (five males and five females), ethnic groups and regions were selected to share their interest towards the teaching profession.

Interviews were used for collecting data to enable us to listen to what the views of the learners were. It was meant to enable participants to discuss aspects of their identity and pedagogy in an open and supportive environment. Interviews are the most common ways of collecting data in qualitative research as they are a "very good ways of accessing people's perceptions, meanings, definitions of situations, and construction of reality" (Punch, 2009: 144). Although there are limitations in the extent to which a single interview can explore such a personal notion as identity, having a professional conversation with participants was of great value. These types of conversations between learners and educators and among colleagues facilitate the exploration of diverse ideas.

We also used focus group interview with 40 learners and 20 educators. The aim of the focus group interview was to complement participants' responses. Each interview was digitally recorded and adequate notes of key information were also taken during the interviews. Interviews that contained particularly rich data were fully transcribed so that accurate quotes could be extracted. For the purposes of reliability, the draft of findings was shared with all participants who provided corrections or clarifications as required. The second instrument used was a questionnaire, which consisted of close-ended questions. Closed questions were included because they are easy to answer and analyze. Forty learners completed the questionnaires.

The data were subjected to content analysis techniques (Miles and Huberman, 1994 in Gökmenoglu, 2013: 42). Each interview was transcribed from the videos and the transcribed data were organized and simplified by labeling the data with descriptive codes. The patterns arising from the codes constituted the wider themes. To ensure the trustworthiness of the study the researchers pilot tested the instruments, organized peer review and debriefing sessions.

3. Findings and discussion

Interest refers to an individual's relatively enduring psychological choice to participate in particular situation (Hidi & Harackiewicz, 2000; Hidi & Renninger, 2006). Individual interest develops slowly and tends to be long-lasting and is considered to be relatively stable. It develops with an individual's experience and attitudes (Hidi & Anderson, 1992; Krapp et al., 1992). Therefore, individual interest plays a prominent role in a learner's preference to engage in an activity through time and in predicting future motivation (Xiang, Chen & Bruene, 2005: 185).

A. Learners' interest towards the teaching profession

Learners' views of the teaching profession are necessarily influenced by their experiences during their studies in initial teacher-education programs. These experiences need to be seen as relevant and appropriate indicating that educators need to do their best to model learners in teacher education programs. It was evident that the learners joined the ACCE by their willingness to become teachers. However, we have observed that many learners showed low participation and performance, frequent absenteeism and late coming, excuses for not doing their assignments, some fighting among each other, and few cases of learners' stress. These educational and general anomalies made educators doubt interest of most learners to study and become teachers. The discussion with the learners and educators revealed that there were two categories of learners who have low interest and learners with high interest towards the teaching profession.

The research results showed that most of the participant learners had low motivation towards teaching and learning and hence don't like to be teachers. They believe that there are better jobs with better income than the teaching profession and one of them said, "I want to join other fields like accounting," another said, "my dream from childhood is to become a doctor," still another added, "I want to be an engineer," and another remarked, "we mostly do not observe changes in the lives of teachers due to their low income" and so they prefer to engage in other professions.

When they were asked why they joined ACCE, they said that if they get high marks in matriculation, they want to join other fields rather than continue to be teachers and it is only getting low marks that will obligate them to become teachers. The questionnaire results also showed that more than half of the participant learners have not chosen the teaching profession as their first choice out of six professions that included teaching. It is not reasonable to observe learners who join a teacher education college willingly to rate their choice for the teaching profession as their second or often their last pick.

The educators in the interview also revealed that most of the learners have low interest in the teaching profession. They said that many of the learners are not disciplined, performed below average in their academic transcripts in their respective schools, and they are still performing low in the college. According to the educators, the misdeeds of the learners manifested by less participation, frequent late coming, absenteeism, and failure to do their assignments were signs of low interest in their studies in general and in the so said choice to become teachers in particular. An educator said that such learners "were the ones who frequently became absent and late in their classes. They openly advocated that teaching profession is not a good career preferred to be engineers, doctors, technicians etc. as their future career." Another educator agreed with most of the interviewee educators saying:

Actually the interest of most of the learners is low may be because They didn't have clear idea what kind of programs are given in the college and what are they going to be at the end of the program. Moreover, most of the learners consider this college as a 'shelter' in order to escape from going to Sawa.

It is undeniable that there are few very outstanding learners who perform excellently in G11 and G12. But when the latter learners begin the certificate program after sitting for the matriculation, their interest started to deteriorate because their goal was to succeed in the matriculation and join their field of interest other than the teaching profession. One of the teacher-educators said:

One of the cleverest learners of mine told me that he was totally bored by the program intended to prepare him for teaching while the learner was among the few who were highly enthusiastic to become facilitators among the peer teaching initiatives during the academic sessions.

However, the second category of learners are highly interested to become teachers. The research shows that these learners are self-motivated to join the ACCE to become teachers. Some among this category were influenced by either their parents, former teachers or friends. The self-motivated ones were highly interested to learn and invested a lot of effort in their studies. They were eager to know, ask, learn, and related what they learned with the teaching profession. One of the interviewed educator said, "these highly motivated learners were enthusiastically participating in activities, are eager to learn and study." In general, they are highly interested to become teachers. Hidi and Renninger (2006: 111) assert that "the level of a person's interest has repeatedly been found to be a powerful influence on learning." The powerful influence of interest on learner motivation is also captured by Xiang et al. (2005: 193) reporting that interest "emerged as the most important intrinsic motivation construct for predicting future intention."

The learners' interest towards teaching is influenced by a number of factors. The perception of the society and teachers towards the teaching and related policy of the Ministry of Education (MoE) could be factors that can affect the interest of learners towards the teaching profession. Three of the educators said that current status of teaching profession in the country is very low due to the negative perception of the society towards the teaching profession. Such perceptions reinforce the learners to dislike teaching as a career. The status of teachers among the society can decide the attitude of the young generation and an educator participant revealed:

The society is not valuing the teaching profession as an important profession. So the perception of the learners could not be different from the perception of the society. I have been talking to many learners and they said that teaching is not a good profession due to their low income. These days, parents do not want children to be teachers.

Some Eritrean families highly value education and spend quite a lot of money for educating their children even by sending them to private schools. The paradox is, as one of the educators said, "the parents wish their children to have good teachers but they don't want their children to be teachers." Except in few remote areas where the reputation of teacher has not been eroded, the attitude of the society towards teachers and teaching is generally very low. An interviewee explained that it is common to hear parents think that no one can miss becoming a teacher because most low achieving learners tend to become teachers. These are really destructive perception that are degrading the teaching profession. Unless such negative attitude change, it is difficult to expect learners to be interested in the teaching profession.

Educators' perception towards their profession also plays an important exemplary role for influencing learners to become teachers. The negative outlook of some educators towards their profession can also affect learners' interest to teaching. One of the educators said, "the status of teachers and teaching is the most hated profession at present not only by the society but by many teachers and educators as well and we hear some of our colleagues to despise being called teachers by their learners." This shows us that there are teachers who hate their own profession. Another participant said, "how many of us have we introduced ourselves as a teacher because not few of us discredit teaching." Still another added, "the hidden curriculum rings loud enough to tell our learners to dislike teaching if they sense that we too do not like our profession." Obviously, a demotivated teacher can neither have motivated learners nor influence them to become teachers.

The policy and practice of the MoE in assigning and managing the teachers has also an effect towards the teaching profession. For example, assigning teachers in fields which they are not qualified to teach, the low living standards of teachers, lack of promotions, and inconsiderate practices of transferring teachers to and from schools are issues that contributed to developing negative attitudes towards the teaching profession.

B. Efforts to enhance learners' interest towards the teaching profession at ACCE

As mentioned earlier, learners at the ACCE may have developed internal motivation or can be inspired to develop it from their environment to like teaching. The positive perception of the learner can greatly drive them to develop the necessary commitment to be competent learners during their preparation and become effective teachers at work. This being the primary factor, learners can also be inspired by external factors like educators' perception, deeds and achievements in the teaching profession as well as the general respect that teachers assume in the society.

The existing conditions in the ACCE were discussed by educators and learners. The participants discussed some important points like educators' behaviors and attitudes towards learners, their methods of instruction, and their knowledge in the teaching profession. One of the issues raised during the interviews was the relationship between educators and learners. Having good relationship between educators and learners is a factor for motivating learners to like teaching. In general, such relationships are encouraged at the ACCE and the situation was affirmed by some of the learners. A learner for example stated, "many of the educators show welcoming expression, easily approachable and eager to help us, and leave classroom doors for us to simply contact them or ask them for support." However, the learners also expressed that they are not happy about their relationship with some of their educators. Some educators are too authoritarian and they do not value good relationships with their learners. From our observation also, some teachers even go to the extent of affronting their learners rudely.

Another issue that influences learners' interest towards teaching is the teaching methodology used at the ACCE especially in G12 classes. The study revealed that most of the educators used lecture method. They depend on textbooks and don't use supplementary instructional materials with least practical activities and participatory learning activities. They feel obligated to teach all of the topics called for in the curriculum because they mainly prepare learners merely for the national examination. So there is still the issue of coverage versus ingenious learning and teaching strategies to allow learners to enjoy the teaching practices of the educators. This could then develop an antipathy towards the teaching profession.

Still another reason for the low interest of learners towards the teaching profession could be the short span of time, about two months, allotted to prepare the G12 learners for teaching. This is a very insignificant time duration to construct the necessary knowledge, skills and thus the attitude of the learners to accept the teaching profession as an occupation. Both the educators and learners complained about the short duration that critically constrained in constructing the essential qualities of teaching especially in elementary schools. For example, the teaching practice initiative to acquaint learners to real school situation could not be realized.

As educators we need to question our individual and collective roles in constructing the professional attitudes among our learners. Developing learners with adequate knowledge, skills and attitudes demands great professional responsibility. This perspective of pastoral care was often linked with a sense of responsibility not only for the academic wellbeing of learners, but also for their socio-emotional security in confronting to become effective teachers. Therefore, educators should be self-critical in significantly being good role models for their learners. Those educators who do so have the potential and authority to attract learners to the teaching profession.

C. Enhancing learners' interest towards teaching

Many factors can enhance learners' interest towards the teaching profession at the ACCE. Among these are the role of the educator, the teaching strategy and the learning environment that prevail in the college.

i. Position of educators

Our pursuit of higher education is partly due to several teachers who have inspired and taught us the necessary skills to achieve the goals. Now we would like to join their ranks and be a catalyst for others to fulfill their dreams. We believe our great passion for teaching, various past teaching experiences, strong academic background and relationship sills can make effective educators. This implies that if educators deeply understand what stimulates learners' interest, then they can play an active role in the development of learners' academic and professional interest. Teachers who wish to see their learners engage at higher levels can focus on providing their learners with the vital environments and tasks. They always find ways and means as long as they are committed to support their learners to higher grounds of achievement.

In the interview, an educator revealed:

We, the educators, should be responsible for providing learners with the necessary knowledge and skills in building strong academic and professional foundations. We should introduce creative ways of teaching that enable learners to critically think and thereby create the environment in developing their academic and professional interests.

Similarly, Smith (2005: 177) summarized the roles of educators in the preparation of teachers by stating:

Teacher educators are responsible for providing teachers-to-be with strong foundations of professional knowledge and with tools for ongoing, independent professional development. In this continuing process, the roles of teacher educators are that of facilitator, encourager, curriculum developer, researcher, gatekeeper, professional developers of in-service teachers, team member and collaborator.

Educators' effectiveness essentially influences learners' success. Engaged educators are more likely to inspire engaged learners. Similarly committed educators are likely to develop inspired teachers at the ACCE. In creative learning, activities must be carefully designed by educators and learners should reflect critically on their experience. The learners emphasized that they like tasks that engage them actively. Therefore, course materials should be presented in an interesting and interactive environment, which will make the learners want to learn and retain more information. An educator said, "if we want to motivate the interest of learners towards the teaching profession, we need to introduce motivating strategies" that exemplify our intentions. The cultivation of creativity and reflexivity keeps learners motivated in constructing meaning to learning experiences. With regard to this, Chen and Darst (2001: 160) concluded that "providing learners with a learning task that demands relatively high cognitive engagement is likely to be perceived as interesting and enjoyable regardless of the intensity of the physical involvement the task demands."

ii. Learning-teaching strategies and methods

As educators, we need to genuinely understand that our pedagogy has a great influence in preparing prospective teachers. Educating teachers is not just a way of conveying knowledge but a means of fostering interest in the teaching profession and the subject at hand. Learners are naturally curious. They are inspired by the environment they observe. Educating teachers is far more effective when learners are truly motivated because they will actively learn and seek new knowledge in earnest. Chen & Darst (2001:160) argued:

Learners need to be actively engaged in the learning process in order to make meaning of their learning experiences. In teacher-education, teachers need to think of ways to make the content more meaningful and challenging to learners by providing active learning experiences and connecting these experiences to learners' prior knowledge.

Learning occurs when learners apply their prior knowledge or a new experience in a learning activity. Knowledge is developed when we are able to build on experiences or events. These are actively transformed by the learner to become a meaningful part of already existing knowledge. Sometimes, however, new knowledge does not fit already to an existing knowledge. Another approach could thus be the use of various teaching strategies to invoke learners' interest. Relying too heavily on one teaching approach, and worst on lecturing alone, could be detrimental to the development of learners' comprehensive interest in learning in general and teaching in particular. Hence, educators need to create an interactive learning environment.

iii. Structuring the learning environment

How teachers create conducive learning environment will ultimately govern the stimulation of interest and active engagement. An environment that offers learners choice, meaningful content, and provides an opportunity to work with others is critical to the enhancement of interest. If educators want to contribute to the development of learners' individual interest

in teacher education, they ought to pay closer attention to the determinants of their learners' interest.

Structuring the learning experience to allow individuals to work in the presence of others can also impact the development of interest positively. According to the interviewees, identifying the clever learners and encouraging them to help others is an important and promising process both academically and professionally. Teacher education settings should provide an ideal context for social structuring of learning experiences. Utilizing cooperative learning can be a rich medium through which social structuring of learning experiences can be accomplished. Learners become more productive and involved as a result of working with peers on learning tasks (Dyson, 2002: 79).

Collaboration leads to greater retention, improved learners' achievement and it can be used to facilitate active learning and promote inclusion by increasing contact among diverse groups (Kennete & Frank, 2013). Collaboration among learners and between learners and teachers can be an important catalyst for change. New understanding develops and new classroom practices emerge when teachers collaborate with their learners and learners with their fellow learners. Authentic collaboration with learners is part of a strategy to maximize learners' interest in learning. Collaboration addresses not only the technical problems of reform but cultural issues as well. Collaborative working relationships provide a very important context for assessment of learners' values and beliefs on the teaching profession and its continues application in classrooms permits teachers to monitor the learning of learners.

4. Conclusion and recommendations

The purpose of this study was to explore learners' attitudes towards the teaching profession. We mapped out pertinent reasons that signify the college situations and found out that typically teaching was not actually their most preferred profession. Instead they wanted to be engineers, medical doctors, technicians and the like. We also asked the learners what aspects of teaching in the ACCE motivates them to like the teaching profession. Commonly, the learners said that they appreciate the different teaching methodologies that educators should apply. They especially like collaborative group work. In addition, they appreciated the good relationships with most of their teachers.

However, our learners' low initial interest towards teaching calls for prompt actions. Our study shows that participatory teaching methods at the college, peer support and collaborative learning can potentially support the learners and help us educate motivated elementary school teachers. While some educators at the college are already using these methods to a small extent, most are still practicing the traditional chalk-and-talk instructions. There is thus an evident lack of commitment that should compel us to take action in engaging our leaners actively in developing their professional and academic interests. In such an improvement process we recommend the following actions:

Awareness raising initiatives in our society: As long as the attitudes of our society towards the teaching profession is low, ACCE educators should be at the forefront be the role models for continuously advocating on the invaluable role of teachers in all subject matters. They should also influence the mass media to consistently appreciate the role of teachers and educators in the society.

Role of ACCE educators: Educators have a great responsibility towards modelling professional intentions and closely follow the effect of their intentions among all their learners with special shadowing on learners' interest to teaching. This is also primary for the ACCE mission in developing teachers with high professional identity. Some of the formal initiatives may include organizing events and workshop on how to enhance learners' interest towards the teaching profession.

Learning environment: We need to creating an encouraging learning environment to impressively influence learners' interest towards teaching. This will require close collaboration among all departments and educators of the ACCE by involving all learners in relevant ingenuities.

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Absenteeism and tardiness among grade 11 and grade 12 learners

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Abstract

Attendance and punctuality in class are mandatory prerequisites for formal learning. This study investigated the state and consequences of absenteeism and tardiness of learners of grade 11 (G11) and 12 (G12) at Asmara Community College of Education (ACCE). Data were collected from 119 learners who were listed as frequently absent and tardy in the attendance list of their respective 33 educators. The analysis was conducted using both quantitative and qualitative approaches. The findings suggest that learners are frequently absent and tardy for a number of reasons including lack of interest to be teachers, negligence of educators in taking attendance, alleged lack of awareness of college regulations, educators' method of teaching, tardiness of teachers, slack measures to correct the problems, organization of the college time table, and staying late at night.

Key words: Grade 11, grade 12, absenteeism and tardiness, ACCE

1. Background

Learners in the senior secondary school education program (SSSEP) for preparing elementary school teachers at the ACCE have been observed to be frequently absent and tardy from their classes. We highly value the role of disciplined attendance and punctuality in successful achievement of our learners in our college. Learner attendance records show that large number of learners were absent from class for a longer period of time which has contributed to the low performance of learners. Among the first batch of the learners in 2015/16 alone, 160 (close to 23%) were not successful in completing their G11 studies and one of the contributing factors was their frequent absenteeism.

One way of doing away with or minimizing absenteeism and tardiness is to clearly identify, understand, and analyze the state and consequences of both with the aim of taking measures to address them (lorenmurcia, 2015: 2). This study targeted to comprehending frequent absenteeism and tardiness among our G11 and G12 learners in the academic year 2016/17 with the objective of proposing possible solutions to improve the problem. Hence the research questions we deliberated to answer include:

- What is the state and consequences of frequent absenteeism and tardiness of our learners?
- How do we support learners to value regular attendance and punctuality in ACCE?

2. Literature review

According to Oxford English Dictionary (2001) *absenteeism* is the "practice of regularly staying away from work or school without good reasons. The same dictionary defines *tardy* as "delaying or delayed beyond the right or expected time." Researchers also have identified predictors of absenteeism and tardiness and some of these others are learners physical and mental health (Kearney, 2008 in IDOL), learners' perceptions of the school (Balfanz, Herzog, & Mac Iver, 2007), and parent and family factors. Furthermore, social skills, cogni-

tive skills, health problems, learning disabilities, and emotional disorders can influence the school experience and eventually affect school attendance (Levine, 1984 in IDOL). Railsback (2004) in her study identified several factors as family background and relationships, past school performance, personal characteristics and neighborhood characteristics as causes of absenteeism in schools. Moreover, when a teacher is often absent and no action is taken, pupils can be engaged in other activities rather than learning which could lead to frequent absenteeism (Mkhwanzi, 1997: 98-99).

School absenteeism is a serious problem for all stakeholders in general, and learners in particular. According to Malcolm et al. (2003: 14) teachers identified the effects of absenteeism on learners as academic under-achievement, difficulty in making friends which could lead to boredom and loss of confidence, prolonged absence that may damage learners' later life, and absentee learners often risk dropping out of school early. Absenteeism also affects the teacher's ability to present classwork in a sequential and organized way. According to Marlow, (1987: 2), when learners are tardy or absent, sequential learning cannot occur, subject matter and skills cannot be developed, and much learner talent is wasted. Research finding also indicate that chronic absenteeism leads to lower academic and behavioral outcomes (Balfanz & Byrnes, 2007: 4-5)

3. Methodology

Thirty-three educators and 119 G11 and G12 learners participated in the study (Table 1). The response rate for the questionnaires that were distributed to educators was 83% (33) which we think is adequate for our purpose. Learners were selected from the list given by the 33 educators who were frequently absent and tardy in their classes. Questionnaires were written in English and learners were given the opportunity to write their responses either in English or Tigrigna. The questionnaire items were organized along two Likert scale choices of yes/no or agree/disagree level. Frequency counts, percentage weight values were used in the analysis and interpretation of data. The questions were arranged in sequence and in the form which were convenient to respond to.

Participants	Male count	Male percent	Female count	Female percent	Total
Educators	30	91	3	9	33
Learners G11	24	40	36	60	60
Learners G12	25	42	34	58	59
Learners total	49	41	70	59	119

Table 1 Research participants by sex

4. Results and discussion

The list of learners names given by educators as frequent absentees and tardy, we found out that 57% of them were in both the absentees and late learners' list. Our findings confirmed what Oghuvwu (2008: 2) found out in saying, "it's always the same group of people showing up early and the same group of people showing up late." We also learned that about 31% of the learners who took part in our research went to bed late after 11 pm in the night, who mostly will not wake up early in the morning. About 11% of the participants said they wake up after 7 am while classes begin at 7:40 am that will make them prone to miss at least during the first period. As in the saying *early to bed early to rise goes*, it will be difficult for such learners to be punctual.

All respondents say, they are late at least three times in a month. This means in the whole academic year, they will be late about 24 to 27 days. It easy to sense how frequent class annoyance and disruptions can be created in the learning and teaching process in the classrooms. Respondents (73%) also admitted that being late, they were disrupting the teaching learning process. Moreover, the study also found out that female learners were frequently absent from or late for classes as compared to males. Again, Oghuvwu (2008: 3) agreed to this when he said, "lateness is common among females more than males."

About 35% of the learners said they miss some subjects more than others. This meant that they may not probably be in a position to accomplish the requirements in covering portions of the subject matters. The more the subjects, the worse for the leaners to achieve. Besides about 74% of the respondents' lost at least one period each day, which will be a total of five periods per week and 20 in a month. This in total is equivalent to five school days. This means in a semester, such learners lose a total of three weeks per semester. Again, about 44% of the respondents said they are absent from school once in a week. It can thus be said that absenteeism among G11 and G12 learners is an enduring problem at the ACCE. As Balfanz and Byrnes (2007: 4) noted such chronic absenteeism may lead to lower academic and negative behavioral outcomes in the college.

Negligence of educators to consistently monitor absenteeism and late coming to class of leaners was said to have been one of reasons that the 19% of the respondents noted. The respondents specifically said that educators who do not strictly record absenteeism and tardiness have more absent and late coming learners in their classes. The same percentage of learners shared that it is apparent for young learners to continue to be negligent unless educators and the management group take serious measures against absenteeism and tardiness. Further, about 28% of the respondents said that disagreement between learners and educators created situations for the absenteeism and tardiness.

About 44% of the respondents shared that their absenteeism and tardiness is related to irregularities of the means of transportation for leaners who reside with their families outside the ACCE campus even though the college provides dormitories to all learners invariably. Moreover, 34% said that health related problems contributed to frequent absenteeism and tardiness of learners. Besides, 52% said that there is no guidance or counseling services provided in the college to prevent or remedy such deviations. Overall 53% of the respondents said that no measure has been taken by the management against learners who were frequently absent. This might have led to the aggravation of the problem. Also, the organization of the college time table was said to be a reason for absenteeism and tardiness among 43% of the respondents.

About 77% of the respondents said that their absenteeism and tardiness have affected their academic performance negatively. This was confirmed by their academic records from the Registrar Office. Out of 61 G11 respondents, 44% scored low marks in their first semester results and of 38 G12 learners (50%) scored very low marks. Lateness in turn may also lead to absenteeism and general failure in academic achievements.

The suggestions provided by participant educators and learners in efforts to minimize

frequent absenteeism and tardiness included responsibilities of educators to monitor the regularity of attendance and tardiness of all learners. Such responsibilities should be closely modelled by the punctuality of the educators in their classes. Rethinking to change the initial time for starting college schedule was also suggested by about 20 minutes (7:40AM to 8:00 AM). The need for setting clear policy for governing absenteeism and tardiness were also suggested along with the necessary and continuous measures for creating awareness on regular basis through creating close and sound relationship between educators and teachers by primarily making the earning and teaching process interactive and enjoyable inside and outside classes.

The need to synchronize the facilities and support services with the college regular schedule is marked. This should include cafeteria time, water distribution facilities, co- and extracurricular activities, and dormitory guidelines. However, two seemingly non-practical opinions supposed to improve absenteeism and tardiness were the provision of transport services during school hours for learners who reside outside the college premises and the creation of continuous relationship with parents!

5. Conclusion and recommendations

Irregularities of absenteeism and tardiness are associated with understanding issues of discipline and the concept of time in learning and teaching process. Therefore, G11 and G12 learners should be actively engaged in the process of resolving absenteeism and tardiness in the college. The involvement of the learners in developing pertinent regulations is an important step for the college to consider. Lateness is an indicator of absenteeism and hence should be closely followed-up by all educators. Experience has shown that tardiness is not well monitored and necessary measures not taken both by educators and the management. Absenteeism in turn is an indicator of failure of learners and hence should be handled through organizing appropriate guidance (proactive) and counselling (remedy) schemes.

The need to coordinate the facilities and support services with the college regular schedule is a critical step to reducing absenteeism and tardiness in formal and non-formal activities. Besides setting clear and firm rules and regulations for absenteeism and tardiness of learners as well as educators will be mandatory. Considering the age of G11 and G12 learners, organizing communication events with their parents may greatly help to address issues of absenteeism and tardiness especially of the learners who reside at their homes.

The college community should closely work collaboratively in reducing absenteeism and tardiness among G11 and G12 learners through comprehensive, proactively, and sustainable measure that involve the learners in general and females in particular. Educators and all management staff that closely work with the learners should be models of exemplary attendance and punctuality in the college. Educators should also closely and consistently monitor absenteeism and late coming to class and other important college activities.

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Recruitment criteria for senior secondary school education program at ACCE

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Abstract

The purpose of this study was to investigate the recruitment process at Asmara Community College of Education (ACCE) for recruiting learners for the senior secondary school education program (SSSEP). The issue was disquieting for the college as the two sets of the former recruits for the SSSEP did not qualify the expected credentials to fit to being prepared for teaching in elementary schools. Mainly qualitative approaches were employed to collect data through questionnaire, interviews and focus group discussions. The data collected was triangulated from the sources including semi-structured interviews with the Director of the ACCE, a focus group discussion with educators, and questionnaires from 100 learners. Sampling was purposive. Data was organized, examined and sorted to obtain the main premises from the voices and views of the participants. These were enriched by the reflections of the practitioner researchers and literature review. The outcomes indicate that the recruitment criteria developed earlier was not the problem but it the actual recruitment process practiced for the two batches of the SSSEP. Hence, the ACCE should be given the authority to strictly monitor the recruitment process of the forthcoming learners.

Key words: Recruitment, SSSEP, ACCE

1. Background

Research indicate that teachers are responsible for a range of social ills such as youth crimes, violence, young people's alienation and disaffection. (Morley, 1999; Rassool, 1999). Hence, the need for developing relevant and genuine strategies and practice for selecting, preparing, and retaining teachers is evident. In the ACCE we have been concerned about the appropriateness of the recruitment process the secondary schools and the regional education offices use in selecting learners for our SSSEP. The SSSEP is an innovative teacher education program for educating elementary school teachers along with providing them grade 11 (G11) and grade 12 (G12).

Experiences during the last two years revealed that most of the recruits for the SSSEP were low performing learners in their previous secondary school education. This study is thus meant to explore the actual selection process of our SSSEP recruits during the last two years with the intention of improving the process for ensuring the good background of learners that enter the program. The study is significant not only for the ACCE but also for developing and implementing effective selection criteria and genuine process of its implementation for preparing eligible elementary school teachers in the country.

With this in mind the study seeks to find pertinent answers to the following research question:

- What were the criteria sent to the zoba educational offices for selecting learners?
- How far did the zoba education offices use the criteria to genuinely select the learners?
- What were the consequences of recruitment processes the zobas used?
- What should be done to improve the recruitment process?

2. Methodology

We mainly applied qualitative approaches supported by some quantitative ones. Our data sources were our learners from G11 and G12, educators, and the ACCE director. We employed questionnaire for 100 (participants, interviews with the ACCE director, and focus group discussion with 13 educators. Sampling was purposive and the sample of our learners included all members from our nine ethnic groups. Analysis was thematic derived from the data and views of our respondents and supported by literature review, data obtained from the ACCE registrar office about the academic background of the learners. We were not able to visit zoba education offices due to financial constraints.

3. Findings and discussion

A. Selection criteria in the schools

Except 11 learners from the Maekel, Gash Barka, and Debub regions 80 of the learners confirmed that they attended an orientation seminar before they were selected regarding the intentions of the SSSEP. To the expectations of the ACCE, most of the schools have properly oriented their learners about the program.

i. Grade 12 learners

When the program started in 2015/16 academic year, the ACCE staff were informed that the zobas were going to send learners who completed G10 and with good academic standing (average of 70 percent). However, only 14 of the respondents from Anseba, Debub, and Semienawi Keyih Bahri said they had average marks above 70 percent. Consequently, it was revealed that 70% of the 100 respondents admitted they had average marks below 70 percent. We also verified documents from the registrar office to confirm whether the latter statement of the learners was genuine. From the documents of the G12 learners, we noted about 63% (available N=532) had below 70 percent marks when they completed G10 in their respective schools.

G12 learners	Marks below 50%	Marks 50-69%	Marks above 69%	Dropouts
572	-	338	194	40
Percent	-	59	34	7

Table 1 Average academic performance of G12 learners in G10 (Source: ACCE Registrar Office, 2016)

ii. Grade 11 learners

Academically G11 learners performed worse than the G12 in their respective schools when they completed G10. However, we have also observed that the former were more disciplined in many ways than the latter. In the recruitment standards that the schools used to select academically qualified G11 learners, worse measures were taken. Hence, 74% (Table 2)

of the G11 of learners earned below the required recruitment standard, as compared to 63% of the first batch (G12 during the study).

G11 learners	Marks below 50%	Marks 50-69%	Marks above 69%	Dropouts
360	-	249	97	14
Percent	-	69	27	39

Table 2 Average academic performance of G11 learners in G10 (Source: ACCE Registrar Office, 2017)

iii. Background of the academic performance of learners

We also tried to compare the academic performance of the two batches during their stay at the ACCE. We found out that 7 learners (close to 1% from 532) of the G12 learners scored 90 and above percents while they were in Grade 9. Their scores were almost the same (Table 3) in G10 in their respective school. When they joined the ACCE however, less than 1% (5) learners scored above 90 percent marks. By all means the academic performance of the G11 learners were worse (Table 4).

Stream	Registered	G9 schools	G10 schools	G12
Social Sciences	234	2	1	1
Natural Sciences	298	5	5	4
Total	532	7	6	5

Table 3 Average academic performance of G12 learners in G9-11 (Source: ACCE Registrar Office, 2016)

Stream	Registered	G9	G10	G11
Social Sciences	190	1	-	-
Natural Sciences	180	2	2	1
Total	370	3	2	1

Table 4 Average academic performance of G11 (second batch) learners in G9-11 (Source: ACCE Registrar Office, 2017)

iv. Other criteria for selection

Learners were asked to provide their comment about the selection process to the SSSEP and 20% of them said that they were not satisfied about the selection process suggesting that the opportunity should be given exclusively to performing learners. Eight learners said that there were learners who joined the program without taking the entrance exams and suggested that entrance exams should be strictly supervised by ACCE staff. About 70% of educators said ethnicity should be carefully looked as a criterion for selection. They suggested that selection should be basically on merit basis.

B. Learners interest to become teachers

Twenty-one of the learners preferred to join the ACCE to Sawa but still not want to become teachers! Besides, only 2% of the learners admitted they were influenced by their peers to join the ACCE and hence most said they joined the program with their independent choice. Nine said they came with the pressure of their parents. The findings indicate that the intention of our learners to become teachers is 'untidy' despite one of the essential criteria for selecting them during both the two occasions. Hence, the actual recruitment practices that actually went on in the schools and the zobas did not adequately capture the intention and purpose of the ACCE to prepare teachers who firmly want to become teachers. This indicates that there was something wrong in the practical process of selecting the learners from the schools.

Morley (1999: 3) and Rassool (1999: 20) wrote, educators have to negotiate radical changes for new pedagogic management, new forms of assessment, and new partnership with others colleges, governors, employers and parents. Other wrote that teachers are held responsible for alleged falling education standards (Gardner, et al., 2000). Hence, when the ACCE tried to introduce the new recruitment criteria for prospective teachers, it was to ensure their quality to teach in elementary schools. The schools and the zobas however were not complying with the expected standards to recruit the learners for the SSSEP.

C. Educators' views on the selection process

The veteran educators shared their experience regarding the recruitment criteria in the earlier years high achieving learners were selected to become teachers and passed through other demanding selection process like mandatory interviews, entrance exam, and health tests. The participants also added that earlier teachers joined the profession voluntarily and they were doing their jobs with passion. Regarding the SSSEP, most agreed the need for good recruitment criteria but far beyond that, it should be genuinely implemented by the schools and the zobas. They hence expressed their worry about the unfair process of the already selected learners. They commented that the schools were doing injustice to their own profession by listing incompetent prospective teachers. What is worse is that these are going to teach in elementary schools. Most educators are also worried about the very short professional education of about three months that is given to the SSSEP learners. According to them, this is far less than a good quality professional program than the former one-year certificate program for elementary teachers.

Some of the educators argued selecting learners after completing G10 should be dropped. They stated, many of the existing learners joined the college to escape from going to Sawa. Very few teachers (15%) believed that the recruitment criteria must be revised and suggested learners should first complete their secondary school at Sawa and then join the college based on merit. Besides 20% of the educators expressed their concern about those G12 learners who joined the secondary school matriculation to pass and leave for joining other colleges. Such an aftermath will be an expensive experience for the ACCE. Other educators argued that the learners who score high grades in the matriculation will only join the College of Education in Eritrea Institute of Technology and this actually is not an outflow from the school system.

4. Conclusion and recommendation

There is no question about the need for quality elementary school teachers if we are to

ensure a solid educational background for cultivating responsible citizens. Practically, however our findings about the recruitment process and the quality of the SSSEP learners will still not allow us to develop qualified teachers for the schools. This is because neither the actual recruitment process that was practiced in the schools nor ACCE's roles to provide the necessary teacher education package as adequate at it should. In fact, the academic qualification of learners of the G11 was worse than the G12 during the study. Therefore, it is high time that the recruitment process in the schools should change for selecting competent prospective teachers for our elementary schools. It is also critical that the quality and duration of the teacher education package provided in the SSSEP be revised by through close collaboration with its partners.

We thus recommend that the selection of the future SSSEP learners should be seriously monitored by the ACCE with active participation of its educators. It is also wise to comprehensively review the recruitment criteria with close co-operation with the zoba education offices and schools based on a forum for discussing the experiences learnt from the past. Still, all partners should responsibly understand that criteria on paper alone is only the beginning of a sound work; it should be followed by genuine implementation. Besides, strict rules should be observed in ensuring recruits who have the interest to become teachers, at least from their pronouncements. We have learnt from our findings that not few of the learners joined the SSSEP for the sake of meeting the quotas that were set for the zobas.

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Promoting active learning among grade 12-1 learners

Amanuel Yosief, Keleta Gebreslasie

Abstract

This collaborative study was conducted within the context of Asmara Community College of Education (ACCE). The research sought to answer whether we, educators, were making adequate efforts in promoting a positive environment for learners to engage in active learning in the various activities of our two courses in pedagogy and mathematics among section 1 of grade 12 (G12-1) learners. The initiative helped us to examine and explore some basic characteristics and challenges that prevailed in our learning and the teaching practices in supporting the active engagement of our learners. The methods we used encompassed close self-study and reflective practices in helping us develop a realistic picture of the factors that were limiting our learning and that of our learners in G12-1. The study allowed us in significantly uplifting our pedagogic experiences. In the same way, we expect the study might be of substantial meaning to our colleagues who are making efforts to promote active learning through self and cooperative engagement in the various courses offered in our college and beyond.

Key phrases: Self-study, active learning, G12-1, ACCE

1. Background

This study (CAR) was initiated by two educators who intended to make a difference in improving active learning through eager professional endeavors at the ACCE in two courses, pedagogy and mathematics. The drive was to identify challenges and opportunities thereby improving the learning of both educators and learners. One essential factor that highly motivated us to pursue the study was the nature of the prevailing learning and teaching processes that we and our learners were experiencing. Empirical evidence indicates that educators at ACCE oftentimes make effort to bring about a difference on learners' learning. However, we mostly end up being knowledge 'transmitters' while our students become passive and exam oriented learners.

Such behaviors have been deterring the effective processes of learning and teaching thereby lowering learners' opportunities, engagement, and achievement. Learners were observed to have low skills of communication, collaboration, originality, and significantly becoming less aware of active and consistent learning. Comparable learning behaviors may have been shaped by the ways they were previously educated and by the limitations of their current educators' professional initiatives. Hence, learners' educational backgrounds did not help them develop the necessary skills for effective learning. Educators' behavior especially in relation to the lack of cooperative efforts in identifying and practicing a coherent and consistent strategy for encouraging active learning have not supported learners to cultivate the necessary skills of successful learning.

An essential factor in improving learners' achievement in the process of learning and teaching is the teacher. Numerous researches have revealed that there is a strong "relationship between learners' learning and the quality of their teachers, and a weak teacher can

actually have a deleterious impact on learners" (Friedman & Rockoff, 2013; Darling-Hammond, 2000; Hattie, 2003 in Goodwin et al, 2014: 284). Also, a considerable amount of research indicated that learning achievement is significantly lower in sub-Saharan Africa compared to other regions of the world (Maclure 1997; Michaelona 2001; Sylla 2004; UNESCO 2004 in Dembele & Lefoka 2007: 535). According to Dembele and Lefoka (2007: 536) the factors, among others, are low teacher qualification, large class size, poor facilities and shortage of learning materials.

This study, however, argues that the factors are deeply rooted in the unclear and unsettled understanding and beliefs about the concept of pedagogy among teachers or educators. In such a situation, pedagogical renewal that leads to collective transformation is exceedingly needed. This bring to mind, "calls for teaching practices that are participatory, more interactive, adventurous, and learner-centered. Such teaching practices are characterized by cooperative learning and inquiry with a view to fostering conceptual understanding, critical thinking, and problem-solving skills" (Anderson 2002; Ntoi & Lefoka 2002; ERNESA 2003; Van Graan 2005 in Dembele & Lefoka 2007: 536).

Hence, the issues pertinent to this study evolved from the evidence that learning cannot occur without the active involvement of learners. This study has highly endorsed the idea of "learning as a process of active engagement; learning as individual and social endeavor; and learner difference as [a] resource to be used, not [an] obstacle to be confronted" (Wilson & Peterson, 2006: 3). Besides, various research results inform that learning is about social construction where learners play decisive roles in the process of knowledge construction. Michael (2006: 160) explains active learning as:

The processes of having students engage in some activity that forces them to reflect upon ideas and how they are using those ideas, requiring students to regularly assess their own degree of understanding and skill at handling concepts or problems in a particular discipline, the attainment of knowledge by participating or contributing. The process of keeping students mentally, and often physically, active in their learning through activities that involve them in gathering information, thinking, and problem solving.

Röj-Lindberg, evidently explains that "mathematics instruction should give the learners an opportunity to discover new knowledge and to practice what they have learned as well as to connect mathematics to other subjects and to the world outside school (2001: 2 emphases original)". He argues that active learning approaches in mathematics classroom should provide framework of teaching procedures and interpersonal relations that enhance creative and active learning culture (Ibid: 5). Most mathematicians, according to Rosenthal, "agree that the best way to learn mathematics is by actively doing mathematics; by discussing it with others; and by synthesizing major ideas" (1995: 2). This point of view about learning was evidently informed long ago by various educators and scholars of the classical, medieval and modern history.

The effort made in this CAR was wholly geared towards improving the level of learning at the ACCE. Hence the main research problem was about learners of G12-1 that seemed to be mere recipients of information facilitated by their educators. We suspect that this learning behavior may have been caused by the lack of professional enterprises of their educators and the ways they were previously cultivated. We wanted our G12-1 learners to develop the skills of active learning thereby becoming enduring learners. We thus intended to organize our efforts and that of our college community in learning to enhance the active learning of our learners. In such a process, our study envisioned to mainly answer the following research questions:

- What are the challenges that hinder learners' active engagement in our G12-1 class?
- What are the possible reasons for these challenges?
- What are the consequences of these challenges in the learning and teaching process?
- How can the active engagement of learners be enhanced?

The findings of the research are expected to inform our professional culture and character of educators and impact upon our pedagogic practices at the ACCE.

2. Research process

Self-study as a methodological approach was used in this action research. Self-study research builds on various traditions (Bullough & Pinnegar, 2001; LaBoskey, 2004 in Lunenberg, Zwart, & Korthagen, 2009: 1281). Because of its focus on teacher educators' own practices, qualitative approaches have been used. LaBoskey (2004: 817) outlines the major features of self-study methodology saying, "it is self-initiated and focused; it is improvement-aimed; it is interactive; and it includes multiple, mainly qualitative, methods". The role of collaboration in self-study has helped the action researchers to raise multifaceted issues pertinent to educators' and learners' behaviors thus making the researchers become participants, and "problematize their selves in their practice situations" (Feldman, Paugh, & Mills, 2004: 971 in Han et al. 2014: 294).

During the research process, quantitative analysis like learner's evaluation and test can also offer teacher educators important insights into their practice. Nevertheless, in self-study research visuals, discourses, and texts generally play important roles (Tidwell et al. 2009 in Han et al. 2014: 294) better than just test results. Such qualitative approach has been instrumental during the process of this study that enabled the action researchers to analyze the behavior of both educators and learners.

The study used rigorous means of data collection that employed various instruments and followed processes that enabled the researcher to gather relevant and pertinent data to the case. The focal participants of the study were 44 learners of G12-1. Learners' profile was studied that gave the bigger picture of the class realities. Such realities included gender, educational and socio-cultural backgrounds on the bases of which some learning metaphors were grasped.

The action researchers followed Elliot (1991: 69-90) experiences who articulated the techniques and methods of gathering evidence in action research. Such instruments used for the purpose of self-study in action research include diaries, profiles, document analysis (syllabus and scheme of work, curriculum reports, test and examination papers), photographic evidences, voice/video recordings and transcripts, critical colleague views, interviewing, running commentaries, shadow observations, checklist, and analytic memos. In addition to these instruments, we enriched our data through focus group discussions.

As mentioned earlier, the process of the study involved the collaboration of two educators who were teaching pedagogy and mathematics in G12-1. It followed three phases. The first phase (pre-intervention) was investigating the existing situations of learning and

teaching process that was expected to serve as a touchstone for the second phase. The investigation started by analyzing the contents of the subject matters and their means of facilitation. Mathematics for grade 12 was a course of study that covered four distinct topics namely: sequence and series, analytic geometry, matrix and determinant, and statistics and probability. The course on pedagogy was meant to introduce learners with the basic concept of education, methodology, and teaching and learning process.

The pre-intervention period continued from mid-September, 2016 up to mid-February, 2017. During this phase, the educators agreed to follow their individual standards of teaching like perceptions about learners, content, and approaches and reflect on the realities of their peculiar classrooms. A common reflective approach and questions intended to investigate why, what, and how certain phenomena happened in the classroom were captured and questioned by both educators. The second phase was about making necessary collaborative interventions through the use of frameworks (Figure 2). The period for the second phase run from mid-February to mid-June, 2017. Figure 1 represents the instruments used during the data collection process of the study.

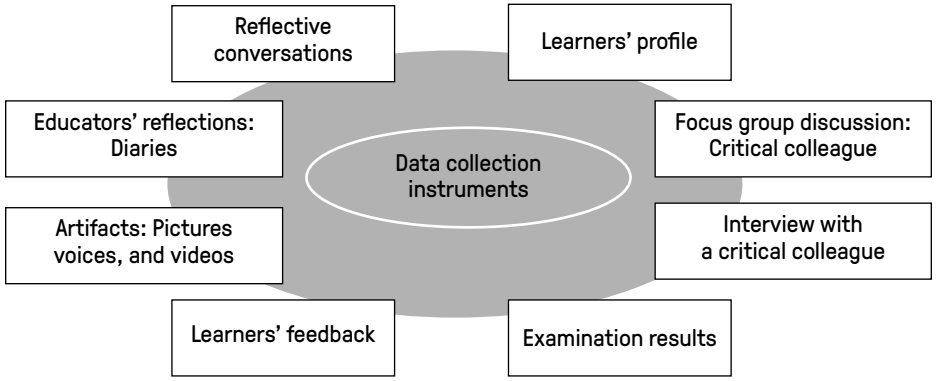

Figure 1 Data collection instruments and reflections

Learners' profile included variables like sex, age, ethnicity, region, sub-region, and previous school. Data acquired from the learners' profile enabled the action researchers to recognize learners' realities. First semester's experiences (pre-intervention stage) was collected by the two researchers from their critical reflections of their diaries and anecdotal records based on the contents of the courses, results of the mid and final semester exams, attendance and tardiness of learners, educators' and learners' learning characteristics, and learners' background. These helped in developing empirical experiences and benchmarks for the process of the study.

Besides, a focus group interview was conducted with ten purposely selected learners. The selection process took into account the sex, age, ethnicity and the region the respondents came from. The languages used were Tigrigna (a local language) and English. A senior colleague interviewer (Dean of Academic Affairs, ACCE) was chosen to facilitate the focus group discussions with our learners. The items were prepared on the bases of the framework for the analysis (Figure 2) of teaching and learning processes. This was done intentionally because the action researchers wanted to ensure the objectivity and trustworthiness of the data collected. The purpose was to create a favorable atmosphere where learners can share their views and feelings openly. Moreover, the researchers later conducted an interview with the critical colleague to provide his views, impressions and reflections of the learning and teaching processes in G12-1 for he had acquaintance with the learners. Both the focus group event and the interview with the critical colleague were photographed, voice-recorded, transcribed and translated into English.

Mid and final examination results were critically assessed. On the bases of the exam papers, the action researchers reflected their findings first individually and later jointly through various conversations and meetings. The process focused on learners' capabilities to understand, interpret, analyze and synthesize mathematical and pedagogic concepts as well as their linguistic skills in translating principles and theories into solutions and facts. The data collected using the research framework (Figure 2) was used as a baseline for further inferences that in turn helped in setting the strategies for interventions during the second semester of 2017.

After various reflective conversations, the action researchers reached into a consensus to set strategies that attempt to enhance active learning pertinent to mathematics and pedagogy. Hence, in phase two (intervention) of the research process, the two educators planned their classroom practices thoroughly. Activities that were expected to engage learners inside and outside class were set. All seven strategies suggested by Michael and Modell (2003 in Michael, 2006: 160) that promote learner-centered and active learning approaches were adopted except the last one that was strained by the inaccessibility of technological equipment and the limited capability of the educators:

- Problem-based or case-based learning
- Cooperative/collaborative learning/group work of all kinds
- Think-pair-share or peer instruction
- Conceptual change strategies
- Inquiry-based learning
- Discovery learning
- Technology-enhanced learning

Questions that attempted to evaluate learners' engagement after the interventions were set on the bases of the selected framework. Results of the focus group interview enabled the action researchers to see the results of the interventions made. Both educators made critical reflections on their own roles and their learners' results, feedback and the data collected using the framework (Figure 2). Inferences and conclusions were made from the data collected through formal and informal discussion forums between the educators.

The post-intervention phase dealt with the collection of data on the interventions made. The educators continued to reflect, meet, and share ideas on the experiences they had in the classroom environments. Besides, a focus group interview with eleven learners who were selected purposely was conducted. Questions were prepared on the bases of the framework for the analysis of learning and teaching. The interview was facilitated by another critical colleague and educator from the English Department. In turn, the critical colleague

was also interviewed by the researchers to evaluate the results of the strategies implemented based on his observations.

The study pursued the framework for analyzing the learning and teaching process indicated in Figure 2. It started by analyzing learners' profile and by critically investigating the predominant classroom practices. Data collected through focus group discussions, reflections of the action researchers and learners' feedback were coded and sorted in line with the research questions. This led to "identifying themes, issues, or factors that seem to be emerging from the data" (Sagor, 1992: 33). The next step was interrogating the data using a matrix (Ibid). The matrix was developed by correlating the instruments used and the major themes identified.

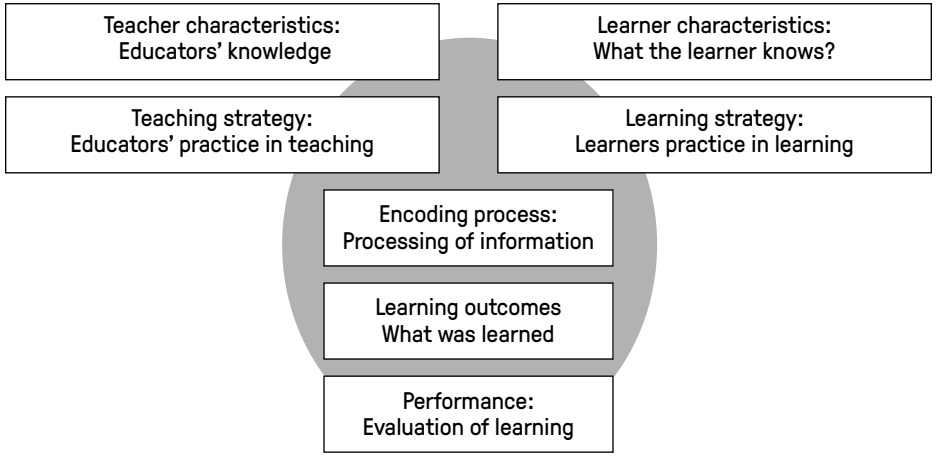

Figure 2 Framework for analyzing the teaching and learning process (Source: Clair & Richard, 1986: 316)

The data collected about the same event emerged from the educators' and learners' reflections and the different types of data instruments. The approach enabled the researchers to make comparative analysis, triangulation of a kind (Somekh, 2006: 96). Thus, triangulation was a crucial part of the analysis to support validation and substantiation of interpretations of the data (McNiff & Whitehead, 2002: 32). The process helped in verifying and compensating the participants' views and the shortfalls of data gathering instruments and increased the confidence of the research results (Sagor, 1992: 34). The process of the analysis was basically carried out collaboratively enabling the educators to enter into an insights of the phenomenon Han et al. experienced. They cite Coia and Taylor (2009) who analyzed their teaching experience collaboratively that helped them to "transform their teaching practices, such as coping with the complexity of teacher identity and relationship building with students" (2014: 294).

3. Basic findings

The researchers were able to reveal basic realities pertinent to their teaching experiences during the three phases of the research process.

A. Results of the pre-intervention phase

Strong evidence of weak learners' educational background was found during the process of learning and teaching and also when the exam results were examined. The pedagogy educator observed that only 11 (N=44) percent of the learners comprehended concepts presented in the form of questions and come up with their own critical arguments. He argued that the result was witnessed during the several class discussions conducted. The main roots for such challenges seemed to greatly rest on the learners' individual educational background. They lack the necessary skills of inquisitive learning that can develop their understanding about the concepts taught. They also had limited spoken and written English language skills that deterred their active role in and outside classes.

Similarly, the mathematics educator reflected that about 25 percent of the learners were able to understand the concepts and logic of the lessons presented in the form of questions and were usually attempting to solve mathematical problems. This was also observed during group works and when critical questions related to mathematical procedures were raised and practiced. For most of the learners, one of the possible reasons was their weak background on the subject in the early years of schooling. They also lacked the necessary skills of active learning and handling workouts.

The observations signposted some significant difficulties in identifying, examining, discussing and analyzing concepts presented in class and the learning materials. It was generally apparent that their background and 'culture of learning' subject matter content was often weak. This fact was more importantly elucidated by the learners themselves. They stated that they had more contact hours with their educators at the ACCE as compared to their previous school experiences and that they did not have adequate support from their former teachers.

They said that their teachers lacked the appropriate pedagogy, inadequate subject matter mastery and teachers were frequently absent. Learners also testified that they lacked effective time management. They underscored that some topics were difficult for them and they habitually depended on memorization as their learning style. They thus mentioned the 'demanding' nature of the ACCE learning environment. Commenting on the way they were assessed, they stated that the "math educator provided us questions in order to prepare us for the matriculation and the pedagogy educator gave why, what and how questions that helped us think critically, reason out and reflect our ideas."

Learners' manners also added to the problem. The math educator emphasized that only five learners had zero absenteeism and 12 learners (24 percent) had 1-3 periods of absenteeism during the semester. This was an ample evidence that almost 60 percent of the learners were not as regular. More worrying was their late coming to the classes though the anomaly was not seriously recorded by the educators. Similarly, the pedagogy educator pointed out that absenteeism and tardiness hampered the effective process of learning and called it 'another unsettling phenomenon.' Although learners were not generally missing classes in pedagogy, tardiness was very problematic in the first semester. The course

had sessions of two and half hours per week. The time for each session was scheduled from 9:40 am to 10:35 am. Around 78 percent of the learners were not time conscious. Every session wasted five to ten minutes (about 10-20 percent of each session). Various mechanisms were introduced to tackle the problem but was found to be a chronic misdeed.

Related to the issue of misconduct and less lack of interest, the Academic Dean of the ACCE commented:

Very few learners have been observed studying inside their dormitory, inside the compound, or going to the library. They haven't been doing what they were supposed to do. Even though many educators try to encourage and motivate them through make up classes, preparing worksheets and others, our general observation is that most learners have been a bit careless and less hardworking. As to my understanding a learner who is preparing for matriculation should not be like that, each and every one should be observed studying in groups…[and]ask teachers for unclear problems.

B. Results of the intervention phase

A small number of the learners interviewed to evaluate the results of the intervention phase supported the notion that learners should devote their time in extensive readings, investigating concepts themselves and presenting their findings to the whole class. The majority of respondents felt that language incompetency and previous learning culture was deterring active learning. They replied that the various strategies of active learning employed during the intervention phase were also demanding.

Contrary to the educators' expectations, this research didn't find significant difference between the old and new strategies implemented in the classroom practices. Majority of the learners were struggling because of their poor educational background. This was vividly observed during the discussion and presentation sessions where learners used their local languages. Learners were unable to articulate their ideas and arguments about various concepts raised as they were encouraged to use any language they were comfortable with. For instance, in one session in the pedagogy class a learner was encouraged to express her idea using Arabic and a multilingual learner who attended Islamic school helped through translating her ideas into Tigrigna (a local language) that all the class understood fairly. Switching between languages was common in various sessions. However, such problems were clearly manifested in the written exams where majority of the learners failed to comprehensibly write their responses.

Besides, the action researchers understood that no significant reduction was observed by both educators in tardiness and absenteeism that was still an obstacle for active learning. During the intervention period, the pedagogy and mathematics courses had sixty-four and thirty-six class hours respectively. The two courses in total had 4,400 hours out of which learners missed 300 hours. Only 12 learners were found to be regular attendees in both courses. Nevertheless, the two educators concluded that very few learners (about 2 percent) slightly improved attendance and tardiness in comparison to the pre-intervention period.

C. Results of the post-intervention phase

Empirical evidence acquired during the process of the study strongly showed that learners were highly enthusiastic during group discussions held oftentimes. All focus group participants argued that the process of group discussion created friendly and positive learning atmosphere that helped them to influence each other. The role of the five active learners in both courses was found to be significant in facilitating the group discussion. Despite the fact that certain phenomena were found to be encouraging for cooperative learning, the educators contended that the discussions held showed common limitations such as communication skills and time management problems.

All focus group participants testified that the whole processes of the activities set were good but learners were not used to such approaches and they had lack of English language proficiency that limited their capability to take active roles. The English educator and critical colleague who facilitated the focus group interview with learners suggested:

Our role should be helping learners to master the English language and understand concepts. Learners are also expected to act instead of becoming mere listeners and observers. We, however, have to equally and repeatedly use both local and English so that learners might develop the English language skills and grasp essential concepts.

Although, the active learning strategies employed were found to be relevant and inspiring for few learners, what majority of the learners did was patience testing. This is because the educators refused to compromise their fundamental beliefs about active learning and some tolerance to behaviors like late coming and procrastinating tasks. Participants of the focus group, except one, criticized the pedagogy teacher because of his unsettled disposition. They also emphasized that some learners who showed unacceptable behavior were not tolerated and were chided. Nevertheless, one learner claimed that the pedagogy teacher was excellent because he used three or four methods in one session and stimulated learners to discuss and analyze concepts by relating them with real and personal experiences. The mathematics educator was criticized for being too slow during his presentation and facilitation. All respondents stressed and demanded that educators should work hard in creating good relationship with learners.

In connection with the causes of the inactive role of learners, one respondent strongly argued that many learners were confused by the academic program in which they were preparing for matriculation and taking professional course at the same time. He also stressed that the professional courses had to be prioritized while the whole effort was geared toward preparing learners for matriculation. Besides, the mathematics educator reflected and articulated that his whole effort, beginning mid-September up to mid-February, was trying to help learners prepare themselves for matriculation. He attested that such intentions had narrowed down his pedagogical innovation in teaching mathematics.

4. Discussion and implications

The process and results of the study have confirmed a number of facts about the context of the ACCE. A significant issue emerging from the findings of this study that has greater implications is the need for collaboration and innovative pedagogical initiatives. These findings were also consistent with other studies. Self-study as a methodological approach has enabled the educators to reveal themselves and the phenomena they are in. Reflection has been instrumental in conducting the study that was wholly aimed at improving the learning and teaching practices. Reflective conversations have thus been essential elements of this

action research process. A number of researchers found that "teachers could examine and problematize their teaching by reflecting on their practice and by becoming reflective practitioners" (Schön, 1987; Zeichner & Liston, 1996 in Samaras & Freese, 2009: 2).

The findings also informed that educators should engage in continuous discussions about their professional practices that may greatly determine the introduction of active and innovative approaches. The whole research process was hence characterized by genuine and open reflective practices that had also invited other educators to become active critiques during the data collection process. The ultimate goal was to learn from teaching thereby supporting learners to learn in better ways. The initiative has marked dual results: collaboration and originality. Samaras and Freese, (2009: 5) pointed out:

Self-study is not done in isolation, but rather requires collaboration for building new understandings through dialogue and validation of findings. Self-study research requires openness and vulnerability since the focus is on the self. And finally, self-study is designed to lead to the reframing and re-conceptualizing of the role of the teacher.

Study, according to Richard Sagor (1992: 1-6), help teachers break isolation, contribute to knowledge base and ensure self-regulation. Such an approach has been a noble experience that allowed the educators to discover facts about themselves and their learners. The educators who conducted this CAR were ambitious to learn about learning and improve the quality of practices and most importantly their professional identity. The review made by Izadinia (2014: 435) suggested that "one of the important aspects of learning community is establishment of collaborative and collegial relationships between participants which play a significant role in clarifying a teacher educator identity".

This study has categorically exposed the reality that collaborative work promotes learning. The collaborative work has enabled the action researchers to renovate their perception about teaching. The knowledge and skill developed was priceless. This experience essentially helped both educators to properly identify their professional identity in learning to become highly concerned with the self and act professionally. It helped the educators in closely monitor their professional learning. Wiggins and McTighe (2006 in McGregor, 2007: 11) highlight the meaning of a professional learning community saying:

For a school to be a model learning organization, all faculty members should be professional learners: They should engage in deep, broad study of the learning they are charged to cause. What works? What doesn't? Where is student learning most successful, and why? Effectively tackling these questions is what the 'professional' in 'professional practice' means.

Another essential result of the action research was the innovation that was manifested by the newly practiced strategies of active learning. Weimer (2002: 100) explains innovation as planning new and unusual class activities and the use of new teaching techniques and assignments. The innovative idea that emerged was to implement strategies that promote active learning based on the evidences from learning environments and practices. Socio-psychological and physiological evidence was elaborated by Michael (2006: 160-162) outlining that learning involves the active construction of meaning by the learner.

Ginsburg (2010: 62) argues that for students to be actively involved, they must be engaged in such higher order thinking tasks as analysis, synthesis, and evaluation. He further explains that "strategies promoting active learning be defined as instructional activities involving students in doing things and thinking about what they are doing" (Ibid). Use of these techniques in the classroom is vital because of their powerful impact upon learners' learning. Such initiatives can be considered as paradigm shifts that bring about "new perspectives, new conceptualizations and new ways of thinking about a topic, large or small" (Applefield et al. 2001: 35).

The finding of the study indicated that educators had persistently encountered communication problems with some learners. This is caused by the fact that learners had less English language proficiency. Although the medium of instruction is English, both educators code-switched (Brock-Utne & Holmarsdottir, 2004 in Altinyelken, Moorcroft, & Draai 2014: 93) to Tigrigna believing that learners would grasp the core messages of certain concepts in a local language. However, this was also found to be a challenge for some learners who were not proficient in Tigrigna. The whole effort of the CAR was improving the pedagogical competency of educators in developing and creating knowledge about learning. A pedagogically proficient teacher, according to Olatunji (2013: 75) should use context to show a good ability to use subject knowledge in research-related, practical, pedagogical action but with student learning in focus.

5. Conclusion and recommendations

A one semester intervention has revealed several facts pertinent to educators' and learners' characteristics. The purpose of the study was to explore the challenges that hindered learners' active engagement and the possible grounds and consequences for those challenges and introduce new strategies for improving the quality of learning. The study has indicated the essential challenges and suggested diverse possibilities for encouraging active learning. It has confirmed that new pedagogic innovations will be demanding and require collaborative consistency and commitment of the educators and learners. It has also proved that active learning as a pedagogic strategy is indispensable for effective and enduring learning.

The research was limited in various ways. It basically lacked serious collegiality and commitment of other educators who were also teaching in G12-1 class. Extensive effort was only made by two educators that in some ways negatively affected the behavior of learners tremendously. This is because learners observed inconsistency in managing the subject matter and difference in motivation among the six educators who were teaching in that particular section. Thus, more research and collaboration in order to realize such innovations is highly required. Further study should hence be conducted to deeply investigate the various factors affecting the effectiveness of active learning at institutional level.

Nevertheless, the findings implied the need for better teaching practices that would allow better learning engagements among learners at the ACCE. The educators who conducted this study forward the following recommendations extracted from the outcomes of the research for better learners' achievement:

- Encourage and develop educators' strong commitment towards collaborative work
- Ensure educators' positive relationship with learners
- Endorse evidence-based learning and teaching practices
- Uphold the use of various learning resources
- Promote the use of technology-enhanced learning
- Secure continuous educators' personal and professional development

The action researchers recommend that they develop an action plan for implementing and monitoring their teaching practices based on the research results accompanied by further study among other educators.

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Promoting active learning in grade 12-9

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Abstract

This study explored the impact of educators' endeavors in promoting active learning with the purpose of examining the challenges that prevail in the classroom practices in section 9 of grade 12 (G12-9). To gather the necessary data, we used learners' profiles, educators' diaries, document analysis (learners' transcripts, examination and test papers, and attendance sheets), and conducted focus group discussions. Data were organized and themes derived for analytical purposes. The research process helped us to explore educators' and learners' attributes and to find out the characteristic realities of our teaching and learning practices. These will positively influence our classroom and institutional practices in teacher education programs in reviewing our pedagogy, resources and most importantly our professional culture as educators.

Key words: Active learning, grade 12-9, ACCE

1. Background

Educators' experiences in the classroom practices in G12-9 indicate that almost all practice teacher-centered approaches that were not promoting active involvement of the learners. The objective of this research was thus to discover the main pedagogic challenges of G12-9 educators with the intention of enhancing the active engagement of learners for better achievements. The educators anticipated in making tremendous differences in their attitude and their capability to support and facilitate the learning experiences of their prospective learners from the collaborative self-study. The educators also believe that only active participatory interventions will ensure the creation of positive teaching and learning environment at the ACCE.

These concern about the consistent challenges of the inactive participation of our learners, in and outside our classes, urged us to come up with critical learning and teaching issues in our classes. Thus we deliberated to construct answers for the following main action research questions through a collaborative study:

- What are the main challenges that hinder the active engagement of G2-9 learners?
- What are the possible grounds of these shortcomings?
- What are the consequences of the shortcomings in the learning and teaching process?
- How can we enhance active learning among our learners?

2. Methodology

To gather the essential data, we used educators' diaries (John Elliot 1991: 69-90), learners' profiles, document analysis (examination and test papers, transcripts of Grades 9 and 10, and attendance sheets), and focus group discussions. Data and information from the educators' diaries were shared, and organized. The researcher-educators were consistently meeting to select and organize ideas for promoting active learning. The outcomes of the discussions among the team of researchers and the discussions with their learners were captured. From the learners' profiles, we drew the background, sex, age, ethnicity, region, and their previous school secondary school performances. We organized the profiles of the learners to support our analyses of data obtained from other documents. Five girls and six boys from five ethnic groups were selected purposefully from G12-9 for focus group discussions from the six regions of the 29 schools. The educators also took daily records of the learners to identify regularity of their attendance. Focus group discussions were also organized that helped the researchers to obtain the opinions of the learners.

After adequate data was gathered, we agreed to introduce an intervention that encourages active learning. The researchers believed that such an intervention may inspire learners' higher involvement and improve self-engagement capabilities of our learners. It was expected to motivate learners to explore the content of the subjects facilitated by the educators. It helped us to come up with a sufficient picture about the inadequate level of our earlier practices in not engaging our learners actively in G12-9.

3. Findings and discussion

We discuss our findings in mainly four themes that were derived from the responses and views of our learners in the process of listening to them intently. In the first three themes, the academic background and standing of our learners is probed and related with the first semester results of the learners at the ACCE. The position and role of their secondary school teachers and that of the educators at the ACCE is then enquired separately and synthesized. The results of the initiative of the researchers in intervening to promote active learning in G12-9 is then discussed.

A. Academic standing of learners

	Grade 9				Grade 10			
Marks in %	F	M	T	%	F	M	T	%
Below 50	-	2	2	5	2	1	3	7
50-64	5	6	11	25	9	12	21	48
65-74	18	4	22	50	10	2	12	27
75 and above	3	6	9	20	5	3	8	18
Total	26	18	44	100	26	18	44	100

Table 1 Average English performance of learner in Grades 9 and 10
Source: Transcripts of Grades 9 and 10, Registrar Office, ACCE

Learners are expected to score 50 and above if they are to pass in a subject and Table 1 and 2 present learners scores in their respective secondary schools (Table 1) and the ACCE (Table 2). For example, while learners were in G9, 95% passed in English and in Grade 10, 93% did. The findings indicate serious discrepancies in the results of English between Grades 9 and 10 and the results they scored at ACCE. In Semester I, only 32% of the learners passed in English (Table 2) at ACCE.

Course	Below 50%				50-64%				65-74%				75% and above			
	F	M	T	%	F	M	T	%	F	M	T	%	F	M	T	%
English	17	13	30	68	6	4	10	23	3	1	4	9	-	-	-	-
Math	24	17	41	93	2	1	3	7	-	-	-	-	-	-	-	-
History	22	12	34	77	4	3	7	16	-	1	1	2	-	2	2	5
Geography	17	8	25	57	7	6	13	29	-	2	2	5	2	2	4	9

Table 2 G12-9: Semester I 2016/17 results of 12-9

Hence, during Semester I most of the learners in G12-9 scored below 50 in English, math, history and geography (Table 2). Only 5% and 9% of the learners scored 75 or above in history and geography respectively. What was more was that none of the learners scored above 64 in math and still none scored above 74 in English. Marks may not entirely explain the situation of active learning in a class but they can notably hint out that learners were not making sense of their presence in the class.

Even though the English curriculum for Eritrean secondary schools encourages learner-centered and interactive approaches, neither the former schools nor the educator at the ACCE have been able to properly practice the approaches in actively engaging learners to practice all the necessary skills in English. Table 2 tells similar stories about math, history and geography in our G12-9 class though the stories are worst for math. In geography, the number of failures was less as compared to the other subjects because the approaches the educator used were relatively participatory from the beginning. This educator-researcher often tried to have teaching materials and encouraged his learners to participate actively. He borrowed related materials from the national museum and collection of rocks from pertinent professional offices to use them for active learning purposes.

Generally, the academic standing of the learners in our class during the first semester was very low. The academic standing of our learners slightly improved in Semester II after we have organized an intervention (see below) during the process of our study in enhancing the active participation of our learners.

B. Position of teachers in active learning in secondary schools

During the focus group discussion, learners openly disclosed the inhibiting role of their teachers in exposing learners to actively engage in their learning. Research has revealed that "the most important factor for learners' achievement is the teacher; there is a clear relationship between learners' learning and the quality of their teachers; and a weak teacher can actually have a deleterious impact on learners" (Chetty, Friedman & Rockoff, 2013; Darling-Hammond, 2000; Hattie, 2003 in Goodwin et al 2014: 284). In their discussion, the learners raised three critical issues related to the role of their secondary school teachers that hampered their exposure and practice active learning: shortage, incompetence, and disinterest of teachers.

Shortage of teachers especially in rural areas is still a big factor that has affected the learning process in schools because there is nothing worse than not having a teacher in a class. The shortage of teachers has also compelled the school system and the schools to assign 'teachers' who neither can handle pertinent subject matters nor have the pedagogic competencies. Shortage of teachers was also 'resolved' by recruiting underqualified people (e.g. Gash-Barka, Semienawi Keyih Bahri, Debub regions) to teach in many schools. According to the learners, lack of teachers can extend for a semester or for the whole academic year and in such situations schools prefer to involve achieving and active learners in promoting peer teaching.

As mentioned earlier, situations compel the school system and schools to assign incompetent teachers. The incompetence can be multiple in terms of under qualification to teach in secondary schools, unqualified in subject areas, and most importantly least pedagogic proficiency to teach. Underqualified and unqualified teachers cannot in any way encourage active learning and support learners to achieve in their learning endeavors. An example that the learners brought was the incompetence of expatriate teachers in pedagogy in general and learners inability to follow the teachers' pronunciation suggesting that such teachers should be selected with great care. Another critical issue the learners raised was the inability of many teachers in motivating the learners to be active through using well planned lessons, and appropriate and varied methodologies. One learner said, "we simply spend time to write notes from the blackboard and even from our textbooks."

Disinterest among teachers was also mentioned as an important issue that deprived learners' active engagement in learning. Though inappropriate assignment of teachers by the school system or schools have a role to play in the level of interest of their teachers, the learners stressed that lack of many teachers to stay dedicated to teach their learners was a prime factor to the low quality of education in the secondary schools. A learner expressed teachers' negligence to teach as "the most dangerous element in the quality of education." Often, learners were not valued, not given the necessary work to do, and if that at all happens, they are not given the essential feedback,

C. Position of educators in active learning at the ACCE

Learners did not hide the generally encouraging learning-teaching situation at the ACCE. However, they critically revealed that their educators at the ACCE did not use active learning methods that encourage the learners to generally stay motivated and take an active part in class activities. Learners should be given the opportunity to participate and to enjoy learning (Illich, 1971: 44 in Donna Brandes & Paul Ginnis, 1986: 12). ACCE educators mainly worry to cover secondary school portions for preparing their learners for the Eritrean Secondary Education Certificate Examinations (ESECE).

In the academic year 2016/17, for example, the time given for preparing G12 learners for teaching in elementary schools was only 37 school days. During these two months there were also holidays that reduced the number of school days. Usually holidays have negative impact at the ACCE in reducing school days because they may miss adjoining days (they often call it 'punishing' classes) that precede or follow holidays. For example, the Liberation Day in 2017 happened to be on Wednesday, an inviting 'spot' in the week for tempting learners to even miss class at least for three days. It will then be worse if we happen to add time lost on occasions like examination and other occasions that reduced the number of school days. Let us not forget also that the certificate teacher preparation program we had was a two semester program (between 180-200 school days) that was in fact reduced by about 80% in 2016/17.

The learners indicated that they were deprived of participatory learning right from the beginning of their primary education that had culminated into multiple challenges for effectively enjoying their learning. These included limited English speaking skills for asking and actively participating in discussions, lack of learning experiences to track, decode and separate the most important facts from class discussions, inattentive class participation, irregular reviews of what was learnt, the neglect of support systems (e.g. libraries), disinterest in subject matters, low skill of time management, disregard to doing their assignments properly, and shortfall of relating lessons to actual life. The learners stressed that the educators could do a lot in improving many of these learning deficiencies during their two year stay at the ACCE but failed to commit themselves to recognize these critical learning deficiencies and work with them in an active process of learning and teaching. Practically, the educators continued to follow ineffective pedagogies of frontal teaching lecturing and haste to cover subject matter contents for preparing learners for examinations.

Also, the researchers looked at the pattern of the learners' absenteeism and learned that the range of absence was from 1 to 23 days. Absence was looked at individual educator's records and hence did not necessarily mean absence for the whole day. It was thus necessary to closely look at the records to check absences for the whole day during Semester I. Twenty-nine learners in G12-9 (N=44 in the semester) were absent for seven or more days. This definitely would affect their effective learning. The discussant learners did not put forward meaningful reasons for the prevalence of the frequent absenteeism in their class including, "I went away to visit my parents."

D. Intervention: **Initiative to learn to involve learners**

The researchers observed from the research process that their role in engaging their learners was weak. They felt the urgent need to collaboratively intervene to encourage active learning during Semester II before finishing their final report of their action research. Hence, the study was not only critical for the educators in understanding their methodological weakness but also helped them to consider other deeper pedagogic issues like understanding and knowing the background of the learners far beyond the class situations of G12-9. During the intervention, we tried to introduce Weimer's (2002) elements of learner-centered education of shared power between educators and learners, content as a means to knowledge and not as an end, role of the educator as facilitator, shifting the responsibility for learning, and using evaluation to promote learning. The introduction of these elements improved the general knowledge of our G12-9 learners.

	Less than 50%			50-64%			65-74%			More than 74%		
Course	F	T	%	F	T	%	F	T	%	F	T	%
English Educ.	13	20	47	10	19	44	3	4	9	-	-	-
Math Educ.	10	13	30	10	20	47	4	7	16	2	3	7
Social Studies	9	12	28	10	15	35	4	10	23	3	6	14

Table 3 G12-9: Semester II 2016/17 results

Course	Promotion in percent		Difference in
	Semester I	Semester I	percentage points
English	32	53	21
Mathematics	7	70	63
History	23		
Geography	43		
Social studies	Average: 33	72	39

Table 4 Improvement in Semester II: Promotion of learners

The learners had better results in the Semester II than the first (Tables 1 and 3). Note that in Semester II the courses history and geography were combined into social studies. Also observe that one male learners dropped out in the semester. It is apparent to see the increase of the achievement of the learners from Tables 1 and 3. For example, the promotion rate of the learners in English and math increased by 21 and 63 percentage points respectively (Table 4). Comparing history and geography results of Semester I with the combined course of Social Studies in Semester II may not be appropriate but it can give us a good clue of the positive role of the intervention stage. Thus, their achievement improved by 39 percentage points.

4. Conclusion and recommendation

The ACCE has strived to promote learners' achievement in G11 and G12 learners to the extent of organizing initiatives by educators to revise G9 and G10 portions to support learners to pass in the ESECE. It has also introduced co-teaching activities in English with our Finnish Church Aid (FCA) expatriate colleagues for G11 classes. In math co-teaching was applied with these colleagues in six G12 sections including G12-9. However, a high level of commitment and close collaboration among all ACCE educators will be required to ensure the authentic engagement of their learners through active learning and teaching approaches. Active learning requires close knowledge of our context and especially that of the background and situation of our learners.

From our study, we have learned that the background of the learners in general and that of those who come from the rural areas was not encouraging. Besides their selection process may not have been genuine. However, we should not point to those anomalies for excusing ourselves for the failure of many of our learners during their two years stay in our college. Actually we have been given a better learning-teaching environment at the ACCE as compared to the prevailing situations in the secondary schools. Still with some of our reservations, our brief and modest intervention, during our study showed us that more can be done at the ACCE.

We thus recommend that we, the educators, at ACCE should use participatory learning and teaching methods to ensure making our learners the owners of their learning because learning becomes meaningful only when they are engaged. Besides, educators should individually and collectively learn to model influential skills and attitudes towards attentive listening, undertaking assignments, engaged habits of reading, responsible collaboration, and serious time management. Absenteeism should not be tolerated and should be handled with serious consequences. Moreover, measures to monitor the role of educators in

encouraging active learning should be introduced within the departments and by the ACCE management.

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A debt to repay: Recounts of the 2014/15 intakes

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Abstract

Almost all intakes of the certificate program at Asmara Community College of Education (ACCE) in 2014/15 academic year earned 'F' in their secondary school national matriculation examination. They were also away from their academic studies for some time. This new experience encouraged us to explore the factors that impeded their academic progress, the initiatives seized by the educators and management to support the learners to engage in their studies, and the lessons we may learn from the experience for creating a better learning environment for similar situations. The approach we employed in this small-scale study was mainly qualitative though we have also used some quantitative data to look into the academic profiles of the learners. We followed the necessary ethical considerations and used documentary substantiation, focus group interviews, pair follow up interview and researchers' profound familiarity to the college for triangulating the tools and approaches we used. Main premises were derived from the voices of the thirteen available learners that were continuing their studies in the college and then organized the themes into the respondents' general education background, their experience during the certificate and diploma programs, and the emotional and academic views they wanted to share. The researchers visibly observed that regardless of their background all learners can achieve provided they are given the necessary encouragement and support from their educators and the management staff in unison.

Key words: Learning environment, academic labeling, ACCE

1. Background

When the idea of presenting proposals for the college-wide study project in our college was raised, we felt that the situation of the intakes of the 2014/15 certificate program was worthy of exploring. All grade 11 completers in the country go to Sawa (see Background of this print) to attend grade 12 classes and also get their military training there. Those who pass the secondary school matriculation examinations go to various colleges for attending degree, diploma or certificate programs. However, there was something different about the intakes who joined the college in 2014/15 academic year. Almost all had straight 'F's in the matriculation examinations. They were also away from academic studies for about a year.

This was a new experience for us and we doubted their eligibility to enter our college. Many outside the college also felt likewise. We thus had to change our ways of treating them and facilitating their learning according to their background. The learners were reluctant to continue their learning but after adequate sessions of orientation and collective guidance, they slowly became more interested in their learning. Discipline-wise, however, they were the best intakes compared to all other intakes we have hitherto observed. They were also very active in various co/extra-curricular activities. Seventy-seven percent of them graduated in the certificate program and among these seventeen were given the chance to continue in our diploma program. Given the short time we had for following up

those who graduated in our certificate program, we were obliged to work with 13 of the learners who joined the diploma program in this study. The intent was to learn from and document their unusual experiences.

Hence, this small-scale research was conducted mainly between mid-March and mid-May, 2017 in an attempt to understand some of our wrong mindsets about a number of learners who happen to fail in national exams but had not actually failed to continue their further studies in our college. It consists of a background information followed by methods that were accompanied by pertinent literature sources. It is our hope that the findings will be of experiential significance to the ACCE and interested educators who wish to carry out further research on interesting experiences of our learners.

In this small-scale research we wanted to explore the background of the thirteen of the seventeen learners who joined the diploma program, their experiences at Sawa, and what happened in their studies both at the certificate and diploma levels at the ACCE. Our interest was to increase our understanding of a new and a little researched setting (Ruane, 2005: 12) to empower our proficiency to understand our learners (Ibid., 14). The main research issue was thus the lessons we can learn from the experiences of the learners in maturing our educational outlooks and practices, and in understanding the meaning of 'branding learners with F' after 'standard' examinations.

Our main research questions hence included:

- What were the factors that impeded the early academic progress of these learners?
- What did the college do to help these learners to seriously engage in their studies?
- What lessons can we learn and what more can we do in creating a better learning environment?

2. Methodology

The approach we employed was basically qualitative even though we used some numerical data to further consolidate our work. In accordance with the definition given by Crossley and Vulliamy (1994: 443) qualitative research implies an approach where researchers select tools that identify words, describe ideas and express feelings. It is a way of presenting evidence in some narratives that captures participants' sincere experiences (Ruane, 2005: 12). Not many studies have been made at school or college level in our school system. We believe that it is through qualitative approaches that we can influence practice and policy to come up with refined principles, strategies, and actions that could lead to improvements.

For this to happen a lot of research has to be conducted at school or college level in helping us understand the realities on the ground. In qualitative research we can see and discuss things in comprehensive terms. In quantitative research we basically see what something is, whereas in qualitative research we can get deep into discussing why and how something takes place. Crossley and Vulliamy (1996: 443) spoke of "the appropriateness of qualitative research for the study of the process of educational innovations, especially focusing on the anticipated consequence of change." Another reason why we chose the qualitative approach was the fact that we could capture the voices and their academic background, both in terms of their views and emotions, of more than 76 percent (13 of the 17) of the successful learners we worked with for more than two academic years.

We believe that collaborative study is an intervention to bring about positive changes in our educational and social situations. As real world researchers, we had an action oriented agenda with the hope that the findings will inform and encourage us to make a difference (Robson, 2002: 201). Cohen and Manion (1994: 186) said that action research can be an "intervention in the functioning of the real world and the close examination of the effects of such intervention." Speaking about action research Bassey (1999: 40) indicates that it is an "enquiry carried out in order to understand, evaluate and change." Similarly, Elliot (1981: 69) has described action research as, "the study of a social situation with a view to improving the quality of action within it."

As Altrichter et. al. (1993: 74) show, one of our objectives was, "to develop and improve practice through research in the interest of all those concerned." MacKernan (1996: 3) also said, "the aim of action research is to solve the immediate and pressing day to day problems of practitioners." It is with this desire that we were urged to carry out the study both as a mindset for improving our practice and an initiative for documenting our educational practices. We subsequently decided that their case deserves to be studied and narrated in earnest with the aim of advancing the morale and empowering the learning practice of our learners.

A. Ethical considerations

We seized the opportunity of the research initiatives underway in the college and approached our 13 learners with an open mind and paid close attention to their willing to participate in the initiative. We also ensured their competence to decide after providing them the full information about our research (Ruane, 2005: 19-21). Even though we were optimistic of their participation to the very last, they were not to be forced against their will. We also maintained the confidentiality and anonymity of the participants. Ideas were not to be made public unless we have their permission. To our expectations, all participants allowed us to make their voices public even by mentioning their names, which of course we did not do.

Verma and Mallick (1999: 149) pointed out, "participants have the right to withdraw from a study at any time." To our expectation none of them withdrew. Maximum care was taken not to harm learners and related people's feeling in any way. It was clear the research project would be successful only through the full willingness and cooperation of our collaborators. Their contribution and ideas were highly valued. We treated them with respect and openly forwarded our genuine gratitude. All encounters and meetings were conducted at their convenience. The researchers made sure that college activities were not distracted in any way. Our intention was to work in such a way that the objectives and process would respect the intentions of the college in general and the empowerment of the participants in particular. We were also very careful that fair reporting of the research findings was safeguarded (Ruane, 2005: 27)

B. Research tools and methods

Our data collection tools consisted of observations, interviews and documentary evidence. Each has its strengths and weaknesses. We thus had to rely on the combination of all to come up with as much reliable information from the participants and the documents. The research was practitioner-driven with the purpose of shifting the power (Denscom, 2007:

127) to both the learners and the educators in the college in understanding their educational settings through mutual collaboration beyond the day to day classroom situations.

i. Casual observation

Observation was one of the main tools we used. We had the chance to observe these learners for more than two years: a year during their certificate period and more than a year when they joined the diploma program. We had a good picture of their behavior, interests and academic achievements. How true when Cohen and Manion (1994: 192) said, "action research relies chiefly on observation and behavioral data." Moreover, the process was cost-effective as we didn't have to incur much expenses for conducting out our everyday observations.

Observation as a tool has its distinct advantages over other research tools. Mackernan (1996: 61) declares,

Some of the advantages include, 1) the study takes place in the natural environment of the participants, 2) the observation can take as much as is required to gain representative sample of behavior ensuring that trends and behaviors are represented, 3) the observer can make notes on non-verbal behavior, like facial and body movements and gestures which are not available to the sample survey researcher.

ii. Documentary substantiations

Another important source of information for our research was searching and analyzing relevant documents. The registrar office was cooperative in providing us with the necessary information we needed. We found out that the learners' academic performances were getting better. Moreover, we were able to know more about their background information and essential profiles like their sex, age, region, secondary school education etc.

iii. Group and pair interviews

Group interviews were conducted in two separate occasions: one with learners attending the social science and the other with the natural science stream learners; they included five and eight collaborators respectively. Before the actual interviews, they were briefed on why we were carrying out the research. Thankfully, we had their consent and active cooperation. We wanted to expand the number of voices we could hear and the range of views we can capture for our research (Denscombe, 2007: 177) by including all the learners. We also organized a pair interview to allow the learners to reflect on their situation and what their views may be after their graduation (more than six months after their first group interview) in our diploma program.

Interviews, whether one-to-one or group, are essential research tools that recognize social interactions as an important source of data, insight, and understanding (Ruane, 2005: 157). Speaking of interviews, McKernan (1996: 128) also affirms that it allows "the interviewer to probe areas of interest as they arise during the interview. The observer can also observe the setting in which the interview is conducted." In the course of the interview we came to perceive ideas which didn't occur to us. Hence the additional advantage of the interview, as Scott and Usher (1999: 112) claim allowed us to "access to situations at which the researcher is not able to present." We used group and pair interviews in order to harvest dynamic and profound exchange of information from our participants (Ruane, 2005: 157).

Adequate information was thus gained, recorded, transcribed, translated and analyzed that have become the critical findings of our study.

iv. Triangulation

Gall et al (1996: 574) point out that "triangulation helps to eliminate biases that might result from relying exclusively on any one data collection method, source, analysis or theory" and also enhances the rigor of the research (Robson, 2002: 174). As our research strategy was collaborative, we considered the respondents as collaborators and valued their cooperation greatly. We also considered them as our critical co-workers and obtained adequate information from them. We ensured this by following some of them after their graduation. Cohen and Manion (1994: 233) define triangulation as "the use of two or more methods of data collection in the study of some aspects of human behaviors".

That is what we actually did in the process of collecting our data. In the evaluation of these tools we found out that the use of triangulation was not only valuable but also requisite. We used mainly qualitative but also quantitative approaches to reinforce each other (Robson, 2002: 174). Looking at the same thing from different perspectives and at different times (note the timing of the pair interview) strengthened the validity of our findings. As Anderson et al (1994: 115) showed, "triangulation of data allows the researcher to maximize time and to see the scene from different angles." We were also aware that information would be triangulated as we used collaborative insights of dual researchers that critically validate and substantiate our observations.

3. Findings

Altogether 17 learners from the 2014/15 intakes continued their studies until the end of the first semester in 2017. Four of them were not allowed to continue in the second semester as they were to be readmitted sometime in 2018. Of the thirteen diploma learners who participated in the research, five were from the social science and eight were from the natural science departments. Their focus group interview was structured to respond to their scholastic background in the elementary, middle and secondary school levels; tell about their experiences in Sawa where they attended grade twelve; discuss their involvement at the ACCE; and share their pertinent views.

Table 1 shows the number of learners who registered and graduated in the certificate program in 2014/15 academic year. Particularly in the third semester, most of 13 learners had a good academic standing. All graduated in the diploma program and still three earned grades that can allow them to continue to degree programs.

		Graduated: Certificate program		Diploma:	Diploma:	Degree:
Sex	Registered	Count	Percent	upgraded	graduated	upgraded
Male	118	94	80	5	3	2
Female	403	307	76	12	10	1
Total	521	401	77	17	13	3

Table 1 Certificate and diploma programs: Registered, upgraded and graduated learners

A. Scholastic background of learners

Three of the respondents in the social science group said that they were average learners in elementary, middle and secondary schools. One of them claimed she was very good at elementary level but showed some signs of weakness in middle and secondary schools. Still another learner told that things were quite good at the elementary and middle levels but not so good in secondary school education. All the eight natural science group participants of the second focus group interview also pointed out that their scholastic achievements at various school levels was quite good.

B. Learners' experience at Sawa

Most participants disclosed that they did not study properly and were not very much interested in their studies at Sawa. One learner from the social science group admitted that the fault was his. He didn't attend classes regularly and cared less about his studies. He further stated that he was misinformed by an orientation given to them saying that if he passed in agriculture he would be allowed to join the agricultural section of a vocational school at Sawa the following year. He disregarded all the other subjects and only concentrated his attention in studying agriculture. At the end his grade point average (GPA) happened to be only 0.4, the highest score being 4 points.

Some of the social science group learners criticized their teachers who happened to follow only the academically achieving learners at Sawa. Most of such learners finish their grade 12 portions in their respective secondary schools. According to the learners, the teachers did not pay much attention to helping all the other learners. However, the natural science group reported that the support from teachers were commendable and the intense peer-teaching exercises at Sawa were valuable. The natural science group were asked why their secondary school matriculation results were low and replied that they could not make it despite most of them studying for many hours. One of them said that she was expecting to pass and was amazed to see that even learners who were better than her failed.

During the follow up pair interview of two of the learners who graduated in the diploma program in 2017, they retrospectively reflected that there were learners who had better academic competence than them and that the examination oriented school system has not helped many to achieve in entering college education. One of the interviewees said, "I don't know what happened to some of my friends during the matriculation exam. They somehow failed even though they were better than I was academically." They suggested that exams will never be good ways of evaluating learners.

Moreover, both the natural and social science groups pointed out that the climate at Sawa was harsh and not conducive for most learners. The researchers had the understanding that all the learners had straight 'F's but found out that some had better marks to allow them to join certificate programs. This in one wrong postulation on our part!

C. Learners' experience at the ACCE

During the early certificate program, both groups said that they were impressed with the way they were received at the ACCE. Emotions were very evident when all expressed their gratitude to their educators and college leadership, occasionally mentioning names. They all agreed they were given food and lodging instantly with welcoming spirits and earnest compassions by all college staff and workers. At first they were not in the mood of learning. They also said they never thought of coming back for learning, leave alone for becoming teachers. However, the orientation given to them by the administrative and teaching staff changed their dispositions slowly. They appreciated the great role teachers and educators can play in learners' lives. They further emphasized that their educators taught them at their pace and did their very best to help them.

The natural science group added that their morale was uplifted because of the massive support they received from their educators in the certificate program. Hence, they began to realize that if they study hard they too can become successful. The continuous assessment procedure was a crucial factor that helped them capture the learning process gradually. Particularly, the social science group mentioned that their interest in learning begun to tremendously improve in the second semester of the first year. One of the respondents emotionally remembered how their psychology educator repeatedly offered supports of encouragement and shared that all credit should be given to their educators who helped them build positive characters towards furthering their learning. However, later in our follow up interview with two of the participant learners who graduated in the diploma program, we learned that very few of the educators were not encouraging to the extent of uttering offensive words to the learners of the 2014/15 intakes.

Similarly, in the diploma program the social science group recounted that the program was more demanding and cited the difficulties of finding adequate handouts for their studies. The natural science group believed that there was a great difference between the certificate and diploma programs. They said that in the certificate program they were highly dependent on their educators. Both groups notably observed that the diploma program was different in experiencing learning with classmates much older, more matured, and with adequate work experience in schools. The natural science group for example said competition used to be less severe in the certificate with their former classmates but quite tough in the diploma program.

The natural science group spoke of the low level of English proficiency they possessed to stand fit for the diploma program. The difficulty of the subjects in the diploma program was also higher and they had to study for longer hours and ask their classmates to work in unison. Above all the purpose and encouragement expressed to them by their educators was clearly underlined. The social science group stressed about the unique approach of their history teacher, whose support was a constant inspiration. The group appreciated the support and reassurance given to them by their senior classmates too. Such determinations helped them to achieve further in the diploma program and beyond to the degree level.

Later in the pair interview, two of the graduated learners mentioned that the second semester of the diploma program was an enjoyable semester because most educators employed participatory methods. According to them the quick change in the educators attempt to use participatory methods might have been influenced by the course 'Introduction to Action Research.' Once the educator of the course established study groups among the learners, the groups were used in all the other courses for pertinent learning engagements by the learners. One of them said, "it was a semester full of sharing of our ideas and experiences."

D. A debt to repay

Wholeheartedly, the respondents said they were grateful for the unrestricted support they received from the college environment. They have come to realize how noble the teaching profession is. They will feel more responsible to help their brothers and sisters who are waiting for their services in elementary and middle schools and stressed that they have a debt to repay. In the follow up interview two of the learners also shared that they are ready to continue learning not only for their own interest but also for the interest of their prospective learners. "We have seen actual exemplars from our educators that will help us practice what teachers should commit to their learners and we are ready to tell our learners our stories…" one of them said. The other also said, "like the saying goes, I will tell my learners to understand that *there is no iron and person that is weak*".

In their further comments, one of the social science respondents indicated that the orientation given to them in the certificate program was very helpful. Not much of this was seen in the diploma program however. The comment should be well-taken and that more communication initiatives should be made in the future by the college in the diploma program. In addition, they pointed out that the ACCE management should try to do its best in facilitating access to adequate spaces and extension of sufficient time in the evenings and weekends so that learner could study more. They also suggested that the strengthening of the digital library will be vital venue for supporting learners in their studies.

4. Discussion and lessons learned

The case of the 2014/15 intakes in our college was a generative area for investigation based on some of our prior observations. This was closely enriched and triangulated by adequate data collection methods mentioned in section three to be able to appreciate the distinct experience of learners who entered the college not through the proper channel of our recruitment policy. In the certificate program the college used to accept learners with predetermined secondary school matriculation results. Hence, the learners were assigned to us not only late but also with very low academic standing.

Initially, the college felt inappropriate about their situation but shouldering the fact was necessary. Meetings were organized and pertinent issues of flexibly valuing and encouraging norms of positive relationships to fit the learning and teaching process to the low academic level of the learners. There was no reason to do otherwise as Stoll and Fink (1996: 18) observed, "all pupils can learn if given sufficient time and support." Soon, the readiness and willingness of the learners became commendable.

Usually, there is a wrong notion of equating and branding our learners to their matriculation results. Again, as Stoll and Fink (1996: 120) rightly expressed, "ability is not fixed, pupils ability can be modified by effective instruction." The administrative and teaching staff did their very best to make the learners feel at home. Possible means were used by the administration to encourage them to follow their studies. The first impression the learners constructed during their reception surely lasted during their stay at the college. Beyond their interest in their studies, they played various roles in diverse co/extra-curricular activities and made their stay enjoyable. Discipline-wise, they were the best batch we have ever had.

Two other factors that helped the learners to stabilize were the teachers' optimistic attitudes towards the learners and the teaching methodologies that involved and demonstrated high level of interest towards the learners. Pedagogy can definitely enrich the relationships of learners with educators and hence deepen learners' engagement towards active learning. This clearly surfaced how important educators can be in shaping the character, culture and curricular life of learners. Dean (1992: 51) indicates, "the teacher is the most expensive and important resource in any classroom." Teachers can sometimes destroy learners' self-esteem if they fail to encourage them and treat them with respect.

How appropriate when Humphrey (1993: 20) said, "low-self-esteem of learners is the main contributor to poor academic functioning." Emphasizing the importance of teachers, Humphrey (1993: 110) again adds, "it is important for teachers to be aware that every word, every facial expression, gesture or action on the part of the teacher gives the learner message about his/her worth." In our case, the learners were valued by their educators as Stoll and Fink (1996: 120) pointed out saying, "pupils learn more when they see themselves as able, responsible and worthwhile." Such was the process of constructive attachment we have endorsed with our learners. In just a semester they gained their self-confidence and appreciated the commitment to engage in better ways of learning.

Educators started to revise secondary school portions from the scratch and a lot of revision work had to be done with intensity considering the sad academic level of the learners. Hopkins (1985: 231) tells, "of all the variables under the control of the school and its teachers, teaching has the most demonstrable impact upon learner learning." During the graduation ceremony (certificate program), it was moving and enjoyable to see the graduating learners, parents, educators and all those who had contributed to make the occasion a jubilation. Learners had to be re-examined during the summer and deployed as teachers. The number of dropouts was 30 (7%) of the total initial intake expected to provide their valuable service to elementary schools all over the country.

At first we hesitated that the learners would find the academic going arduous. However, the college came to ascertain that most learners completed their certificate studies and a few continued to strive to compete with others who were more experienced than them in the diploma program. The few, as well, realized that they were learning with learners who had 'better' background and deeply acknowledged that the college created the necessary environment and support to motivate them to catch up. They also worked hard collaboratively. Lockheed and Verspoor (1991: 64) expressed that "cooperative learning programs showed significant gains in achievement for all group members especially for learners who began as low achievers."

In the second semester results in the diploma program encouraging academic signs were observed. Of the sixteen who joined the diploma program, only three were to be re-admitted. Table 2 shows the learners results in GPA in the second semester.

Department	GPA below 1.99	GPA 2.00-2.49	GPA 2.50-2.99	GPA 3.00-3.49	Total
Natural Science	3	3	4	1	11
Social Science	-	2	-	3	5
Total	3	5	4	4	16

Table 2 Learners upgraded to the diploma program: Second semester results (GPA)

The GPA of the learners who were upgraded to the diploma program ranged between 1.00 to 3.33. None of the social science learners earned below 1.99 GPA while three from the natural science stream are to be readmitted because their GPA is less than 2.00. One learner in the social science was in a distinction status (3.33) and another in natural science had a very good standing (3.00). Overall, about 81 percent of the learners who were upgraded to the diploma program earned good standing (GPA 2.00 and above). The good appraise is that three from the social science and two from the natural science learners will be eligible to join degree programs if they happen to stay firm in their current standing. Actually, we later learned for the follow up interview that 46% will have the opportunity to continue degree program! During the process of our research we were able to observe that social science learners seemed to have better academic standing as compared to their natural science peers. This issues can be a very pertinent area of further research in the college.

In conducting this study, we were able to learn important lessons. As mentioned earlier, the college was apprehensive when it was first notified that learners were coming to the college. Educators were also disconsolate about the future for the learners considering the learners' low academic background. Moreover, the learners were very reluctant to learn. They felt de-motivated and hopeless due to their low self-esteem. Hence, the situation seemed gloomy and unpredictable at the beginning. The bright moments came when the entire administrative and teaching staff sat in a circle and firmly decided to alleviate and provide adequate social and academic haven within the college for guaranteeing a better environment that recognized the concealed potential of the learners. Soon, the learners were renewed to the better. They began to follow their studies in earnest and engage in lots of extra-curricular activities making the college a better place to be. Above all, we came to learn that they were highly disciplined.

The process was a win-win-win-win situation for us all. Educators were happy to see their learners gradually achieve. The management was satisfied to see observable improvements come. Parents also knew that their children were in safe professional hands. In the end, the Ministry of Education was delighted to deploy 401 new teachers in its elementary school programs. It was impressive to see that the learners gain high level of self-confidence and self-esteem. We are generally certain that these teachers are performing their duties well in the respective elementary schools.

Those who were given the chance to continue their studies at the diploma level have proved themselves true to the cause. In point of fact, we observed some of them to grasp the opportunity to continue to degree programs. The college is more aware that all learners can learn despite coming from different backgrounds. Furthermore, we at the college believe that changes are within reach if we continuously engage ourselves in circle discussions and relevant research to make our college a better place for learning. For sure, the best is yet to come.

5. Conclusion and recomendations

In this small-scale research, the researchers visibly observed that all learners can achieve provided they are given the necessary encouragement and support from their educators. Seventy-seven percent of learners were able to rework their confidence to hold their heads high and complete the certificate program and, among these, four percent continued to the diploma program. We were glad to see that the learners, who were at first dissuaded to continue their studies, were later able rework their confidence and succeed with reputable veracity. We were delighted to observe that these learners held their heads high in the end. The impact of their achievement in their respective communities in general and their families in particular was also illustrious. What seemed unattainable was attained with the cooperative engagement of the learners, educators and all the members of the management, though the role of educators in bringing the transformation should be highlighted. The research clearly reminds us that supporting learners to engage in serious learning is the core mystery to higher levels of achievement.

Later in the follow up interview we were surprised to realize that the participants will seek means for conducting collaborative action research in elementary schools. They said they have appreciated being part of the study. One of them said, "I have learned that the ACCE is teaching collaborative action research (CAR) and conducting CAR. This exemplifies to me that በቶም ወዓልቱ፡ ተሳተፍቱን ኣሳለጥቱን ዝካየድ መጽናዕቲ ብሉጽ ኣካል ስረሐይ ምኸኑ ተገንዚበ"[1]. The other interviewee said, "I accepted the research wholeheartedly because it was about me." These were keen observations to remind us that a study conducted by the lively participation of our leaners and educators, who are in the front line of professional practice, should be an inherent duty of all educators at the ACCE.

It is our hope that this paper may open ways for further tracer research on the conditions of our learners of the 2014/15. Most are serving in elementary school in all the six regions of the country. For us in the college who are embarking on new research strategies, we have learned important lessons in steering clear preconceived ideas and practices from our teaching and learning process. We need to be more compassionate, attentive and relevant to the conditions and levels of our learners. Adequate gestures of sympathy, enough sessions of orientation, collective guidance, departmental follow up, educators' dedication, continuous circle discussions that center our learners, encouraging learners' collaboration, and leadership support can make what seems unfeasible to be feasible. An essential integrity of pedagogy in our college should be its commitment to circle discourses (Holberg and Taylor 2015: 2) and close relationships among the college community. *Hence,* success is within reach if we all work jointly.

1. Meaning: "...I have come to understand that a study conducted by actors, both partakers and facilitators, will be an inherent duty of my profession."

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Significance of IT based examination at ACCE

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Abstract

The Information Technology Department (ITD) at Asmara Community College of Education (ACCE) is striving to pave a way towards improving college pedagogies through computer assisted initiatives. This study mainly intended to explore the IT environment in our college for setting exams. Data were collected through a questionnaire after a Moodle (Modular Object-Oriented Dynamic Learning Environment) learning system quiz was administered from forty-two males and the available five female learners from classes in the diploma program. A focus group discussion with purposefully selected learners who took the exam was also conducted. Data from the questionnaires were tallied, organized and analyzed through descriptive percentage forms while group discussion outcome were closely probed to derive meaningful premises for analyzing the views of the learners. Results indicated that learners positively weighed the importance of IT based exams providing learners' computer skills are adequate and that the IT environment for IT exams are conducive.

Key words: Computer assisted examination, computer skills, computer environment, IT, ACCE

1. Background

Teaching academics should have access to a wide variety of ICT resources. However, the use of computer assisted teaching and learning process is limited to developing the basic IT literacy level of the learners in our college. In 2014, the ITD carried out a pilot scheme to try-out an online computer assisted examination (ITD Report 2014) believing that the adoption and use of computer assisted examination could help college educators to meet several pedagogic objectives (Barkley, 2001: 3). Similarly, computer assisted technology has not been utilized to facilitate our examination schemes at the ACCE though its purpose is very apparent for learners, educators, as well as the management of the college. Hence, the IT department endeavors to introduce the use of computer assisted online examination in our college with the aim of exploiting the technology in improving our examination schedules, their enactment, and the efficiency of examination related procedures.

We generally suppose that the problem for not introducing the online exams is mainly due to the lack of awareness and skills in ICT of our learners, educators, and the management staff. We also look forward to using the available IT facilities regularly and effectively by learners and educators for improved teaching and learning practices. We thus wanted to be involved in finding answers to the following main research questions for developing a sound computer based examination schemes at our college:

- What are the advantages of using computer assisted examination at ACCE?
- What are the main reasons for not using computer assisted exams in our college?
- How can the ITD support the departments in using computer assisted examination?

2. Methodology

Our main endeavor to conduct the research was a collaborative effort of all the five educators of the ITD. The strategy was meant to help us avoid doing isolated efforts in research. It was also meant to help us focus on our practice as collective practitioners. Forty-two male and five female learners from the graduating diploma classes and from all the three departments of educational administration, natural science education, and social science education were purposefully selected to represent learners that came from all the six regions in the country.

The main reason for selecting the diploma learners was their relative familiarity with computer assisted examination at least once when they were attending introductory course on basic computer skills. The age range of the participants varied between 20 to 65 years. Learners from the central region of the country were slightly familiar with the use of computers the Internet but most had to be assisted with logging in and during the course of the examinations.

The data collection time was scheduled during their final examination, after they had two paper exams. We did this because we wanted the participants to sense the difference between the two type of exams and help us get valid and reliable data from their fresh experience. The paper exams were given in a traditional classroom setting with adequate spacing of the seats to avoid likely deceits. The online exams were conducted inside computer lab rooms in the presence of the researchers who were cautiously observing and monitoring the situation.

The Moodle learning system quiz was administered as a tool for the for examination. Moodle is an interactive learning management environment that is used by many institutions all over the world. It has features to upload various learning resources and assign activities for learners including online exams. It uses the Client/Server model where the learning material is on a web server and is accessed through a browser on a client side. Moodle exams allow options of timing and procedure related to (computer internet protocol or IP) strict access to exams, shuffling of the questions, general and specific feedback to learners, automatic grading, and other interesting option. (Al-Qdah & Ababneh, 2017: 2)

The collaborative task of the researchers was then to investigate the process the learners experienced both from the outcomes of their exams and responses from a questionnaire completed by the learners after completing the computer assisted exams. Data from the questionnaires were tallied, harmonized for correspondence, and analyzed through descriptive percentage forms. One day after their exam we conducted a focus group discussion with purposefully selected learners. The group discussion outcome was closely enquired both at individual and joint occasions by the researchers to ensure the derive the values and meanings the discussants shared with us. The data obtained from the analysis of the exam process, the questionnaires, and the focus group discussion was then checked, patterned and sorted for analysis.

3. Findings and discussion

The exam included five types of equal difficulty questions: true or false, multiple choice, fill in the blank, matching, and essay. It had options such as randomizing the order of questions and shuffling within each question. Answers are automatically calculated and learners

could view their results right after each exam with some general and question specific feedbacks. Hence, analyzing and interpreting the data from the exam outcomes and process was an essential part of our study.

The purpose of the ten-item questionnaire was to gauge the learners' satisfaction and experience through comparing the two types of exams: computer-based and traditional exams. The purpose of the focus group discussion was to enable researchers to obtain views through flexibly interacting with them in conversations.

The findings of our research are discussed mainly in the significance and interest of learners to ICT, their background and access to ICT, and IT based-exam issues observed by the learners.

A. Significance of ICT experience

According to the findings, 81% of the respondents believe that computer skills is an indispensable tool for their studies. However, we have learned that 68% of the respondents didn't have sufficient computer skills to confidently use computers in general and worse during the IT based examination. About 53% of the respondents responded that they didn't have access to computers and other ICT resources in their background. This contributed to the anxiety of the learners in taking the computer assisted exam for their mid and final assessment as compared to paper-pencil based exam. One of the focus group discussants shared that he has taken IT based exam for the second time and felt better in the second. A crucial reason was his interest and his family's to have bought him a laptop, an important tool for his success in the second IT based exam.

B. IT environment at the ACCE: **Electricity, equipment and venue**

Most learners have disclosed that they were not able to develop adequate computer skills mainly for three reasons.

- Unreliable electricity supply that hampered classes especially in the afternoons, that limited their independent interest to practice what they have learned using their spare time.
- They also revealed that the ITD does not have adequate ICT equipment to allow each learner to use a separate computer for practicing their skills.
- Besides, the relatively spacious class could not accommodate the available computers and hence two to three learners sit before a computer.

C. IT based exam related issues

About 75% of the learners replied that they had felt some sort of nervousness during the first exam but felt better during the second. Hence close to 35% of the examinees felt anxious even after taking the second IT based exam. The respondents were also asked if IT based exams and continuous assessment process were to be given in all the other subjects of the college. Most of them (68%) did not agree. Their reply led us to a situation where the ITD has to make adequate efforts to prepare the ACCE environment for IT based assessment in general and exams in particular. The process will mainly include changing the attitude of learners and our educators in the matter.

The other IT based exam issue revealed in the study was the complaints of the learners regarding the type of questions in the computer assisted examination. Their responses showed that their first option was multiple choice questions (72%) followed by true or false, fill in the blank, and essay. The least preferred was the matching type items. From the focus group discussion, they have reasoned out that match questions are deceiving types in computer assisted exam. However, the main problem was related to how one manipulates the enlarging (zooming out) the view to clearly see the crowded interface. Hence the challenge is about lack computer skills and not the features of the IT examination.

Several grounds may encourage the use of a computer assisted examination system. The main reason is the overwhelming advantages one can get from using it instead of the traditional paper and pencil exam. The rewards of placing examinations online include pedagogic, transparency, and cost and administrative issues. Example include enhancing learning due to more frequent assessment, immediate feedback to learners on examination, and a significant cost savings related to paper work, copying, and dissemination of exams.

Upon submission of the exam, the computer assisted examination software offers learner with the correct answer and their responses. It also helps educators to easily provide instant access to item and statistical analysis. Rapid feedback rewards well-prepared learners and motivates non-performers to intensify their effort to do better. Educators can also make a very big question bank for tests and exams. Every learner gets a random item from the question bank (Barkley, 2001: 4). As more online test experience occurred, labor costs fell rapidly as examinees confidence develops in hardware, software, and logistics associated with administration of online exams. Ibid: 7).

The ITD is vested with the responsibility of developing the use of information and computer technology (ICT) environment for learning-teaching process at ACCE. The department intends to make learners and educators the vital beneficiaries of the magnitude of technological experience they would get in doing away with the bulky and traditional exam styles. Such a change will also allow efficient use of human, material, financial, and time resource in the college.

4. Conclusion and recommendations

The findings of the study indicated that the main challenge of the diploma program learners in using IT based exams was their inadequate computer skills. For many the inadequacy was related to their lack of exposure in their respective settings they happened to live and work. Besides, the insufficient ICT and related environment at ACCE did not allow them to learn and practice the computer skills they were supposed to develop.

The advantages of using computer assisted examination at ACCE is beyond any doubt but suitable environment has to be laid down beforehand and take measures to introduce it. Our main assignment will hence be to engage ourselves into efforts for developing positive attitude of our learners, our educators, and the management about the role of ICT in learning and teaching process at the ACCE. This will lead to the need for the necessary skills among all the ACCE community for using ICT far beyond setting examinations. The role of the ITD should thus be to create a lively ICT environment through influencing all the educators and pertinent management staff to trust in the indispensability of sound ICT for quality learning and teaching process at the ACCE.

In the mean time we recommend to begin the process with sharing the outcomes of this study among our ACCE community. We will urge all educators and management staff

to develop their computer skills and use ICT in providing quality education in our college. Also, the outcomes of the study vest a compelling responsibility on us to negotiate with our management in developing our ICT and related environment like introducing appropriate supply of electric power and lay down adequate space for ICT in our college.

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Learners' inadequate skills in spoken English at ACCE

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Abstract

This study was conducted by three educators at Asmara Community College of Education (ACCE) for investigating the grounds, consequences, and possible ways of improving the inadequate spoken English skills of learners. Interviews, focus group discussions, and questionnaires were used for collecting the necessary data. A total of 54 purposefully selected learners from six grade 11 (G11) sections completed a questionnaire containing qualitative and quantitative items. Individual interviews with five G11 learners and one expatriate educator were also conducted. Besides, focus group discussion with ten G11 learners were organized. All data were organized in MS Excel for content analysis to identify the main themes from the data and the emerging themes were identified in reporting the outcomes of the research. The main reasons for the inadequate level of spoken English skills of the learners were thus distinguished including unsupportive teaching methods used by teachers, parents' low English skills, and the learners' motivation to speak English. The action recommended for improving the spoken skills incorporate the change in educators' methods of teaching, involvement of the learners in series of activities that support oral skills inside and outside English language classes at the ACCE.

Key words: Spoken English skills, G11, ACCE.

1. Background

Based on our observations and some speaking skill tests administered earlier, English educators of G11 at the ACCE noted that their learners have inadequate English speaking proficiency. Accordingly, the educators reason that learners' inadequate spoken English skills have been hindering them from freely taking part in classroom discourses, group discussions, and presentations. We thus resolved to conduct a study with the persistence of investigating the current status, causes, consequences, and possible ways for improving the spoken English skills of our learners in G11.

Speaking is one of the two productive English skills alongside writing. It is a very essential skill as it is frequently used in the learning and teaching process in our college and has great practical value. However, previous research indicates that many learners who use English as a second language struggle to develop adequate English proficiency skills. One reason could be the environment of the learners that forces them to speak mainly in their mother tongues. As indicated in the literature review, a study at National University of Laos (Sam, 2013: 10) showed that English educators are not well educated to effectively facilitate the speaking skills of their learners. For example, one of the frequently observed occurrences in our college is that educators recurrently use the mother tongue languages when teaching English that negatively influences the skills and interest in learning the language. Based on our long lived observations, many teachers in our country also use mother tongue languages in their English classrooms.

From our observations, very few learners use English in classroom discussions while

most feel shy and refuse to present their works or that of their working groups because of their lack of confidence to speak the language. Important approaches for developing speaking skills like taking part in debating contests and role playing are also scarce. Moreover, most learners do not frequent read English books in developing their vocabulary and speaking skills. Their educators are also to blame for not becoming good examples of such practices. Besides, most learners are interested in the grammatical aspects of the language that focus on the forms and uses of tenses *just like the ways they have been taught.* The Ministry of Education (MoE) has introduced learner centred interactive pedagogy (LCIP) as early as 2003 in developing learners' active participation in the school system. However, its implementation has not been effective yet. To a great extent, this is also true at the ACCE. Most English teachers still focus in teaching structural aspects rather than the practical aspects of the language.

Hence, as disclosed from our previous observations and a few spoken tests, our learners in G11 appear to have inadequate level of spoken English. We think that this may have been caused by several factors, including the inappropriate methods of teaching and lack of adequate background in supporting spoken English. We believe that learners low proficiency has a serious consequence on the learners' active learning and outcomes because English is important for their further learning. We also aspire that our learners become self-confident in using spoken English in the classrooms and beyond. We thus tried to investigate our learners' spoken skills with the intent of improving our methods of teaching and motivating our learners to become proactive speakers of the language.

The main research questions we have developed in investigating our G11 learners' spoken skills include:

- What is the state of spoken English of the learners?
- What could be the possible causes for the low level of their speaking skills?
- What are the consequences of the current speaking skills of the learners?
- What could be done to improve the speaking skills of the learners?

2. Literature review

According to Chaney (1998,13 in Kayi 2006: 1) speaking is "the process of building and sharing meaning through the use of verbal and non-verbal symbols in a variety of contexts." Speaking is a crucial part of language learning and teaching. Despite its importance, teaching speaking has been undervalued and English language teachers and educators have continued to teach speaking just as a repetition of drills or memorization of dialogues for many years. However, today's world requires that the goal of teaching speaking should improve learners' communicative skills as an important way of encouraging learners to express themselves and learn how to follow the social and cultural rules appropriate in each communicative circumstances.

In most Asian and African countries where English isn't the national language, majority of learners have inadequate spoken English. Hashem (2011: 4) stated that learner's weakness in learning English language is due to the differences of social contexts, culture and environment. However, much of the problem could also be attributed to both educators and learners' unawareness about their teaching and learning preferences. In a study conducted in the National University of Laos (Sam, 2013: 10), thirty learners were asked to give ten reasons why Lao learners were weak in spoken English. The study discovered that 77% of the respondents stated that the English educators were not well trained and the teachers used Lao language when teaching and could not perform well to attract the interest of the learners. Further, 70% of the learners said they had lack of English background and 53% of the learners said that they lack confidence in using the language because they were afraid of making mistakes. We think the Lao context is similar to our situation.

In his book, *How to teach English*, Harmer (1998, 25-26) lists three elements, which will be present in all or almost all classes in helping students learn effectively: a) *engage*: this is the point in a teaching sequence where teachers try to arose the students' interest; b) *study:* study activities are those where the students are asked to focus on language or information and how it is constructed; c) *activate*: this element describes exercises and activities which are designed to get students using language as freely and 'communicative' as they can. Hence, the vital part of the teacher's job is to ensure whether learners are using the language they are learning or not (Harmer, 1998: 4). Besides, Kayi (2006: 2-5) for example lists discussions, role play, simulations, information gap, brainstorming, storytelling, interviews, story completion, reporting, playing cards, picture narrating, picture describing, and finding the differences as activities that teachers can use in promoting the speaking skills of learners.

In his findings about Eritrean grade 9 learners Dawit (2004: 7) summarized:

Firstly, English teachers have teaching techniques which are ineffective in achieving the intended objective. They use the structural approach to language teaching, which is outdated. Secondly, grammar is the main focus of lessons. Most of the students commented that more oral (speaking) classes should be included in the learning of language to achieve oral/aural proficiency. Teachers must therefore foster a supportive classroom environment and stress the importance of oral classes in language learning.

English educators at ACCE also use the structural approach in class which hinders to motivate the learners to speak in English. However, since the English educators have been following the difficulty of the learners through conducting a study, they have been able to partially intervene to improve the situation. The educators have thus used role playing, presentations and dramas in classrooms that resulted in some improvements in the confidence of the learners.

3. Methodology

We used mixed methods for gathering the essential data. We developed a questionnaire in which two to four grades of Likert scale was used in helping us to categorize sets of quantitative data about the predominant state of the learners' spoken English, the causes and consequences of their inadequate spoken English, and the possible solutions from the respondents. We have also included some open-ended items in the questionnaire where respondents could express their opinions flexibly. Of the 272 G11 learners in the six sections, 54 learners were selected to complete the questionnaire. The selection was defined purposefully considering variables of section, gender, and ethnicity.

We conducted interviews with five G11 learners. We also conducted focus group discussions with ten G11 learners along with other five G12 learners. Besides, an expatriate expert was interviewed so that we could understand what non-nationals think about the spoken

skills of the learners. The interviews were very instrumental in making the research data rich and the outcomes more reliable. Our prior experiences and collaboration among us in and outside the classroom situations were added advantages in the process of conducting, organizing, analysing and reporting the outcomes of the research.

		G11 Sections 1-3			G11 Sections 4-6			G 11 Total		
Ethnicity	Learners									
		M	F	T	M	F	T	M	F	T
Afar	17	2	2	4	2	1	3	4	3	7
Bilen	12	1	2	3	1	2	3	2	4	6
Hidareb	2	-	1	1	-	1	1	-	2	2
Kunama	10	2	1	3	2	-	2	4	1	5
Nara	3	-	1	1	1	1	2	1	2	3
Rashida	4	2	-	2	-	-	-	2	-	2
Saho	30	2	2	4	1	2	3	3	4	7
Tigre	57	2	2	4	3	2	5	5	4	9
Tigrigna	137	3	2	5	3	5	8	6	7	13
Total	272	14	13	27	13	14	27	27	27	54

Table 1 Sample from G11 learners: Section, gender, and ethnicity

4. Findings and discussion

The findings have been presented in five sections: the general status of learners spoken English in and outside their classes, the main reasons for the inadequate spoken English skills of the learners, the consequences of the inadequate spoken English skills, and possible ways for improving learners' spoken English skills. In the last section, an initial intervention to support learners' spoken skills that was organized by the researchers during the process of the study is also discussed.

A. General status of learners spoken English: **Speaking in and outside class**

About 13% of the responding learners have said they have acquired excellent spoken skills and 26% of them are convinced that they have very good spoken English skills. According to the learners again, about 46% and 15% of them consider themselves to possess satisfactory and poor skills respectively. The positive claims of most of the learners in the questionnaires contradict the results of the interviews (below) and we have also observed that there are far less learners with good spoken skills.

Data drawn from focus group discussions and interviews with learners suggest possible reasons for the low levels of English proficiency. These include lack of exposures, teacher centred methods, cultural context in which young learners aren't encouraged to speak the language, and lack of their own interest to use the language. We also think these are valid based on our observation in class. As a result, most of the learners don't want to speak in class because they are shy and afraid of making grammatical mistakes.

Learners were also asked to describe their current spoken English skills in open ended items and responded that their spoken English is inadequate. We found that their response in the open ended items seem more realistic than those shown in the closed-ended items of the questionnaire where none of the learners admitted they have very poor spoken English skills. In their discussion, however, most of them said they are better at listening and reading than speaking.

Most of the learners (67%) said that they sometimes speak English in class while the others' (19% and 15%) positioned themselves in the two extremes, yes and no respectively. Similar facts have also been confirmed in the open-ended items where most of the learners ensured they position themselves in the middle ranges. One of the reasons could be that educators usually frequent frontal approaches and speak for most the period as learners listen quietly, thus leaving least opportunities for learners to speak. In such cases most learners will also be obliged to provide very terse and abrupt responses including one word responses. Harmer (1998: 25) said that the learners should be motivated, exposed to language and given chances to use it just like the language learners outside schools.

Again most of the learners (63%) said they do not speak English outside their class. It is apparent that situations outside their class necessitate them to use their mother tongue languages thus limiting them to practice their spoken English even in the college compound. This is also confirmed by the opinions provided in focus group discussions and the interviews by some of the learners. In an open ended item, the learners overtly responded that they don't use English in their daily activities. Their view is observed to be honest in that there are minimal opportunities in using their spoken English with their families or respective communities. Harmer (1998: 24) said, "outside the context of any classroom, all children who are repeatedly exposed to a language will in normal circumstances learn it. They do this unconsciously rather than as a form of study." To allow ACCE learners to develop informal spoken skill they should be encouraged to read books, share book reports, conduct interview among peers, present interview findings, watch English educational videos, share their comments about the videos, and watch English news and reports on TVs.

B. Causes of inadequate spoken English skills

Mainly three possible causes for the inadequate spoken English skills of the learners were suggested by the learners from a four agreement level in a Likert scale. The three main causes were educators' effectiveness, parents' role, and the level of interest of the learners themselves. The four Likert scales were: strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD).

i. Teachers and educators' roles

Over half (59%) of the learners were of the opinion that their English educators are not well trained and as a result the educators choose to speak in their mother tongue. Our general observation on teachers' capabilities to effectively teach English in elementary, middle and secondary schools have been very worrying. Besides, most elementary school English teachers do not possess adequate academic background and hence unable to develop adequate English language skills among their learners. Furthermore, skills missed in the lower grades could be skills missed forever unless comprehensive special efforts are salvaged in the later learning experiences of the learners. Considering the role of teachers as a very

important resource in developing English language skills among their learners, we strongly believe that English teachers could be a crucial cause for the inadequacies. The situation also continues at college level thus intensifying the inadequacy of the spoken English skills of the learners. Harmer (2001,131) said:

Another cause of mother tongue use can be teachers themselves. If they frequently use the students' language (whether or not they themselves are native speakers of that language), then the students will feel comfortable doing it too. Teachers need, therefore, to be aware of the kind of example they themselves are providing."

Close to 70% our respondents complied (agreed and strongly agreed) that their English teachers also use teacher-centred and non-participatory methods in their classes that made the learning process uninteresting. The MoE has introduced learner centred interactive pedagogy (LCIP) as early as 2003. However, its implementation in classes has not been effective yet. To a great extent, this is also true at the ACCE. Most English educators still focus in teaching the structural aspects of English grammar. If all English teachers and educators in the school system had for example used role playing, oral book reporting, group presentations on a completed project, storytelling, picture description, drama etc., their learners would have better spoken English skills.

Based on the interviews and focus group discussions, frequent practice of educator-centred approaches and the use of the mother tongue languages by educators have been identified as the central causes of the inadequate spoken skills of the learners. One of the learners, for example, said, "English educators are the main agents to encourage the learners to speak in English, but the English educators use mother tongue languages often."

ii. Parents' role in spoken English

About 82% (Disagree and strongly disagree) of the respondents said that their family background hasn't encouraged them to speak English. They said that most of their parents don't speak English and hence are not encouraged to speak English at home. On the other hand, about 55% (Disagree and strongly disagree) of the respondents said that they have access to books because they live in or close to cities but did not use the opportunity to read books. At the ACCE, learners have an adequate opportunity to use the library but very few exploit the occasion for reading books and periodicals.

Close to 60% of the learners said that their family's financial problems did not that much affect their focus in developing their spoken skills as most parents' desired and advised their children to concentrate on their studies. During an interview, however, an educator said, "lack of exposure and cultural context where young people aren't encouraged to speak in English is an important cause for the inadequate spoken English of the learners." In the focus group discussions, a learner also said, "our situation in our communities doesn't encourage us to speak in English."

iii. Learners' initiatives as causes

The learners responded (67%) that they are not confident to use the language because they are afraid and shy of making mistakes. Our observations, the interviews and the focus group discussions also support the fact that lack of confidence and hesitation to making mistakes add to essential causes of the inadequate spoken English skills of our learners.

Both English and non-English educators could have played a prominent role in developing the learners' confidence through intensive speaking practices and encouragements. As well, learners should try to develop their self-confidence by reading a lot and speaking English at least with their peers. The lack of such an internal drive to speak the language may thus be a major problem. About 59% of the respondents agreed that they read English books. However, our casual observation doubts such a contention. If they had been good readers, they could have reflected it in class because a good reader can be a good speaker.

Sixty-five percent of the learners said that they watch English movies but it is difficult to observe its positive effects in the language skills of most of the learners. One reason could be the intention and attention of the learners in watching the movies is more towards the backdrops and pictures than what they can learn from the movies, a major of which can be the spoken English skills. The claim of the learners to have watched English news on TVs was 61% and still again it is difficult to witness the positive role of their claims in enhancing their skills in the language. Moreover, about 50% of the learners don't use English with their friends and family members that might have limited their practice to speak the language.

One of the reasons the respondents mentioned as a possible cause for their inadequate spoken English skills was that more than half of them have come from rural areas with less exposure and environment to use English. About 73% of the respondents also think that English is a foreign language that demands a lot of efforts to master and about 74% said that it is difficult to find expatriates that use the language to help them practice and be exposed to the models of speaking the language. An interview with one of the educators indicated that the learners are not inspired to speak in English and prefer to be listeners while two respondent learners admitted that they are mainly the ones who are responsible for not making efforts to improve their speaking skills in the language. In the focus group discussions too, the discussant learners have exposed their negligence to speak in English through a variety of means, e.g., practicing it outside the classroom, peer pressure, lack of personal commitment, and watching English movies.

C. Consequences of inadequate spoken English skills

A great majority of the respondents (81%) said that their inadequate spoken English has affected their studies as English has been, since their grade 6 education, the medium of instruction. Close to 70% of the respondents said they cannot still communicate with confidence with their educators and class engagements and hence it is common to see our learners falter and shy away during presentation, debates, group discussions and role playing. For example, about 55% of the respondents said that they do not prefer to participate in class discussion because of their inadequate spoken English skills. They simply sit quietly and observe the active learners take part in class discussions. Besides, 41% of the learners said that not reading English books is a cause for their inadequate spoken skills while only 33% (strongly agree and agree) of the learners said that they are discouraged to read English books as a result of inadequate spoken English skills. These responses show incongruence.

Nearly 60% of the respondents said that they are troubled to participate in debates and presentations. One of the interviewees said that lack of confidence to speak the language did not allow him to be active in class while an educator observed, "having inadequate spoken skills affects school performance in all subjects and makes the learners less confident."

Hence, whenever they are invited to enlist in reading and other pertinent club activities, very few join as volunteers. About 61% of the respondents also said that they can't speak in English with expatriates with confidence. Inversely, about 67% learners said that they are both interested and motivated to read English books!

Lack of English background knowledge also plays an important role in developing the learners' spoken English skills. Generally, most learners didn't have adequate spoken skills before joining the ACCE. This has affected their skills and their interest to actively take part in their studies. Moreover, their infrequent and inadequate background in using English among their family and community members had also adverse effect. Insufficiency or absence of family inspiration had thus a negative consequence on the learners spoken English skills. Learners with minimal or no reading culture of a second language are prone to develop inadequate speaking skills. Hence lack of interest to read English books can also affect learners' spoken skills. As English language educators, we hence have a big challenge in inspiring our learners to engage in activities and habits that would develop our learners' spoken English in and outside of our classrooms.

D. Possible ways for improving learners' spoken English skills

Respondent learners said that reading English books is the best way for developing their spoken skills. Educators are also of the idea that reading can help learners to develop comprehensive models for speaking English but it has to be followed by adequate practices. Reading is a foundation for developing communication skills like presentations, debating, role playing, and storytelling. Unfortunately, the respondents have listed the importance of their individual commitment to speak as low as the seventh in their order (Table 2) of possible way for improving their spoken skills. Paradoxically, they have put the maximization of learners' time to speak as a second possible way for improving their spoken skills.

Possible ways for improving spoken English skills of learners	Learners	Percent
Reading English books	52	96
Learner talking time should be maximized in class	49	91
Presentation and debating contests	46	85
Discussion and reporting	44	81
The educator has to use communicative approaches	44	81
Visiting the digital library at ACCE	44	81
Personal commitment to speak in English language	39	72
Visiting the learner traditional library	39	72
Story telling	32	59
Using role play in class	25	46
Learner talking time should be minimized	7	13

Table 2 Possible ways for improving spoken English skills indicated by learners

These suggestions given by learners indicate that educators should introduce participatory approaches for developing learners' spoken English skills. Accordingly, 81% of the respondents agreed that active and participatory approaches can motivate them to take part in class discussions. Respondents valued digital library to text library, 81% and 72% respectively. Their value appears to be clever in the sense that digital libraries could provide them with diverse modalities beyond just text and easy access to support them to speak English. Respondents suggested that educators should motivate and push learners to speak in class while giving special attention to learners who have inadequate spoken skills. They also stated that parents should provide books and encourage their children to speak in English.

E. Intervention: **Role playing in the classroom**

During the process of the study, we planned and conducted a role playing activity with another team of researchers to support practices to improve language learning. The team we collaborated with was engaged in enriching the role of the Pedagogic Resource Center (PRC) of the college. The story for the role playing was taken from their English text book that was about traffic accident in which a drunk lorry driver hit a cyclist who was crossing the main street. The cyclist died instantly. The case was taken to the court to give verdict. The learners acted as a lorry driver, injured passenger, a witness in the car, lawyer and taxi driver whereas the rest in the class acted as jury and gave their verdict. Most of the learners were inspired to participate in the play.

A positive classroom atmosphere was created as a result of the educators' initiative to collaborate in engaging learners. The idea was to make the class highly connected to the real world. Learners acted with inspiration. They were well prepared and majority acted well. Those learners who were observing were highly enthusiastic and later acted as the jury. Discussion on the event enabled all learners to take part in the activity. Such an initiative was a venture that allowed learners to take responsibility for their own learning and ensured ownership. The activities carried out gave a room for an orderly and well managed classroom.

5. Conclusion and recommendations

In the process of the study, we identified three main reasons for the inadequate level of spoken English skills of our learners. These were the short English language and pedagogic skills of their past teachers and present educators, inadequate support of parents, and the inadequate level of learners' commitment towards developing their spoken skills. We have also understood that the inadequate level of spoken English skills has affected the learners process of learning with great effect on their confidence to take part in their studies, especially within activities provided in the classroom.

Traditional, educator-centred methods are still widely used at the ACCE and English educators neither inspire nor push learners to speak the language often. Close to 70% of the respondents agreed that their educators are still using such methods of teaching. Besides educators teach in their mother tongue languages and English educators are not well trained to handle the subject. We have thus been able to clearly experience the consequences in the inadequate speaking skills among our learners. The study also revealed that very few of the learners admit the anomaly is mainly due to their low engagement to speak the language. If the learners had been inspired at an early age they could have benefitted from using the language in their schools. Moreover, 41% of the respondents agreed that their family's financial problem had affected their schooling because they were needed to contribute to the income of the family.

The inadequacy of their spoken English skills has harmfully affected both studying the language and other subjects as it is the medium of instruction; it has affected their motivation to communicate with others in and outside the college, with fellow learners and other people. The respondents have prioritized the following three possible ways of improving their spoken English skills among eleven practices (Table 2): reading English books, maximization of learners' talking time, and increasing the frequency of presentation and debates.

It is true that the prevailing inadequacy of the spoken English skills among G11 learners mainly goes back to the history of learners' lower grades. However, the duration of stay of the learners at the ACCE while they prepare to become teachers should be used by all educators and the ACCE leadership to improve their skills. English is not only a subject but also a medium of learning beyond elementary schools. All educators at the ACCE should strive to work together for bettering the skills of all learners from day one in the two-year duration of their stay. The endeavour will require the English department a serious and practical engagement.

The researchers will also commit themselves to improving the comprehensive as well as the spoken skills of the learners supported by their colleagues and the ACCE leadership. A ten-minute speaking practice daily alongside the regular lesson is expected to have a tremendous gain if the educator researchers will be able to convince learners to actively engage in improving their spoken skills. Organization of reading, presentation, and debating clubs can facilitate the development of spoken skills of the learners too. Moreover, learners should be closely guided to use the digital library on a daily basis. Educators should convince learners to understand that making a personal commitment to master the language will have remarkable results. Educators and parents may help but the critical role of improving language skills in general and spoken skill in particular will mainly depend on learners own initiative and persistence to learn to effectively use English.

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Practical work in natural science education

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Abstract

This study explores the present status of practical work in natural science classes at Asmara Community College of Education (ACCE) using mainly empirical data from purposefully selected learners and educators. Data collection instruments included interviews, questionnaires, document analysis, and the unstructured observations and reflections of the five educator-researchers from their respective classroom pedagogies. Data were also enriched by relevant literature review. The findings unfold that in our college natural science education accompanied that is enriched by practical work is sporadic and if so used, it is not well deliberated.

Key words: Practical work, natural science education, ACCE

1. Background

As the dictum goes, '*science without practical is like swimming without water*' and hence practical work should be one of the distinctive features of natural science education. Why do practical works matter, what type of practical work should be organized, and how best should practical work be conducted in natural science education? These interwoven questions have inspired us to engage into a study to explore the situation of practical work in learning and teaching natural science courses in our college.

Reforms in the education of natural science have for long been emphasizing the critical importance of practical work. The value of practical work in natural science education is as straight as the need to make learning effective and useful for the real world. Learners should observe and engage in applying concepts and methods in natural science as they progress from one theme to another. The role of the educators in such a process is very vital and hence they should be responsible in planning, implementing, monitoring and assessing the pedagogy of practical work for ensuring the quality of learning in their natural science classes.

The need to practice learner-centered and interactive teaching and learning approaches in our educational institutions have been emphasized since the early years of the millennium. However, its implementation has been very patchy and least can be said about exemplary experiences especially in regards to the position of effective practical works in the learning and teaching process of natural science subjects. The worry is the same at the ACCE. We dominantly practice the traditional lecture method and stress on 'transmitting' factual knowledge. Our tradition to plan, involve, and assess of our learners in practical works is still very marginal.

The result is that our learners leave our colleges without many times doing a single experiment or investigation themselves. Therefore, educators need to improve their teaching practices to facilitate quality learning. We argue in this study that practical work increases learners' problem solving skills, independence, and improves their achievement and creativity (Geier et al, 2008: 928). A reason for not using practical work in natural science may also be due to the limitation of educators' understanding about the nature and pedagogy of practical work. Having these in mind, this collaborative study focused in investigating the following research questions:

- How can we portray the *attitudes* of natural science educators towards practical work?
- What do our educators' *practices* look like in conducting practical work?

2. Literature review

Practical work should be given a distinctive role in enriching the learning process of natural science education. Some of the main purposes (Eritrea Institute of Technology, 2014: 37) of practical work in natural science lessons include encouraging accurate observation and description, making scientific phenomena more real, enhancing the understanding of scientific ideas, arousing and maintaining interest, teaching laboratory skills, giving insights into 'scientific method' and developing expertise in using it, and developing certain scientific attitudes such as open-mindedness, objectivity and willingness to suspend judgment.

Hence, effective practical work is a multipart process in which individuals attempt to change information and data into understandable and useful knowledge. It has also been a recognized element of natural science education but a good quality of practical work endorses commitment and curiosity of both educators and learners. Undoubtedly, it builds up multiple awareness, skills and attitudes in natural science (SCORE, http://www.score-education.org/medi a/3668/report, retrieved March 12, 2017: 1). Promoting practical work in natural science implies that educators would like their learners to develop knowledge-in-action procedure and learners would have more precise, declarative as well as insightful knowledge.

Natural science educators usually aim for two main purposes (Millar, 2004: 15). First, to nurture citizens who can adapt the sophisticated requirement of jobs that needs deep and professional scientific knowledge and application. Second, to help learners to have adequate understanding about science so that they can assertively and proficiently represent their knowledge in the modern world. Experience of carrying out practical projects can provide learners with insights into scientific practice and can increase interest and motivation to continue to study science for life (Jakeways, 1986; Woolnough, 199 in Millar, 2004, 15).

Since teaching natural science is not only about presenting information but rather making the learner play an active role in learning abstract ideas, practical work is compulsory. Learning natural science in schools or colleges is not discovering new and unknown things. It aims to cognitively grasp what has already been discovered by others. From cognitive point of view, the difference is same as solving a puzzle and having the solution beforehand. The former might ask for convincing reasoning which is not guaranteed for an acceptable outcome but the latter is almost sure to expect a result. Moreover, learners still need to do some thinking and be able to explain it to others or even use it in essential circumstances (Piaget in Millar, 2004: 9).

Piaget articulated that "we construct increasingly sophisticated and powerful presentation of the world by acting on it in the light of our current understanding and modifying these in the light of the data it generates" (Piaget in Millar, 2004: 8). According to Piaget practical experience of our theoretical science lesson is essential in intervening in the modern world. That's why effective pedagogy is at the heart of improving the quality of practical

work in science. Well-planned and effectively implemented practical work stimulates and engages learners' at varying levels of inquiry that challenges them both mentally and physically in ways that are not possible through other pedagogic experiences (SCORE, http:// www.score-education.org/medi a/3668/report, retrieved March 12, 2017: 1).

In our case, we educators often feel comfortable repeating what we do year round and year by rather than continuously improving our methods and content of our courses. Some of the palpable hindrances of practical work which are commonly mentioned are large class size, time limitations, cost of lab equipment, common perception to frontal classes, domineering habits of educators, lack of exposure to varied methodologies, and inadequate awareness and skills in using labs. True. These are apparent *limitations* but cannot *prohibit* us from involving our learners into effective pedagogies like learning from practice.

3. Methodology

One of the main methods we used in collecting essential data was the interviews we have organized with 10 learners from each grade in our natural science classes and interview with six educators) (one female) purposely selected educators. In addition to the questionnaire filled by science educators our experience as teacher educators individually as well as together helped us to access the current status of practical work at ACCE. In the questionnaire the items developed were similar for learners and science teacher educators. We also developed questionnaire for G11 & G12 learners from natural science classes.

In filling the questionnaire, we selected forty learners forming both grades. In each grade there were twelve females and eight males. We selected the students based on their background, gender and ethnicity. We enriched our empirical data by reviewing relevant national and international literature. Data from questionnaires were tallied and organized into themes that were derived from the opinions and views of the research participants. The similar themes sieved from the interviews of our participants were then triangulated and incorporated for sound analysis.

4. Findings and discussion

The findings are discussed in mainly five themes. The most common method of teaching and the importance of practical work in natural science education is valuated according to the opinion of the participants. The advantage of the national secondary school textbooks of G11 and G12 as related to practical work is also regarded. Besides, the influence and use of materials, equipment, and venues for practical work within the ACCE are discussed.

A. Infrequent method of teaching

The findings indicate that the use of practical work in natural science classes is not frequently used by educators in G11 and G12 classes at ACCE. This opinion of the learner was confirmed by 80% of the responding educators. They said practical work is not a common ways of teaching and is rarely conducted by educators. One of the educators (10%) openly said that he never visited the labs. In their choice of teaching methods, 90% of the educators replied that lecturing is their first common way of delivering their lessons and 40% responded that question and answer method is their second practice.

B. Importance and valuation of practical work

Most (G11, 61% and G12, 70%) learners agreed that practical work is very helpful for understanding concepts of natural science. Besides, 80% of the learners in G11 replied that their educators apply practical work only sometimes. About 50% of G12 respondents have observed their educators to have never applied practical work in their natural science classes. Sixty-five percent and 89% of G11and G12 learners respectively responded that they look forward for practical work in their natural science as frequent as possible and expressed its compelling position in their views. For G11 learners, occasions that educators used practical work was worse than for G12 (respectively 35% and 44% of the replies).

None of the educators denied the critical importance of practical work in helping learners understand scientific concepts and practices. Paradoxically half of the educators claimed they do not practice active learning methods like practical work because most of their learners prefer being lectured, for saving time for covering portions, and the inadequacies of lab materials. In the first claim of the educators, the learners' views categorically differed from that of the educators.

Between 95-100% of the learners in G11 and G12 valuated that practical work is a powerful pedagogic approach in natural science lessons. Inconsistently, again, half of the educators indicated that despite some improvement, the use of practical work was reasonably in a good condition and only 30% accepted that it is in its weak state!

C. Design of G11 and G12 textbooks

About 65% and 89% of G11 and G12 learners respectively responded that their natural science textbooks encourage active learning in general and application of practical work in particular. Seventy-percent of the educators also regarded the text books as motivating materials that enhance the use of practical work. One educator indicated, "in each grade and each unit of secondary school textbooks there are activities that encourage practical work."

The educators gave pertinent examples like exothermic-endothermic reaction and acid-base reaction in chemistry; microscope, plant hormones, human systems, genetics in biology; and magnet-magnetism, electricity, atmospheric pressure and light in physics. Hence, secondary school textbooks were appreciated for encouraging the necessity of practical works in natural science education.

D. Materials and equipment for practical work

Most learners reason that they cannot be sure about the adequacy of materials and equipment in the natural science labs. Their reasoning could possibly be due to their limited visits and use of the materials in the labs. Despite their longer stay in the college, for example, more of the G12 (78%) learners were not sure about such inadequacies as compared to G11 (65%). Sixty percent of the educators specified that there are enough materials for their current use for practical work. While the remaining educators opposed the statement.

E. Venues for practical work

The relatively usual venues where the learners observed practical work were either the classes or the labs. The learners in G11 greatly differ in their responses about the scale these

venues were used for practical work. G11 learners observed 70% and 15% practical work being conducted in the labs and classes respectively, while G12 equally balanced their observations in the labs and classes (about 33% for each). Almost all (90%) learners in G11 and G12 indicated that they were well acquainted with the location of the labs in the college but incidence of visiting the lab was said to have never happened for 67% of the G12 learners but 50% of the learners said they visited the lab once in a week.

Our observation here is that visiting the lab may not necessarily justify practical work in the labs. Labs can be used just as classrooms too. This can be implicit in the replies of the 83% and 90% of the G11 and G12 learners hinting that there was no schedule for lab time for the learners. Besides, only 20% of the educators conducted practical work in their class once in a week whereas 40% escorted their class to labs seldom in a semester. About 50% of the educators use their classroom for practical work and 40% use the labs while 10% never held one.

5. Conclusion and recommendations

The findings disclosed that the use of practical work in natural science lessons at the ACCE is far below the expectation of our natural science learners. Most of the respondents and educators confirmed the weakness in general. Not few of the educators tried to justify their very common lecture method in the pretext of lecturing being preferred by most learners at the ACCE! Besides, they relate the shortcoming to not being trained to use practical work in their lessons. Training may be a relevant entitlement for natural science educators but not a critical reason for the educators' conscience who clearly understand that natural science education is inconceivable without practical work especially when the textbooks require them. The findings confirmed that the natural science text books encourage practical work but educators spend more time on lecturing rather than involving learners in active learning.

We thus recommend that natural science educators should work in close collaboration to make practical work a common phenomenon in natural science education at the ACCE. Besides some valuable and relevant training regarding practical work and a continuous forum for sharing experiences in practical work should be organized at the college. We will establish a natural science club to involve learners in various practical endeavors far beyond classroom and lab situations in developing an *environment of science in practice*.

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Learners' attitude towards natural science courses

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Abstract

This study explored the attitude of learners towards natural science courses at Asmara Community College of Education (ACCE). Sixty-six learners, equally from both sexes, were selected using purposive sample from grade 11 (G11), grade 12 (G12) and diploma learners. Questionnaire and analysis of learners' records were the main research tools. Data was analyzed using descriptive statistics in the form of percentages. The main findings indicate that male learners have less positive attitude towards natural science stream than female learners at ACCE though most female learners perceive that the contents of natural science courses are more difficult compared to other subjects. However, male learners were found to score higher grades in natural science courses. The study recommends the need for an awareness raising initiatives on natural science education among all learners and encourage the educators to use participatory methodologies in teaching the courses.

Key words: Learners, attitude, gender, natural science education, ACCE

1. Introduction

In a technology dominated world, natural science education is among the crucial learning areas in institution-based curricula and preparing educated human resources. Relevantly, Prakitipong and Nakamura (2006 in Genene, 2014: 10) stated that studying natural science subjects play a very important role in developing creative thinking, sensible judgement, analysis of problems and forecasting future trends. Hence, the provision of quality natural science education should be at the heart of all endeavors for assuring the quality of education.

Attitude is related to coping with and managing of emotions occurring during learning process and play an important role in directing human behavior. As part of value system and beliefs, attitudes may be positive or negative thus affecting learning process in a direct manner and influence future lives of individuals (Seferoglu, 2004: Sunbul et al., 2004 in Genene, 2014: 11). However, it is commonly distinguished from beliefs in the sense that it is moderate in duration, intensity and stability and are linked with an emotional content of learners. Many theorists have suggested that attitude should be viewed in terms of cognitive, affective and behavioral components (Feldman1983: 120).

It is therefore defined as the aggregate product of the interaction of these components and the affective component encompasses the direction and intensity of an individual's evaluation or a kind of emotion experienced toward the objective of the attitude. The cognitive component refers to a person's system of beliefs about the attitudinal object. The behavioral component is a predisposition to act in a certain manner towards the attitudinal objective (Feldman, 1983: 121). Thus, psychologically attitude refers to the inner most feeling and outlooks of an individual about their environment. Accordingly, attitudes don't have their origin in the object themselves because our attitude can change while their objects remain constant indicating that attitudes are developed and modified due to of social and other externalfactors.

According to Bennet (2003 in Sharpe, 2012: 22), natural science education is helpful for learners in understanding its nature and ideas composed in it. Secondary school learners may select to study in natural science streams that may lead them to continue their studies further to college studies in various areas and levels of specialization. A large volume of research indicates factors affecting learners' choice and achievement in natural science disciplines. Some of these include self-concept, self-efficacy, ability, learning environment, peer influence, teacher and parental influences, socioeconomic status, and gender (Rodriguez, 2004; Singh, Granville, & Dika, 2002; Okapala, Okapala, & Smith, 2001; Nair & Fisher, 2001; Joyce & Farenga, 2000 in Genene Bekele, 2014: 12).

Among these factors, a great deal of attention has been paid to the attitude of learners towards natural science and its relationship with the achievement in the respective areas. Other researchers have also conducted studies that cover areas of attitude towards natural science and achievement (Eccles, 2007; Papanastasiou & Zembylas, 2004; Ferreira, 2003; Dhindsa & Chung, 2003; Mattern & Schau, 2002; Freedman, 1997; House, 1993; Simpson & Oliver, 1990 in Muhammad 2013: 12). In addition to achievement, previous experiences in natural science can heavily correlate with a learner's attitude toward natural science. The level of performance of learners in natural science in our country may also be attributed to the attitude of learners toward learning natural science has not been widely confirmed by pertinent studies.

Though our country is committed to develop natural science education at all levels of its education system, there is still much work to be done in influencing learners to select and achieve in the natural science and related technology. Natural science scientists are to a great extent the outcomes of natural science education, and hence teachers and educators are expected to do loads of work in influencing the attitude of learners to select and achieve in their respective studies.

The main purpose of our study was to investigate the attitude of our learners towards natural science courses. It also intended to explore gender differences in the attitude of our learners towards natural science education. Our research questions were mainly:

- What are the predominant attitudes of our learners on natural science courses?
- Why do female learners outnumber males in our natural science stream?
- What can be done to improve learners' attitudes towards natural science courses?

2. Methodology

The study employs descriptive survey methods. An applicable questionnaire was developed to collect the necessary data supported by an analysis of learners academic records to provide researchers with adequate information about the profiles and basic data of learners' academic standing. Hence, primary and secondary sources were respectively used to explore the attitude and performance of our learners in natural science courses at the ACCE. Respondents include both learners and educators. Necessary academic records were obtained from the registrar office of our college.

The purposive sample from the learners represented achieving and non-achieving ones. The sample included 33 female and 33 male learners. Questionnaire items were designed

to obtain learners' opinions about their attitude towards natural science courses across 2-5 Likert type scales. The completion of questionnaires was administered by the researchers. The data collected from the respondents through the questionnaire were tallied, systematically organized and tabulated to facilitate analysis. Information obtained from questionnaires and documents from the college registrar were analyzed quantitatively using percentage. Table 1 shows the sample of learners selected for the study.

	G11			G12			Diploma		
	M	F	Total	M	F	Total	M	F	Total
Population	157	229	386	234	298	532	191	38	229
Sample	7	12	19	16	14	30	9	7	16
Percent	4	5	5	7	5	6	5	18	7

Table 1 Population and sample of learners

3. Findings and discussion

The findings and discussion are organized along the background of the learners' attitude towards natural science during their secondary school education and their preferences to join and stay in natural science steam in our college.

A. Prior attitude of learners toward natural science

Response	Male	%	Female	%	Total	%
Highly interested	12	36	14	42	26	39
Interested	14	42	15	45	29	44
Disliked	5	15	3	9	8	12
Highly Disliked	2	6	1	3	3	5
Total	33	100	33	100	66	100

Table 2 Learners' attitude toward natural science while they were in secondary schools

The responses (Table 2) of most of the learners indicated that they had positive attitude towards learning natural science subjects while they were in secondary school. However, the female (close to 87%) responses indicated that they were more interested to learn natural science than their counterpart males (nearly 78%). Among these again the highly interested females (42%) were more than the males (36%). On the other hand, only 1% of the females highly disliked their choice while 6% of the males still affirm to their choice again both showing reliable responses of positive attitude towards natural science subjects during their secondary school years.

B. Learners' preferences to join and stay in natural science steam

Choice	Male	%	Female	%	Total	%
First	19	58	19	58	38	58
Second	14	42	14	42	28	42
Total	33	100	33	100	66	100

Table 3 Learners' choice to join natural science steam

Largely, the responses of females and males whether learning in the natural science stream was their first choice was similar and 58% of them respectively said it was their first choice. Yet, not few of the learners from both sexes joined the stream despite their choice being second (about 42% respectively. The response of the learners regarding their pertinent preference after joining the natural science stream however changed and the male (about 64%) preferences was higher than that of the females (about 61%). Several researchers, including Simpson and Oliver, have also found that students' attitudes toward science steadily decline with each year of school completed (1985 Genene, 2014: 31). Besides, 12% and 18% of the females and males respectively said they would change their stream if they were given the opportunity.

Reason to change	Male	%	Female	%	Total	%
Lack of interest	1	17	2	50	3	30
Difficult of the subjects	3	50	1	25	4	40
Making me busy	2	33	1	25	3	30
Total	6	100	4	100	10	100

Table 4 Possible reason for changing from natural science stream

However, 88% and 79% (fairly consistent with the choices in Table 2) of the females and males respectively said they would not change their stream even if they are given the opportunity to do so. Other research has demonstrated, "attitudes toward science change with exposure to science, but that the direction of change may be related to the quality of that exposure" (Gogolin & Swartz, 1992 in Genene Bekele: 31). The main reason (Table 4) for female leaners who wanted to change from the natural science stream was lack of interest (50%) while for males it was the difficulty of the subject matters (50%).

C. Learners' preference to change to other streams

Subject	Male	%	Female	%	Total	%
Natural science	19	58	14	42	33	50
Social science	9	27	18	55	27	41
Languages	3	9	1	3	4	6
Other	2	6	-	-	2	3
Total	33	100	33	100	66	100

Table 5 Learners' preference to stay or change preference

About 58% and 42% of the male and female learners respectively responded that they are interested to continue their studies in the natural science stream. Contrary to our former findings however the female responses were not consistent (see Table 2) from what we found when we asked them about their stream of preference. Hence, about 55% of the females replied they preferred to have been in the social science stream! Male responses were instead very consistent with the findings in Table 1.

4. Conclusion and recommendations

The main purpose of our collaborative study was to look into the attitude of our learners towards natural science courses. We have generally learned that about 40-60% of our respondent learners prefer to stay in our natural science stream, which most have chosen since their secondary school years. We can thus claim that this is the predominant attitudes of our learners about natural science courses though still not adequate. The main reason why female learners outnumber males in the natural science stream, however remains to be indistinct from our study. Their prior attitude during their secondary school years and their preference to join the natural science stream seemed to have been better than their male counterparts but on the contrary close to 58% of the females replied they would have preferred to change their stream to social science and language streams. This is a mixed preference that will require further exploration through a study in our department.

More than 40% of the respondent learners at the ACCE said that entering the natural science stream was their second choice. Entering the stream as a second choice pushed by non-internal motives may require further collaborative studies too but it definitely has an influence in the achievement of learners in the subject areas. Here, we need to also remember that the quality of education provided in our college can be a very important factor for our learners to stay, achieve and become models for influencing other learners to opt for natural science subject areas.

In the meantime, all educators in the natural science department should develop and implement a sustainable awareness raising initiatives to empower learners' self-esteem and serious engagement including seminars, workshops, organized guidance sessions, and invitation of model learners and experts, and organization of tutor classes, peer collaboration, based on systematic follow up of learners' educational needs. During the process, the issue of gender related preferences towards natural science should be well targeted.

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Low performance of learners in mathematics

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Abstract

The aim of the study was to investigate the possible reasons for the low performance of grade 11 (G11) and grade 12 (G12) learners in mathematics at Asmara Community College of Education (ACCE) and thus to improve the learners' performance in mathematics. An investigation using quantitative and qualitative approaches was carried out and data were collected using questionnaires and unstructured observation of the researchers in mathematics classes while teaching. Stratified and systematic sampling were used to select 50 learners from each grade. All three and all five G11 and G12 mathematics educators participated in the study. Results indicated that lack of learners' level of interest in mathematics, poor background of the learners, teaching and learning strategies and styles, learners' personal traits and commitment to learn the subject, proficiency in the language of education (English) and problems outside school are some of the dominant factors that contributed to the low performance of G11and G12 learners in mathematics.

Key words and phrases: G11 and G12, mathematics, low performance, teaching mathematics, ACCE

1. Background

Exam results of learners in G11 and G12 in mathematics in 2015/2016 academic year indicate that majority of the learners scored below average (50%). Again in 2016/2017 learners performed poorly in mathematics during the first semester. As mathematics educators we have thus been concerned about the unsatisfactory results of our learners and sought to answer the following study questions:

- What are the possible reasons for the low performance of G11 and G12 learners in mathematics at ACCE?
- How can the performance of the learners be improved?

2. Methodology

To investigate the possible reasons for low performance of G11 and G12 learners in mathematics an empirical investigation and review of relevant literature were undertaken. The empirical investigation comprised quantitative and qualitative approaches. Questionnaires for learners and educators were developed and unstructured observations of the four practitioner researchers while teaching in their mathematics classes were also reflected upon.

Factors	Item #: Learners	Item #: Educators
Learners' mathematical background	31	23
Learners' motivation and attitude towards mathematics	2, 3, 5, 6, 12, 15, 18, 24, 27	9, 13
Teaching and learning strategies and styles	33-37	2-6
English proficiency as a medium of education	30	22
Learners' personal traits and commitment	1, 4, 7-11, 13,14, 16, 19-23, 25, 26, 28, 29	7, 8, 10, 11, 12, 14-21
Educators' personal traits	32	1
Problems outside school	17	-

Table 1. Main issues of questionnaire items for learners and educators

Thirty-seven and 23 items that were included in both the learners' and educators' questionnaires were categorized into seven issues or factors. Four point Likert type scales, i.e. strongly agree, agree, disagree and strongly disagree, were used to collect the data. For the purpose of the empirical investigation, the enrolment of learners in G11 and G12 was considered as the research population. Fifty G11 and 50 G12 learners were selected using stratified and systematic random sampling to participate in the research. All three G11 and all five G12 mathematics educators participated in the study. Descriptive statistics in the form of percentages were used to analyze the data through a careful combination of the positive (agree and strongly agree) and negative (disagree and strongly disagree) responses were constructed during the analysis of the data.

3. Results and discussion

Our research results are discussed in seven themes constituted mainly by situations related to the main actors of the learning-teaching process, i.e. learners, teachers and/or educators. The themes discuss learners' background, motivation, traits, commitment, learning styles, language skills, and some problems in and beyond our college environment. They also discuss educators' personal traits in handling the education of mathematics.

A. Learners' background in mathematics

Several studies reveal that prior learning experiences is one of the highest contributors to academic performance of learners and hence learners' entry qualifications to higher academic levels have direct influences on learners' academic performance (Karemera, Reuben, & Sillah cited in Karimi, 2008; Salahdeen & Murtalacited in Karimi, 2008: 38). The responses of the learners indicate that 50% and 33% of them in G12 and G11 respectively did not have good background of mathematics before coming to the ACCE. However, all (100%) educators in both grades indicated that learners did not have sufficient background of mathematics before coming to the college. Hence, one of the possible reasons for the low performance of mathematics of the learners at the ACCE can be the learners' poor background.

B. Motivation of learners

Motivation is the driving force that catalyzes and maintains behavior (Richter in Yushau, 2004: 47; Mwamwenda in Yushau, 2004: 48). Thompson (2004: 15) defines motivation as "the super highway to learning." Motivation contributes to academic performance and is vital for the academic success of learners. Besides, attitude has a strong correlation with the performance in mathematics (Sinyosi, 2015: 26; Siti, Zahayu & Masnita, 2012: 4134; Karimi, 2004: 48-49; Yushau, 2004: 43). Learners that have a positive attitude towards mathematics tend to do well in the subject and persevere in learning mathematics while learners that have negative attitude towards mathematics tend to perform badly (Sinyosi, 2015: 26; Begle in Yushau, 2004: 43; Collins in Yushau, 2004: 43; Siti, Zahayu & Masnita, 2012: 4134).

Several factors may influence learners' attitude. Mata, Monteiro and Peixoto (in Sinyosi, 2015: 29) identified three groups of factors: factors associated with the learners themselves, example, mathematical achievement, anxiety, self-efficacy and self-concept, experiences at school; factors associated with the school, teacher, and teaching like teaching materials, classroom management, teacher knowledge, teacher attitudes towards mathematics, guidance, beliefs; and factors from home environment and society as educational background and parental expectations. As Soyosi (2015: 29) pointed out, these factors should be taken into consideration if we want to address factors related to the poor performance of learners in mathematics. Zachariah, Komen and George (in Sinyosi, 2015: 29) added another attitude related to unwillingness of learners. They indicated that the cause of most failures in schools might not necessary be due to insufficient or inadequate teaching. They may be related to the disinclination of learns to learn and do mathematics.

In our study, learners' responses indicated that 39% and 28% from G12 and G11 respectively do not like studying mathematics. Moreover, the educators responded that 80% and 33% of learners in G12 and G11 respectively do not enjoy learning mathematics. These results indicate that a possible reason for low performance of G11 and 12 learners in mathematics at the ACCE can be the lack of learners' interest and negative attitude towards mathematics. However, the responses of G12 learners greatly vary by almost double percentage points from that of their educators.

C. Teaching and learning strategies and styles

In the eighties and nineties of the previous century, the world experienced a shift from the emphasis on teaching to an emphasis on learning. In line with this shift, the importance of understanding the effective way an individual learns has increasingly becoming apparent. People are different and have different ways of doing things. The preferences, tendencies, and strategies that individuals exhibit while learning constitute what have come to be called learning styles. People have different learning styles, and studies have shown that if individual style is accommodated in the teaching process, it results in an improvement in attitudes towards learning, increase in academic productivity and in academic achievement (Griggs cited in Yushau, 2004: 73).

Hence, individual learning style is a source of strengths and weakness for the individual. If the presentation of a lesson coincides with a learners learning style, there is a tendency for the learner to benefit tremendously from the lesson. Otherwise, this may negatively affect the learning process of the learners (Jameel & Ali, 2016: 133). Learners can also develop positive attitude towards mathematics when teaching of mathematics is related to real world (Jameel & Ali, 2016:1 33; Tuckman in Karimi, 2008: 38).

Rukangu (in Karigi & Tumuti, 2015: 323) stresses that an education system is directly related to the ability of its teachers. Hence the more qualified and better educated teachers are, the easier the effective implementation of the curriculum. No matter how distinguished the members of a project team are, how carefully structured a new course is, how brilliantly the various educational media have been exploited, the success or failure of any innovation ultimately lies on the receptiveness and flexibility of the classroom teacher.

This suggests that mathematics teachers and educators have to be conversant with various teaching strategies for different categories of learners. Learners exhibit different capabilities of understanding and these varied individual differences will require different handling. Some are fast learners, others slow and yet others will require frequent repetition of the same concept and procedure in order for them to internalize it (Karigi & Tumuti, 2015: 323). In addition, the teaching methods used by the educators are important facilitation factor and should ensure how to involve learners' active participation. This could be achieved by using varied strategies including problem solving. Karigi & Tumuti (2015: 323) pointed out that when a lesson is teacher dominated, the teacher largely uses expository method instead of both expository and heuristic or exploratory methods. Expository method does not involve the learner's whereas learning mathematics requires motivation, a lot participation, and practice.

Performance in mathematics requires learners to understand sequentially and hierarchically organized systems of propositions which call for continuous training of mathematics teachers and educators and tireless practice of learners. However, due to inappropriate teaching strategies and styles, learners usually perform poorly in the subject and learners are taught to aim at reaching the correct answer without understanding the mathematical process.

In our study, the responses of educators indicated that all of them encourage the participation of their learners in classroom discussions, provide them with class work, homework and feedback regularly. Eighty-percent and 100% of the respondent educators of G12 and G11 respectively replied that they relate mathematics with real life of their learners! However, the responses of the learners indicate that 19% and 10% of the learners from G12 and G11 respectively replied that their mathematics educators do not encourage nor allow them to participate in the classroom discussion; and 14% and 16% of the learners respectively responded that their educators do not give them feedback to their class and home works regularly. Seventeen-percent and 14% of the learners also responded that the educators do not encourage them to find things out for themselves while 10% and 20% respectively replied that the educators do not relate mathematics with real life in their teaching.

Even though the results of the educators' questionnaire do not indicate teaching strategies and styles as the main factors that contribute to the low performance of learners, the results of the learners' questionnaire indicate that teaching strategies and styles used by educators can be one of the possible reasons for the low performance the learners in mathematics at ACCE.

D. Proficiency in the language of education

Language plays a vital role in the learning and teaching of mathematics because the development of mathematics is mediated through languages. Several studies have indicated that the language problem is one of the major factors contributing toward the poor performance of many learners in mathematics especially for those who use a second language (Sinyosi, 2015: 28; Secada in Yushau, 2004: 65; Barton & Neville-Barton in Yushau, 2004: 65). Studies have shown that learners that are found to be very weak in the language of education have the tendency towards low comprehension as well as poor participation in classroom discourse (Setati in Yushau, 2004: 65). Consequently, they cannot meet the desired objectives of their studies due to lack of communication skills and this also puts teachers in the dilemma of how to correctly assess the sources of learners' difficulty whether it is mathematics or the language (Secada & Cruz in Yushau, 2004: 66) that is limiting the learners' achievement. G12 and G11 learners at ACCE are struggling to communicate in English and that could be one of the factors that put them at a disadvantage.

The responses of 37% of the learners from both grades showed that they do not understand what is required of them. This is confirmed by the responding educators who replied that 80% and 33% of their learners in G12 and G11 respectively do not understand what is required of them. These results indicate that proficiency in English as a language of education may have contributed to the low performance of learners in mathematics and the situation seemed to have been more grave for G12 learners. However, further study may also be needed whether educators have communication problems in using the language with their learners.

E. Learners' traits and commitment to learn mathematics

Responses indicate that 100% and 67% of the educators in G12 and G11 respectively reacted that most of their learners do not work very hard to understand mathematics but 48% of G12 and only 30% of G11 learner replied that they do not have a regular place set aside for studying mathematics. All (100%) respondent educators in G12 and 33% of those in G11 replied that most of their learners do not look back at their works. Replies of both learners in G12 and G11 however (only 19-20% do not), is far different from that of the educators'. Besides, 80% and 33% of the educators respectively agreed that most of their learners don't look for ways to understand mathematics better. Again the response of the learners is different and only 29% and 20% of the educators in G12 and G11 replied they do not verify their work respectively

In the educators' questionnaire, responses indicate that 80% and 67% of their G12 and G11 learners respectively do not attend mathematics class regularly. A related reply of the learners (G12, 63% and G11, 67%) indicate that they give up when a topic is difficult. Further, educators said that 60% and 33% of the learners respectively do not contribute to mathematics class discussion but learners in G12 (30%) and G11 (37%) responded that they do not contribute to class discussions. Note the variation between the replies of the educators and learners in G12 (vary in 30% percentage points). About 60% and 33% of the learners did not care whether they pass in mathematics in high school. Here too G12 learners differed (31% do not) but G11 almost confirm the views of their educators. All (100%) and 33% of the educators also replied that their G12 and G11 learners correspondingly do not do their assignments in time. However, G12 learners (14% do not) greatly disagree with the responses of their educators but G11 learner (27% do not) had relatively closer replies.

According to the responding educators, all (100%) or part (33%) of the G12 and G11 learners respectively do not take notes during mathematics. Here too, G12 learners (27%) greatly disagree with the responses of their educators but G11 learner (28% do not) had close replies with that of their educators. The educators replied that none of the learners in both grades do their class and homework regularly but both G12 (29% do not) and G11(19% do not) learners had a different reply. The educators also indicated that 80% and 33% of their learners in G12 and G11 respectively do not work hard to get good marks and 20% of the former learners do not use mathematics text book and the responses of the learners for the latter (G12, 29% and G11 26%) was similar. However, G11 educators indicated all (100%) of G11 learners use mathematics textbook.

Moreover, 100% and 33% of the educators responded that the G12 and G11 learners respectively do not connect (integrate) the various ideas of mathematics in solving mathematics problems. G12 learners (39% do not) greatly disagree with the responses of their educators but G11 learners (41% do not) had proximate replies with that of their educators. About 37% of the respondents from G12 learners and 30% of the respondents from G11 learners agreed that they do not look over the works they did after mathematics class. Besides, 42% of them from G12 learners and 26% from G11 learners responded that they do not have study time tables for mathematics,

The above results indicate that the learners' personal traits and commitment to learn mathematics such as absenteeism, not working hard, not participating in class discussions, not looking for other ways in order to solve a problem, not verify their work or solutions, not looking over the work they did after mathematics class, not doing their assignment in time and regularly, not taking notes and using their textbooks, not having regular time and venue for their study, and not making connections between the various ideas of mathematics in solving mathematics problems may contribute to low performance in mathematics.

F. Educators' personal traits

About 6% of both G12 and G11 learners replied that their mathematics educators were not punctual but the responses of the educators to the same item indicated that 100% of them claim to be punctual. Still, the responses indicate that the mathematics educators' personal traits may not be the main factors that contribute to the low performance of learners in mathematics at the ACCE.

G. Problems outside the college

About 21% and 28% of the responding learners in G12 and G11 respectively replied that problems outside the college such as financial problems, conflict with parents, dating may hamper following and doing their mathematics tasks. These results indicate that problems outside our college may contribute to the low performance of learners in mathematics at the ACCE.

4. Conclusion and recommendations

The aim of the study was to investigate the main factors that contribute to low performance of learners in mathematics. The study indicated that poor mathematical background of learners, lack of learners' interest in mathematics (or negative attitude of learners towards mathematics), teaching strategies and styles, learners' personal traits and commitment to learn mathematics, proficiency in the language of education, and problems outside the college are some of the main factors that contributed to low performance of learners in mathematics at the ACCE. However, the responses of the educators and that of the learners, especially of learners in G12 seem to differ in most of the issues. Further studies to explore the difference in the views of educators and learners in learning mathematics may be beneficial to the department of mathematics and its educators.

Based on the investigation and findings, the study vests a lot of responsibilities among mathematics educators at the ACCE including the need to guide and counsel learners on the importance of motivation to learning mathematics, supporting learners to develop positive attitudes towards the subject, developing positive relationships, ensuring learners active engagement, understanding learners' needs and learning styles, and encouraging cooperative peer learning. The researchers also recommend that the ACCE should influence the concerned bodies to select competent learners from grade 10 completers for preparing effective teachers for elementary schools. The ACCE should also strive to ensure the regular supply of electricity and set up a mathematics lab somehow. Besides mathematics educators should be encouraged to attend relevant staff development schemes and programs to update their experiences in supporting their learners to stand out in their studies in mathematics.

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6. Action plan

The researchers will commend all the mathematics educators to guide and counsel learners and organize meetings at least two times in a semester (i.e. October and December 2017 and April 2018) with the learners on the following issues:

- The importance of mathematics in life and learning mathematics
- Learning mathematics through effective study skills and examination techniques for students such as getting enough sleep, eating healthy food, regularity of food taking, entering exam room before in time, avoiding discussing study material at the last moment, relaxing the various parts of a learner's body, underlining (identifying) the key words that tell learners what type of answer they should give, writing down the important facts neatly and legibly, avoid being vague, etc.
- Improving personal traits that affect performance in mathematics

The researchers will also be involved in encouraging all mathematics educators to:

- Use various teaching strategies and styles in accommodating learners' style of learning
- Invite all learners for active participation and collaborative learning
- Support learners in exploring problem-based and activity-based learning in mathematics
- Make the learning of mathematics relevant and enjoyable by relating it to real life.

The researchers will share their research findings to the ACCE community and continue to conduct collaborative action research in consolidating the learning of mathematics at ACCE. They will also organize a discussion forum on learning and teaching mathematics at the ACCE at least twice in a semester.

Supply of water and electricity: Acute shortages, possible solutions

Alem Ghebrecal, Assefaw Ghebereweld, Berekhet Ogbarebi, Dawit Weldeyesus, Ghirmai Ghebrmeskel, Mekonnen Estifanos, Shiferaw Tesfamariam

Abstract

At present enrolment at Asmara Community College of Education (ACCE) is about 1,150, leaving aside all the educators and others who reside in the college. The creation of a conducive venue for learning-teaching environment and the sustainable development of the ACCE can be assured through adequate supply of water and an apt provision of electricity. However, the college has been facing an acute shortage of supplies of water from the municipal network and electricity from the grid of concerned authority. The deficiency has been hampering the smooth functioning of the learning-teaching process and other critical college activities. Five administrative members of the college and our two technicians took the responsibility to study the situation earnestly in the months of March-June, 2017. Attempts were made to involve almost all the stakeholders in this venture including the students, educators, cleaners, and kitchen workers. Interviews and questionnaires were used to collect the essential data and relevant literature was also reviewed. The result enabled us to come up with a realistic action plan for improving the supply of water and electricity mainly within our own reach.

Key words: Water, electricity, shortage, ACCE

1. Background

Society expects a lot from institutes of higher learning for they are the ones that should take the lead in its overall development of their respective societies. Inevitably, the role of research can encourage the development of effective programs in our colleges, especially when research intentionally emphasizes on practice and is organized around collaborative efforts of the concerned. Hence, one of the major activities of our college during the academic year 2016/17 was the engagement of most our staff in such studies.

As the college is entrusted with the development of conscientious teachers, no effort should be spared to make this a reality. Quality education requires a lot of inputs, both in terms of infrastructure and superstructure. Yet, for quite a long time, poor water and electricity supply have been hampering our efforts to make our college a center of excellence. For sure, water is life and electricity plays an indispensable role in the technological world that we are living in. Our team that was made up of the administrative and general service workers agreed to work together for exploring the main causes, consequences and possible solutions for the scarcities in the hope of making our college an attractive place to be. We have tried to look at the situation from different perspectives of our participants in the months of March to June in 2017.

During the academic year, the college accepted a total of 1,150 students, the majority of which were secondary school learners in grades 11 (G11) and 12 (G12). There were about 250 students in the diploma program in the three departments of social science, natural science, and educational administration. The college functions year round both in providing initial teacher education as well as in-service programs.

As mentioned earlier, a major stumbling block in the college has been the poor supply of water and shortages of electricity. This has negatively affected the smooth functioning of the learning-teaching process and we embarked on finding convincing answers to the following main research questions:

- What have been the causes and implications of water and electricity shortages at ACCE?
- How was the college administration tackling the scarcities so far?
- What could be done to improve the situation in the future?

2. Methodology

Our main strategy was to engage in a study and our approach was basically qualitative. We also used some statistical data to further consolidate our qualitative approaches. We contacted various stakeholders within the college including educators, learners, kitchen workers and cleaners. Besides, all the literature we referred to confirm that action research is an intervention to bring about positive changes in social situations. Bassey (1999: 40) indicates that action research is an "enquiry carried out in order to understand, evaluate and change." Other authors with similar ideas of what action research is include McNiff (1988), Altrichter et al (1993) and Verma Mallick (1999). Altrichter et al (1993: 77) say, "action research is based in the belief that effective change is possible in cooperation with the participants [who live] in the situation."

The issue of ethics has been seriously taken into consideration. Whether in the interviews or questionnaires, the collaborators including kitchen worker, cleaners, educators and students, were approached with respect and maintained their anonymity and confidentiality. We also made sure that all meetings were arranged at their convenience. All of them understood our purpose and were willing to show their full cooperation. Our main data collection tools included questionnaires and interviews. Interviews were conducted with kitchen workers and cleaners. Speaking about the use of interviews, Gall et al (1996: 289) stress that "the major advantage of interviews is their adaptability." Our interviews were structured and the items were pertinent for collecting significant data.

We were able to reach wider number of participants through two sets of questionnaires. Thirty of the learners were from our certificate while 19 were from the diploma programs. Members of different ethnic groups were involved and 19 of the 49 learners were females. The questionnaire items were both open and closed. The educators were asked to give responses to thirteen items for the supply of water and eight about electricity. On the use of questionnaires Cohen and Manion (1994: 283) argue that "it tends to be more reliable because it is anonymous." The use of questionnaires was also more economical in terms of time and financial outlays as compared to other tools. Furthermore, questionnaires are easier to quantify. Through the triangulation of the responses in our questionnaires and interviews we were able to verify our data for their consistency.

3. Findings and discussion

A number of meetings were conducted among the researchers and the technicians were asked to study the technical aspect and come up with relevant recommendations. One of

the researchers was given the task of contacting five senior cafeteria workers and some of the cleaners. Others were to meet with educators and students. The issue of finding pertinent literature sources was also taken into consideration.

A. Water shortage and its consequences

The kitchen workers indicated that until 2016 the scarcity of water was acute. Even when water tracks were allowed from the municipality, they did not satisfy the demands of the college. There were times when the workers had to look for water from our neighbors. Even during the rainy season, they were forced to fetch water and fill in water barrels. Besides, they stressed that in the absence of water, the cafeteria was not properly washed and cleaned. Another major problem that the kitchen workers mentioned was about broken taps and pipes. These were not properly repaired in time, and sometimes it was sad to see water pouring on the ground! The educators were asked to tell why the water taps are usually seen broken and all pointed out that this was mainly due to the negligence and abuse by the learners.

Interview with the cleaners pertaining to water also showed that their work was frequently affected when electricity is cut off. Without electricity, water could not be pumped and they simply could not clean the latrines and bathrooms. The stench from the latrines becomes awful and could be causes for various diseases. The technicians weighed that the number of learners has grown more than two-fold and that the two water storages are not enough for the very large community in the college. There is a need to build more water storages and also dig a well to get constant supply of water.

Learners also said that recently they were experiencing water shortages and emphasized health hazards that could follow due to the scarcities. Responding to how often the learners take shower, most said they do so about twice a week but regarding the washing of their clothes, they most of them reported that they had to wait until the tap water comes while some said they often keep water in jerry-cans for the purpose. Admittedly, the learners said that sometimes their own negligence impairs the water taps on the basins thus creating inconveniences for washing their clothes. From our observation it was quite clear that the dormitories and classrooms were not regularly washed well and the learners honestly admitted it was mainly because of the negligence on their part. Very few, however, stated that water was adequate for the intent. When water is scarce learners said they go to a nearby dam to fetch water and others reported that they ask for it from the surrounding areas or sometimes buy water from the shops.

Moreover, thirty-two learners (about 65 percent) were convinced that the existing number of toilets are enough but when water is not enough, majority of the learners told that they go outside the campus to dispose of their waste. Regrettably, we were told that some learners do so under the cover of darkness somewhere in the surrounding trees and gaps in the campus. On the acts of such malice, however, all respondents agreed that the safety and aesthetics of the compound is spoiled with foul. The decency of the institution is also upset. Besides, when toilets are misused, the cleaners find it difficult to clean not only the toilets but also the contaminated areas.

The learners unanimously stated that the teaching-learning process is affected when water is scarce. About 85 percent of the educators responded negatively to whether the supply of the water in the college was enough. They also reiterated that the learning-teaching process is negatively affected as a result of water shortages. Forty percent of the educators said that classrooms are not often washed because of the shortage of water while the rest stressed such reasons are mere excuses for the lack of initiatives on the part of both the educators and the learners. Most of the educators also reported that they look for water from the college neighbors and some told they buy water from the shops around the college. Some of the educators who live inside the campus told that they wait until tap-water comes in order to wash their clothes. Others said that they fill their jerry-cans for the purpose but a few said that they send their clothes to their relatives outside to be washed

B. Power cutoff and its implications

The cafeteria workers said there are times when electricity is completely cut off and that they had to go through a very laborious and time-consuming work to burn wood for cooking food and stay in the kitchen all the night. In the absence of light, they also found it difficult to walk from one place to the other. The situation was dire when the college did not have a generator and its availability had solved many problems though the need to operate it at night was essential. Without electricity, water could not be pumped and workers had to travel long distances to fetch water from the college neighbors. The cleaners said that supply of electricity has also increased and the supply of water seemed to improve particularly after the generator was planted. As a result, all the latrines were properly cleaned daily for some time. There are some dormitories a little far from the water basins where the cleaners need to seriously look after.

The educators indicated that the supply of electricity is vital for the proper functioning of all activities in the college. They find it difficult to prepare for classes and examinations when computers are off. Moreover, the educators emphasized that the generator service does not cover all areas in the college. When asked to tell what they do when electricity is cut off in their staff rooms, digital libraries or ICT rooms, they said that sometimes the power from the generator is used but there are times when even classes had to be discontinued. The cafeteria workers said that earlier in the academic year the shortage of water improved as the supply of electricity improved. The good thing was that learners were not forced to skip meals because of the shortage of electricity. This was confirmed by all educators saying that they don't remember an event when learners miss meals because of electricity cuts because all is done to trespass such major issues.

Sixty-five percent of the educators told that students are not having enough time to study because of lack of electricity but the remaining commented that electricity cuts could not be an excuse for not studying. The educators added that there is laxity on the part of the general service workers in promptly mending electricity problems. According to the college regulations, electricity is to be used only for lighting the dormitories and not for any other purposes. However, the learners are not obeying the college regulations and 'play with fire' that could cause a lot of damage to themselves and to college property. The educators answered affirmatively to have observed such problems themselves. The technicians also added that learners are told time and again about the possible hazards that may follow if electricity supply lines and points are touched in their dormitories. Families who reside inside the campus have also given serious warning because they use electric stoves and other

electric appliances that might cause shorts that may endanger the system and property.

As most educators told, about 71 percent of the learners also stressed that the electricity cuts could not be excuses for not studying their lessons, though the remaining said power cut is a reason that hampers their efforts to study in earnest. They all agree too, like the kitchen workers did, that they had never skipped meals because of power cuts but suggested that the college general service workers should maintain malfunctioning facilities in time. The impact of electric supply on the teaching-learning processes was said to be crucial especially in the IT labs and digital libraries. The learners, reported that sometimes the generator is used, but mention was made that there were times when classes had to be discontinued. When power was cut students become frustrated and are bent on doing undesirable deeds. So many negative consequences that ensue include spoiling the latrines, fouling the surrounding of the dormitories, and sometimes involving in fighting and theft.

The two technicians studied the problem at hand from their standpoint. They indicated that the college has been established about 40 years back with the capacity to accommodate only five hundred learners. The rooms are now dilapidated and the electricity lines need major changes through burying the lines underground. With the meagre resources that the college have however this would be impractical as Brown (2007: 35) indicated, "undergrounding involves considerable additional expenses." For the time being, planting overhead lines would be easier and could be done with less expenses. The technicians also revealed that many of the classes and dormitories do not have good lights. These should be addressed fully if learners are to study properly and if discipline is to be maintained.

C. Related shortcomings and counsels

The educators expressed that learners often miss classes to fetch water and this affects their performance. Almost half of the educators pointed out that the available latrines and showers could have been enough if properly used. The other half suggested that more latrines and showers are needed. In the absence of water in the latrines they said they had to go outside the campus as they doubted about the cleanliness of the toilets. Likewise, a serious problem the cleaners cited was that the students do not use the toilets properly and hence would need more human power to do all the cleaning duties. Besides, they mentioned that gloves, plastic brooms, long sweepers, and other cleaning materials were in short supply.

Learners as well as the educators stressed that all possible means should be done to dig a well, construct bigger water reservoirs and also suggested the need for more water distribution centers within the college. Some educators spoke about the need for the collage to have its own water track. They cautioned that all college community members should be made aware of how the existing water resources should be effectively used. Learners emphasized that broken taps should be maintained timely and new ones installed in appropriate positions. The technicians also suggested that learners do not have enough basins for washing clothes and cleaning their classes. In such a situation all participants spoke of the consequence to both the environment and health of the college community.

The kitchen workers suggested that having solar panels could solve many of the problems they encountered. Equally, the educators and learners emphasized the importance of planting solar panels. The learners as well as the educators suggested the need for initiatives to install more generators and the keeping of adequate fuel to run them. They mentioned that there is a need for the general service workers to do their jobs conscientiously along the power supply lines. More importantly, the respondents pointed out that the college should continuously contact the central authority for being given chances to get more hours of electric power supply.

The capacity of the college at present is to hold 1,100 learners. Besides the laboratories, ICT rooms, the digital library, the general library, there are more than 25 classrooms. Most of these rooms are old and on their last legs. One can easily imagine how important water and electricity is to our college. Unfortunately, the situation is such that the supply of both necessities is scarce even on a national scale. The perspectives of the research participants have greatly helped the researchers to consider diverse situation for understanding the implications of the shortages of water and electricity in the college and come up with possible solutions.

A. Water supply

According to WHO (1999: 97) "water is essential for life, health and human dignity." In our college we have two storage points from which water is pumped to various locations. Altogether these two can hold about 60,000 liters when full. The problem is that the reservoirs are rarely full because of the poor water supply from the municipality sources. We are worried about the purity of the drinking water too. Zuther et. al. (2009: 73) argue that "the quality of drinking water is closely associated with human health, and providing safe drinking water is one of the important public health priorities." Furthermore, we have about 50 latrines and the same number of bathrooms. There are about 1,300 people using these toilets currently, which is a definite mismatch between the number of users and the facilities.

The college has 16 cleaners to take care of these toilets. It is not easy to find cleaners because the salary that the college provides is not attractive. They have always been doing their very best and we actually appreciate their contribution despite their meagre salary. When water is not available, one sees the cleaners with their hands folded because there is nothing they can do without it. Sometimes it is very disgusting to see the area full of filth. As mentioned earlier, when this happens some irresponsible people are not ashamed to defecate under the trees taking the night as a cover. This spoils the surrounding and the stench from it is really terrible that may lead to various types of diseases. A study made in India (1999: 2) shows that "diseases like cholera, typhoid and dysentery may cause severe symptoms in patients and in some cases are fatal." Moreover, Adams et al. (2004: 16) said that "it is estimated 88 percent of diarrheal disease is caused by unsafe water supply, and inadequate sanitation and hygiene." Most of the educators pointed out that unclean water could result in different kinds of diseases including dysentery, skin diseases, kidney problems, vomiting etc.

Each dormitory is home to four learners. One rarely sees students washing their rooms and dormitories, not only because of the lack of water but also because of the lack of initiative. Each classroom holds about 40-50 students. It should have been very easy to continuously wash the rooms. It is high time that we educators organize our students in such a way that all rooms and dormitories are kept clean always. Students have to clean

their clothes and take showers. However, scarcity of water is a major problem. Furthermore, the number of taps and showers are not enough. Even when they are mended or new ones bought, they are either broken or embezzled. A change in behavior is thus needed from all the users of these facilities and mechanism should be found where students take responsibility for such mishandlings.

Every year we plant trees but because of the scarcity of water many of these actually die. Had there been enough water, the vegetation could have grown and improve the aesthetics of our college. Such an environment would definitely have a positive impact on the learning-teaching process. Hence, we should feel responsible to organize our learner and take turns in watering the trees even using jerry-cans.

The digging of a well was an outstanding discussion and the administration should continue its work in making it a reality. There is a possibility of harvesting rain water during summers. More bathrooms and toilets should be constructed, and the broken taps and pipes should be mended. UNHCR (2008: 6) suggested, "continuous maintenance of [such] facilities with adequate spare parts and materials" should always be made. We are expecting more from our technicians in this respect. The best option is for the Ministry of Education (MoE) is to find ways and means of replacing the dilapidated infrastructure with new ones. As a college we have the obligation to provide our learners with water as what UNHCR (2008: 5) advocated for "sufficient water supply and sanitation facilities for basic needs to each and every person."

B. Supply of electricity

Almost nothing could be done without ample supply of electricity. UNDESA (2014: 5) studies show, "schools without electricity tend to perform more poorly than their electrified counterparts, [and] extremely poor infrastructure has an effect on teachers as well as on pupils' engagement." The same studies also show (Ibid.):

Electricity access can play a significant role in improving learning outcomes at schools. Five positive benefits related to the electrification of schools [include] 1) lighting and extended studying hours 2) facilitation of ICT in the classroom 3) enhanced staff retention and teacher training 4) better school performance based on attendance completion rates and test scores and 5) co-benefits such as improved sanitation and health, gender empowerment.

In addition to some rooms which are used as dormitories in the new school that was lately donated to the college, there are twelve blocks used as dormitories. Besides the staff rooms, the administration block, ICT rooms, the digital library, and the language laboratory need unceasing electricity. When electricity is cut off, college activities are paralyzed. Before the generator was bought, classes were sometimes discontinued and learners were unable study at night.

Our college caters food and lodging for the learners. We have very earnest cafeteria workers who always do their best. Quite so often they had to resort to very laborious and time-consuming exertions. The smooth functioning of the cafeteria is affected when electricity is off. Besides, educators find it difficult to prepare lessons, present lessons and also organize workshops and seminars. In addition, when electricity is not available it is very difficult to conduct classes in some of the rooms that become darker in the afternoons.

The planting of a generator has solved some of these problems and a second generator has already been planted to ensure learners with more time to study in the assembly hall.

Here too, it is noteworthy to discuss the need for behavioral change on the part of the learners. According to the college regulation, learners are not supposed to use electricity other than for lighting in their dormitories. In spite of all the admonitions, learners were continuously abusing electric power points. They can also bring damages to themselves. A wide ranging solution to our problem would thus be the planting of a solar power system, a possible promise from the MoE. At one point experts have already been in the college and located the place where the panels could be installed though the intentions have not materialized.

4. Conclusion and recommendations

This small-scale research was an attempt to identify the problems that we have in the college because of the scarcity of water and shortage of electricity. The main actors came together in earnest to explore the problem. Various stakeholders including the educators, learners, kitchen workers, cleaners were approached. We believe we have identified our main challenges about these two highly related and strategic resources.

We have identified the weaknesses that could have been avoided and alternatives in solving the challenges. Such a process has led us to develop an action plan where we hope can improve our learning-teaching situations in the college. We also believe that further related research would be needed in a collaborative effort with the MoE to lay a better ground for a better ACCE.

The following recommendations are made on the basis of our research findings:

- Develop and implement an awareness raising initiatives on the use of water and electricity and hold the educators, general service workers, kitchen workers, and cleaners responsible for the enactment.
- Empower learners to be responsible in the wise use of water and electricity in the college.
- Dig a well to cater for the needs of the college community.
- Harvest rain water wisely and construct more storage containers.
- Mend all broken taps and pipes and add new ones.
- Introduce energy saving lamps in all the dormitories and lit the assembly hall to serve as a study hall in the night.
- Plant solar energy system in the college.
- Urge the MoE to maintain the dilapidated infrastructure and employ more general service workers to take proper care of the college infrastructure.
- Approach the MoE to find other homes for the families that are residing in the college.

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6. Action plan

In collaboration with the pertinent bodies, our team intends to implement the following action plan:

- Develop and implement awareness raising initiatives in May and June of 2017on the use of water and electricity and hold the educators, general service workers, kitchen workers, and cleaners responsible for the enactment.
- Empower learners to be responsible in the wise use of water and electricity in the college beginning July 2017.
- Dig a well in a promising ground in the college beginning January 2018.
- Harvest and store rain water by constructing reservoirs beginning December 2017.
- Mend all broken taps and pipes, and install new ones in August 2017.
- Buy a new generator within 2017.
- Introduce energy saving lamps in all the dormitories and the assembly hall in September 2017.
- Install solar energy system beginning December 2017.
- Maintain dilapidated infrastructure beginning February 2018.
- Hire more general service workers in September 2017.

Using Quick Response codes to improve the quality of learning and teaching

Mokonen Tesfay, Micheal Afewerki

Abstract

The purpose of this study was to introduce using Quick response (QR) codes for enhancing the learning and teaching process at Asmara Community College of Education (ACE). QR code are electronic data encryptions that are easy to generate and quick to read plenty of information from about items intended for learning situations through mobile electronic gadgets. QR codes allow learners and educators the purpose, convenience, mobility, active engagement and collaboration both for self and shared learning experience in diverse settings. The idea of using QR code features was a resourceful idea in our digital library and we wanted to model their use in our natural science laboratories with the available digital resources. Collaborative approaches among learners and educators of the digital and biology libraries were used in collecting the necessary data. The instruments were mainly semi-structured interviews and questionnaires. Data was analyzed using SPSS software and views were recorded, transcribed and analyzed using the emerging issues. The findings indicate that QR codes can greatly enhance the active engagement of our learners through retrieving immediate information in classrooms and laboratories, and that the initiative can extend to all subjects and learning situations in our college.

Key words: Quick Response codes, mobile learning, collaborative learning, ACCE

1. Background

The purpose of this research was to explore how QR codes and mobile devices can combine and enhance learning and teaching at the ACCE. According to Pandya and Galiyawala (2014: 1) QR codes are two dimensional barcodes that are used to encode and decode information. They can contain information such as text, uniform or universal resource locator (URL) links, automatic short message or messaging services (SMS), and any other information that can be embedded in a two-dimensional barcode. This encoded data can be decoded by scanning the codes with a mobile device that is equipped with a camera and QR reader application. Although QR codes are very versatile and have been around for over fifteen years, their use in education is still at its infancy.

The existing learning and teaching process at the ACCE is mainly by educator-dominated approaches and often secluded within a classroom setting. In addition, there are negligible self-directed and independent activities within the learning and teaching process in the college. In our recent observations in the digital library, we found that QR codes can support various learning and teaching contexts that can highly enrich our traditional learning-teaching approaches. They can support both independent and collaborative learning and that QR codes can motivate and ensure the active engagement of learners. We believe the use of QR codes is important qualitative enrichment to the existing learning and teaching approaches with close guidance and collaboration among ACCE leadership, departments and our digital library staff.

The instant readability of abundant information and the comfort to generate required information promptly contributes to its potential for integrating with improved pedagogy and curricula. QR enables users to access a variety of multimedia materials which could help learners to engage in learning situations far more than face-to-face instructions and paper-based learning material. At the same time, it permits peculiar convenience, mobility, rapid interaction, and effective learning conditions both for learners and educators. In this study we argue that learning with QR codes and mobile technologies can be very individualized, situated and authentic and that mobile technologies can bridge formal and informal learning, make learning more student-centered and encourage high level of learner engagement and creativity.

This study intends to show the power of QR codes and mobile device in learning situations in biology laboratory and classroom. Through the initiative the study endeavors to model the possible use of the QR codes and mobile devices for other subjects and learning situations at the ACCE. It further encourages outdoor activities in promoting learner-centered approaches by way of discovering digital resources and literature beyond libraries, laboratories and classrooms. It also enhances learners' knowledge, skills and dispositions in retrieving and benefiting information through developing appropriate use of mobile digital devices.

Our study addresses the following main research questions:

- How can QR codes and digital mobile devices enrich learning and teaching process in biology classes?
- How can the experience of using QR codes and digital mobile devices be far afield used in other subjects and learning situations?

2. Experiences of QR codes in educational settings

QR codes were developed by a Japanese company about fifteen years ago and were not designed for educational purposes. With the advent of smart and web capable mobile devices, we are witnessing a steady growth of interesting commercial applications that use QR codes (Law & So, 2010: 1). However, the inherent qualities of QR codes can serve educational intentions in general and the active engagement of learners in mobile learning contexts.

QR codes were used to provide a direct link to multimedia resources that offer visual and audio support to students and parents, in providing immediate feedback (McCabe & Tedesco, 2012: 1). It is thus important to see the technology as an educational enabler. QR codes and mobile devices can prove to become pedagogically vital for learning and teaching if they are integrated in educational facilities and settings like in Biology laboratories. QR codes can thus meet the needs of learners in a range of ways. Learners can explore items of a physical models from an attached QR codes to enable them to retrieve abundant information in multiple formats about the features of the item (40_Interesting_Ways_to_Use_QR_Codes_in_the_Cla, @mrrobbo, 33)." For instance, QR codes in paper-based tasks can contain links to multimedia resources such as audio materials or video clips.

Teachers can also give directions and information to learners on how to complete their assignments. In art workshops, QR codes can be placed, for example, on pieces of equipment such as different kinds of brushes, or in an engineering workshop on different electronic equipment to guide students about their purpose and qualities. Hence, the study

by Law and So (2010) furthermore noticed that QR code activities help integrate digital materials with field trips in a variety of motivating way. Such experiences have inspired us to explore the use QR codes and mobile learning within the context of our college.

3. Methodology

To explore the possible purpose of QR codes and mobile technologies the head of the digital library and the lab technician collaboratively planned an intervention phase with a biology educator. The process involved 44 learners for three weeks in the digital library rooms. Learners used their own smartphone and tablets from digital library while charts and models were provided from the biology lab.

The activities included the training of learners on how to retrieve information from QR codes that were attached to the charts and models. The process involved learners in a simple, concrete and self-oriented learning through getting adequate information on their mobile device screens. The biology charts and models were appropriate learning and teaching materials that brought about convenience, mobility, interaction, engagement and efficiency to the learning environment. Learners were then allowed to enjoy the opportunity to retrieve and discover essential and relevant learning information independently and collaboratively.

At the beginning of the intervention, the educator taught the theory and the learners followed the lessons then the learners followed biology lab sessions using paper and pencil notes. The biology laboratory activities were designed to include self-directed individual activities as well as collaborative learning activities. Such a process was meant to make learners observe mixed example of conventional and mobile learning approaches. Then learners would retrieve information by scanning the QR code using their mobile device. The mobile devices were connected to the digital library wireless network so that the student would get any information related to the charts and models instantly.

After the three-weeks intervention, data were collected through interviews and questionnaires from the learners, the lab technician and the biology educator. The items in both research instruments covered core aspects of QR codes and smartphone learning. It also included the attitudes, opinions and expectations of the participants from the QR activities and the use of smartphones. The learning outcomes were evaluated through test results and self-evaluation items included in the research instruments. The learners' questionnaire included five parts with a total of 18 items along. five-point Likert scale of agreement. The laboratory technician and biology educator were given open-ended questions to complete. The completion of the questionnaires lasted for about 45 minutes while interviews with 44 learners lasted for about five minutes for each learner each. The interviews were recorded, transcribed and analyzed using the emerging issues.

4. Findings and discussion

The result of the intervention and the subsequent results from the interviews and questionnaires indicated that learners become enthusiastic when they used the QR codes and the mobile electronic as a method of learning. Learning with the help of their own handheld technology and beyond the traditional classroom situation was more effective, easier and enjoyable for most of them.

A. Learning preferences and advantages of QR-based learning

From learners' point of view, the QR activities were motivating and learners preferred the independent and collaborative self-learning to the conventional classroom learning settings. The learners strongly agreed that the QR activities were new, interesting and exciting ways to learn biology, and they suggested to consistently use QR-based learning

Figure 1. Learning with QR codes and mobile devices: Learners (N=44)

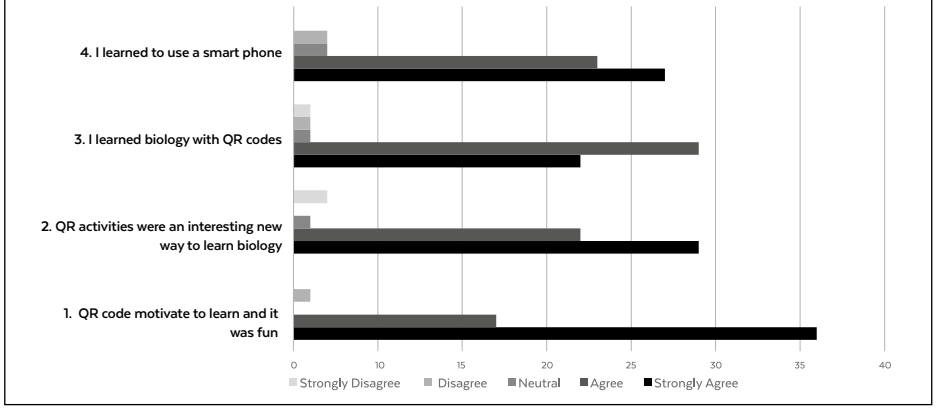


Figure 2. Learning with QR codes and mobile devices: Learners (N=44)

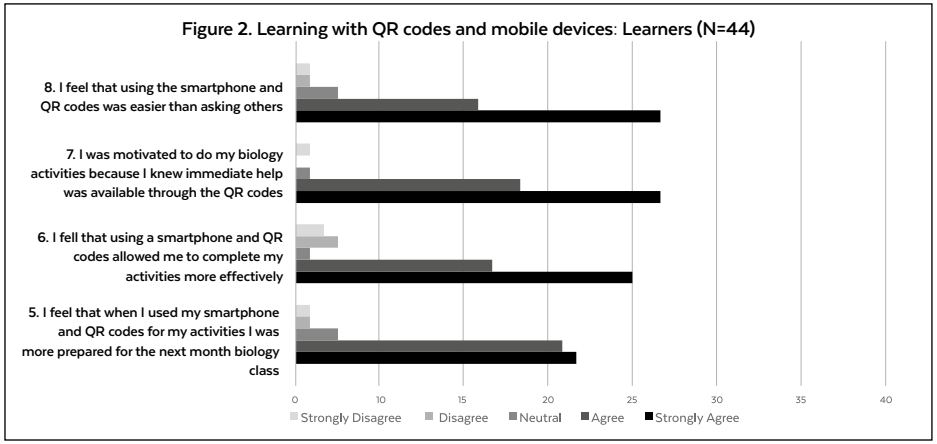


Figure 3. Learning with QR codes and mobile devices: Learenrs (N=44)

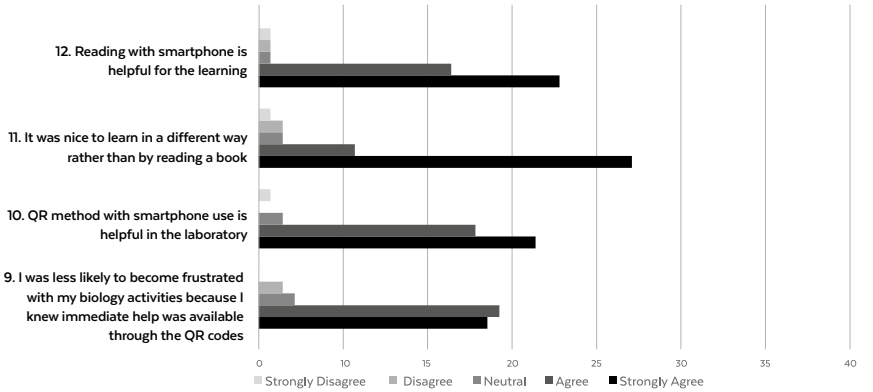
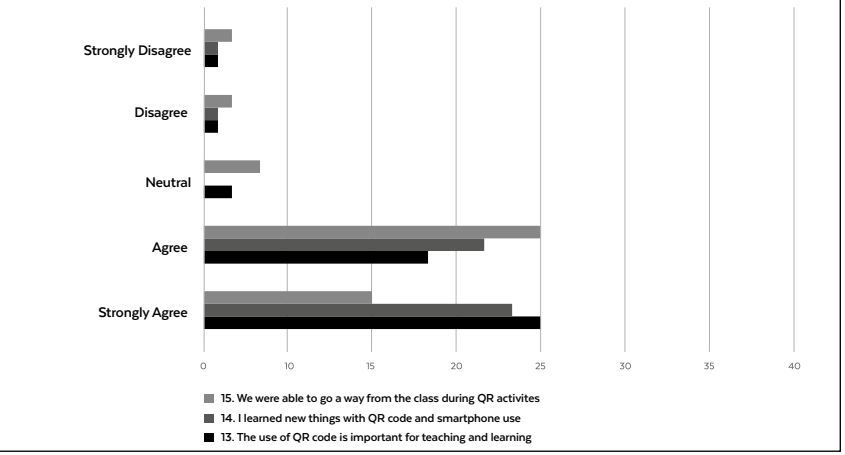


Table 4. Student's response about learning with QR codes and mobile devices (N=44)



activities (Figure 3). They said they add variety of learning and immediate depth of current knowledge. They also added that it develops the learners' commitment to read and ability to choose relevant content that add to the quality of learning. The biology educator also commented that the educational use of QR codes and mobile technologies can greatly enrich even the teaching practices of experienced educators. According to her, the experience of using QR codes was inspiring both for her and her leaners. She regards the use of QR codes as simple and useful learning and teaching method. For the laboratory technician the learning events were for the first time in his laboratory. He commented, "it is very stimulating and helpful in teaching and learning at the ACCE. It is a fundamental enrichment of our pedagogy as well." He further commented agreeably that the process is supportive and evaluated it as, "paradigm shift in using mobile and other tablet technology in our learning and teaching process."

B. Learning at one's own pace and preferred means

The context where the QR codes and mobile devices were used was interspersed with conventional classroom learning. The intervention turned out to be very successful as it tried to compare the conventional learning-teaching methods with the QR-based one within a short span of three weeks. The learners used QR codes for the first time but were able to work at their own pace and in their preferred means with the charts and models. About 70 % (Figure 1) of the students were quicker to find the information of the models and charts and some really enjoyed the encounter. The biology QR activities also encouraged learners to interact. It was mainly planned as a self-directed and independent activity but cooperation was also allowed.

Every learner was busy in scanning the codes to find the relevant information in their own ways. According to the educator, the learners instantly learned how to use the smart phones and QR code reader. About 10 percent, however, had difficulties and needed help during the intervention phase. Hence, QR-based learning can be planned in such a way that learning becomes relevant to college curricula and learning situations can be arranged in QR centers, college corridors or almost in any venue where students could discover and solve problems related to subject matters and learning experiences any time to their convenience.

5. Conclusion and recommendation

The biology laboratory based experiment was successful and learners found it very motivating. The learners even tried to discover information that they had not yet been taught in their former lessons. It thus enriched the conventional teaching methods and classroom learning. The educator indicated that with the QR codes it is possible to arrange motivating and meaningful learning environments and activities for learners. The biology lab intervention can thus be flexibly adapted to meet the needs and inventiveness of users in many situations and contexts for all areas of learning at the ACCE. At their best, QR codes can expand the learning experience and provide authentic tasks for learners and educators in real-world settings.

The findings in this study provide some insights on a small-scale intervention in our college and provides a good basis for continuing research into the educational use of QR codes. QR code has been widely used in industry, commercial activities, and entertainment performances. As a paper-based hyperlink, QR code makes it possible to construct a connection between the online and offline media. The quick readability of abundant information QR code can generate further contributes to its potential for integrating the innovation into our pedagogy and curricula of teacher education. It can also enable learners and educators to access a variety of multimedia materials, which could help students acquire more learning experiences better than paper-based learning materials.

The findings were consistent with the fact that the individual learner's cognitive abilities, memory, emotion, motivation, attitudes and experiences play a significant role in the mobile learning process. In other words, an appropriate way to utilize mobile technology in

education was also tested. Technology use was integrated to matched with learners' needs, motivation, curricula, and human interactions. The novelty effect, for example, is one of the intrinsic shortages in mobile learning research. Thus, to clarify the findings, more thorough research and evaluations should be conducted. Especially, the repetition of the approach used in our study would give more evidence of the feasibility of the approach. In particular, learning outcomes and motivation should be measured and investigated more systematically. Finally, we recommend the establishment of QR center for effective education through mobile learning in our college.

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Learners' use of college library

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Abstract

This study investigated learners' use of the college library at Asmara Community College of Education (ACCE) and some possible ways of improving their habit of using the library. Research participants comprised of purposive sample from learners, educators, librarians and the college director. The methodology mainly included interviews and questionnaires. We were able to learn from the study that learner do not frequently use the library as they should and that several factors contributed to the learners' infrequent use of the college library including learners' level of engagement to learning, learners' limited habit of reading, outdated collection of the library materials, unattractive physical setting of the library, restrictions for borrowing books, and the working hours of the library.

Key words: Library use, learners, ACCE

1. Background

This study was conducted by librarians and educators at Asmara Community College of Education (ACCE). The objective was to investigate the pattern of use of the college library by the learners and come up with an improved use of the library by the learners and the possible ways of developing the library services to encourage users to frequently use the library. From our observation, we were concerned about low incidence of visits of learners to our library and planned to explore the reasons, consequences and possible ways of improving the inconsistent habits and practice of the learners in using the library. Hence, our main research questions were to include:

- Why are the ACCE learners not using the library frequently?
- What are the consequences of the infrequent use of the library to the learners?
- How can the ACCE library motivate learners in using the library more often?

As prospective teachers in primary schools, our learners should set an example of being good readers and users of library facilities in our schools. We strongly credit the purpose of the library in the learning and teaching process both in our college as well as in our primary schools. Thus, the outcomes of the study will be significant in allowing our college library about the extent of its use by leaners and contribute to making critical improvement in encouraging learners to promote its use in their academic, professional, and cultural learning experiences

2. Literature review

Successful education system depends in the exhaustive accessibility and utilization of information sources and services. In this regard, academic libraries provide knowledge and information resources for learning, teaching, and research. Libraries also support and encourage adapting new form of learning and teaching exercises including group projects, group study, teamwork and activity-based learning and assignments (Edward and Fisher, 2002: 56). According to Ezeala and Yusuff (2011: 17), "it is natural for human beings to

evaluate things, events and other people around them. Libraries are also included in this practice. They have the need to periodically measure the resources and services of their libraries as a way of ensuring that they are meeting the set objectives of the library."

It is highlighted that libraries must ensure the required and relevant resources, adequate storage for the collection, and strategies for accessibility of these resources through appropriate classification, cataloguing and other arrangements. Efficient and effective provision of library resources can have positive impact on academic achievement (Williams, Wavell & Coles, 2001: 97). Adeoye and Popoola (2011: 33) dealt with the effectiveness, availability, accessibility and use of library and information resources in their study. They explained that, for effective learning process, learners must have access to the necessary information materials and resources. These resources might be in tangible, e.g. printed materials, and intangible formats, e.g. electronic materials. The authors also express that librarians are responsible for providing the right information to the right person at the right time (Ibid.).

According to Siu-Runyan (2011: 31) user may encounter five possible types of accessibility problems: conceptual, linguistic, critical, bibliographic, and physical. She found out that higher quality schools and public libraries correlate with higher scores on reading tests. When children have access to books, they read them, and when they read a lot, all aspect of literacy are improved.

May be the establishment of libraries in the country is related to development of organized religious institutions but we were not able to trace firm resources to tell when libraries begun to provide their services in the country. At present there are many types of libraries in the world and the major types include (Lance, Rodney & Hamilton-Pennell, 2005: 11):

- Academic libraries serve colleges and universities, their learners, staff and faculty; larger institutes may have several libraries dedicated to serve general or particular service spheres.
- Public libraries serve communities of all sizes and types "from cradle to grave" as more than one public librarian has been heard to say.
- School libraries are usually part of a school system, and serve learners between kindergarten and G12 assuming various names like media centers
- Special libraries offer unique opportunities to work in a specialized environment of interest, such as corporations, hospitals, the military, museums, private businesses, and the government; and may serve the physically challenged population or dedicated to special collections.

Our study is thus about an academic library. According to Miles and Huberman (1994: 4), an academic library is a library that is attached to an educational institution which serves two complementary purposes: to support the curriculum and the research of faculty and learners in the institution. Today there are other ways that libraries can draw the younger generations without sacrificing or abandoning their printed collections. Good examples can be multiple and helpful staff at info desks, digitalized materials and access, neat and colored sections, old and rare book sections, comfortable sitting areas, and attractive surrounding.

3. Methodology

This study focuses on an important pedagogical and cultural support service in our college, the library. Our intention was to conduct an investigation in a collaborative effort between the educators of the pedagogy department and the library staff. We greatly recognized the need to center our attention on our own practice for constructing empirical knowledge that can help us improve the services of our library. Hence, we chose a practitioner research for our purpose.

We mainly used qualitative approaches to collect the necessary data from our learners, educators and the ACCE director. Qualitative approaches helped us to explore the values and insights of our learners about the use of the college library that we may have not been able to gather through quantitative approaches. This allowed us to sense the attitudes and perspectives of our learners and educators. We also substantiated our study by quantitative approach by analyzing the frequency and pattern of learners' visit to the library from the library register.

Interviews can enable interviewers and interviewees to discuss the interpretation of their environment they live, and to express how they regard situation from their own point of view. Interviews are usually meant to obtain rich information from participants. It is critical for researchers to obtain and construct new knowledge and social reality through adapting to the situation of individual or group of participants.

In eliciting the data, we developed interview and questionnaire items related to the research questions and ensured the coherence of the interview and questionnaire items between and among themselves. Interview items were semi-structured while those of the questionnaires were both closed and open-ended. The interviews facilitated in securing information through flexibly asking questions and discussing opinions based on the situation and answers of interviewees. The open-ended questions (Likert scale of three-five agreement levels) in the questionnaires allowed us to explore data amenable for statistical treatments and interpretation while the close-ended questions provided us to generate responses that were not raised by in the close-ended questions to obtain concise information of straight foreword nature for analysis.

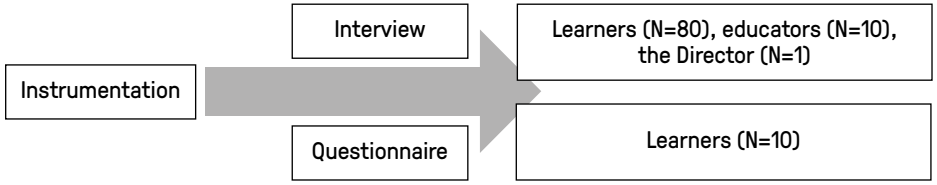


Figure 1 Main research instrument and participants

Our learners were from all the nine ethnic groups from all over the country. The study involved 80 Grade 11 (G11), Grade 12 (G12) and diploma program learners to represent the views and habits of the learners about the use of the college library and the subsequent improvements of its services. The study was also enriched by an interview of 10 educators and the ACCE director.

4. Findings and discussion

A. Frequency of library use by learners

Library use	Respondents	Percent
Often	31	39
Some times	30	37
Seldom	19	24

Table1 Frequency of library use

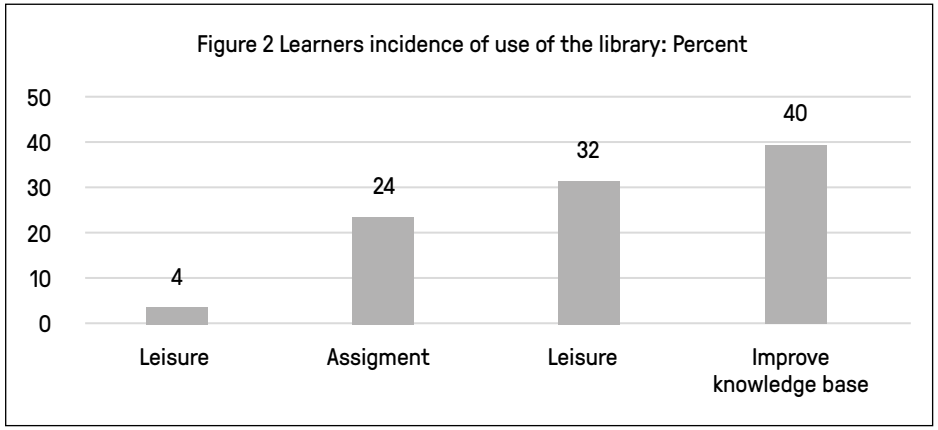
The frequency of learner's use of the library (three Likert levels, Figure 1) showed that 39% respectively used it often while our observation seems to be far less than their claims. Therefore, learners were either not honest in their claims or were not committed to answer the research items as they should. In the interviews learners complained that they prefer to stay at their place than to go to the library because they are not allowed carry their books in the library and that they have busy classroom hours and heavy course loads to study at home. These may thus confirm our observations.

Interviewed educators were not happy about the frequency of learners use of the library and suggested that much work should be done to improve learners' habit of frequenting the library. However, the learners suggested that they should be given assignments that drive them to use the library and refer books beyond their textbooks. In a sense they suggested that educators are also failing to give additional assignments that encourage learners to develop the habit of using the library and thus of further reading.

The working hours of the library is also a factor that has been limiting the frequency of learners use of our library. It is open only during the scheduled hours when learners are occupied in their respective classes. This complaint has been heard from all the participants in the interviews and has also been a frequent and open criticism about library use.

B. Library resources utilized by learners

Individually, the learners provided us with 240 items of related categories which we then classified into four major similar or related themes. The four were using the library for leisure time, doing assignments, preparing for course studies, and improving their knowledge base. The most frequent reason (40%) mentioned was using the library for improving their knowledge base.



Different forms of enhancing knowledge base through using the library were listed including reading books not related to courses, reading magazines, reading newspapers, and improving English vocabulary. There were a reasonable number of learners visiting library for course related works including searching detailed content of course material in other books, preparing notes, preparing presentation and preparing for examinations. Most of the learners refer to academic books and this is mainly because they want to do various types of assignments. Few learners from G11 and 12 said they read English fiction but the main reason for these to be few may because our collections are very old. Some learners said they read locally written fictions, mainly Tigrigna. Most of these fictions are fairly recent.

C. Access to library materials

	Easy		Fifty-fifty		Difficult	
Learners	Count	Percent	Count	Percent	Count	Percent
Grade11	10	13	8	10	7	9
Grade12	19	24	17	21	4	5
Diploma learners	13	16	2	3	-	-
Total	42	53	27	34	11	14

Table 2 Ease in accessing library materials by learners

None of the diploma learners have difficulty in accessing library materials themselves while 5% and 9% of G11 and G12 respectively do so indicating that difficulty of access to library materials is related to the academic level of the learners. However, G12 learners (24%) seem to be comfortable in accessing library materials easily more than the diploma leaners (16%). It is also worrying to note that 34% of the total participants to have said that they have some difficulty in accessing materials. That leaves us to estimate that a little more than 50% of our learners are comfortable in accessing library materials independently.

Specifically, learners mentioned the need for the library to add collections on history, geography, research, political science, mathematics, statistics, middle and secondary school new curriculum books, and new fiction books. Moreover, learners in G11 and G12 complained that they should be allowed to borrow books so that they can use them in their free time outside the library. Nonetheless, the interviewed librarians said that lending books to G11 and G12 learners may not be practical considering the large number of the leaners. In making access to library materials easier both learners and educators raised the issue of digitizing the resources and argued that it would be a lot easier to use, borrow, and find what users want if the library materials are digitized. It would also be more cost effective to increase the resources and services of the library through digitization.

D. Learners' satisfaction with the library services

	Satisfied Easy		Not sure		Not satisfied	
Learners	Count	Percent	Count	Percent	Count	Percent
Grade11	18	23	2	3	5	7
Grade12	31	39	4	5	5	7
Diploma learners	8	10	3	4	4	5
Total	57	71	9	11	14	17

Table 3 Learners' satisfaction with the library services

Though most of the learners (71%) said they are happy with the services the library provided, the librarians should not be happy by such level of assertions because not few of the learners were either not sure about (11%) or not satisfied (17%) with the services (Table 3). One of the reasons given for the displeasure is the noise that is usually heard from the librarians' desk. In the interview an educator suggested the need for multimedia resources to improve the quality of the services and the satisfaction of the educational needs of learners and educators.

A grand idea from the diploma learners came about in the interviews suggesting that library club be organized in promoting the use of the library among the college community and energizing initiatives to improve the services of the library in various ways. Primarily the culture of reading can be encouraged in multiple ways through the role of club members and invited experts. As some of the educators also brought to mind, club members can assist the better functioning of the club service in a number of ways and learners would own the role of the college library that way.

E. Physical environment of the library

About 90% of the participant learners were of definite observations that the library required improvement in its physical environment. These include repairing and refurbishing, the distribution of natural light, arrangement of library books, and the unattractive internal settings. Generally, participants suggested the need to make the library appealing to attract learners to use it frequently. In addition, outdated materials should not occupy space nor become burden for cleaners to spend their time and energy in cleaning and arranging them time and again. Digitalizing of the library resource would also make the utilization of space of the library better and its services far effective.

An educator advised that the placement of plants in the library should not be only for decorative purposes but for making the library a fresh place to stay especially during the day time when the plants use carbon dioxide in and provide oxygen to the library environment. Educators were also appreciative of the approachable and responsive attitudes of the librarians and wished the same would be true for their learners.

5. Conclusion and recommendations

Learner's use of the library is a crucial issue in the learning and teaching process of our college. However, our study signaled that our learners are not using it as they should. A number of causes and consequences have also been found distinct like the habits of using the library, the absence of role modeling by educators, access to facilities and resources, service hours, unattractive and traditional physical environment of the library. It is thus up to the college educators, librarians and the leadership to model and expose learners to better ways of using the college library in an organized and consistent ways.

The research team recommends that the college library must be supplied with relevant, updated and adequate books to the learning and teaching process in the college. The library staff should improve their communication with all learners and organize seminars and workshops for learners and educators on the effective use of library resources. The process of digitizing the resources should soon begin to allow the better space utilization of the library. The library should also be attractive for learners and staff to become a venue for multiple and continuous learning. Library staff should be qualified to provide effective services for all users and hence should be part of a professional staff development initiatives.

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The role of the pedagogical resource center in enriching multiple learning experiences

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Abstract

Often, pedagogical resource centers (PRC) are meant to support the provision of quality education by improving educators' effectiveness to facilitate learning through variety of methods and resources. This study intended to look at the role of the PRC at Asmara Community College of Education (ACCE). Mainly, qualitative approach was employed in the processes of creating rapport, data collection, data organization, and analysis that reflect the eclectic nature of the study. This approach helped the action researchers to answer the research questions pertinent to the current and future endeavors of the PRC and helped in planning, conducting and reflecting on relevant interventions. The research found that the educators and learners' conceptions about the role of the PRC is far inadequate. During the process of the study, the researchers intervened to encourage collaboration between the PRC and volunteer educators. The collaboration focused on improving methodological competencies and developing appropriate learning and teaching resources. Meanwhile extra-curricular activities for learners at the PRC were also chronicled. The findings indicate that professional collaboration among educators leads to pedagogical innovations in learning and teaching practices. The findings led to the formulation of an action plan for the following academic year with a continued focus on PRC-supported collaboration among educators that enriches the quality of learning at the ACCE.

Key words: pedagogical resource center, learning, educators, innovation, ACCE

1. Background

Manen (1999: 14) states that "as a practice, pedagogy is described as the relational values, the personal engagement, the pedagogical climate, the total life-worlds and especially the normativity of life with children at school, home, and in the community". It is also believed that pedagogy as a core area of practice needs to diagnostically improve in serving our learning and teaching processes. However, such attributes of pedagogical activities seem to be missing in the context of our college and concurrently might have led to the misconception of the role the PRC in our college. These situations prompted us to start developing the research questions for our study.

The PRC mainly appears to be understood by our educators and learners as a venue for producing materials and handling artistic initiatives. Consequently, there has been insubstantial collaboration between the PRC and the departments at the ACCE. We argue that collaboration in the process of learning and teaching is essential for ensuring and enriching the quality of learning. The PRC should thus evolve itself to serve general and specific learning and teaching demands of the ACCE in classrooms and beyond. We intend and seek to understand how our pedagogical contexts can change so as to better communicate and implement our methodological values in the future (Flornes, 2007: 98).

Distinctly, the PRC is crucial in responding to vast learning demands and for improving professional efforts at the ACCE. The aim of the PRC is to provide quality education through improving effective learning and teaching process. Hence its main objectives can be outlined as:

- Enriching the teaching and learning process by involving educators and learners.
- Studying and documenting the input, process, outcome, and output of curricular and co/extra-curricular activities.
- Sustaining a working structure through monitoring and evaluation.

PRC is a critical unit of the ACCE with human and material resources that can support educators in systematic, professional and reflective practices. The PRC is a means for educators and learners to continue to learn and grow by making sense of their own practices and a means of entering into a reciprocated process of give and take. The first beneficiaries are hence the learners and educators that will ultimately improve the quality of learning at ACCE. There is empirical evidence that shows how the enquiries of individuals into their own practice have influenced and enhanced the quality of learning and action within their institutional settings (Dodd, 2001 in Whitehead & McNiff, 2006: 61).

Hence, the creation of a positive environment for sustainable development of the PRC does not come from without. It is true that outside support is essential, but the determining factor is the internal commitment, motivation and willingness of educators and learners to work towards excellence. Such deficiency of active participation of the learning community at ACCE has been a great challenge to the proper way of utilizing the PRC. Brydon-Miller and Maguire (2009: 89) argue that "nurturing relationships and genuine participation at all levels of the educational process is a critical aspect of improving educational practice." Participation of the college community is urgently required so that innovations for restructuring practices will occur. According to Freire, "Participation is the willingness of an individual or a group (especially those who are vulnerable) to reengage him/her in the world so as to transform it" (1970 in Khan, Bawani & Aziz, 2013: 171). It is therefore high time and meaningful to study the role of the PRC and strive for the enhancement of its position at the ACCE.

The research problem centers on the limited role of the PRC in the teaching and learning process. We suspect that the cause of the problem may be twofold: educators' lack of awareness and motivation to seek support from the PRC, and the PRC insufficient proactive role to make itself proficient among the educators and learners to understand what guidance and support services are available around the Center. We aspire that the PRC be used regularly and effectively by educators and learners for improved teaching and learning practices. Hence, the researchers strived to build collaborative teams for expounding basic concepts and practices related to the role of the PRC; setting schemes for supporting effective learning and teaching; and evolving close cooperation between the Center and educators in the process of planning, implementing and assessing the facilitation of courses.

In the light of these backdrops and challenges around the roles of our PRC, our main research questions include:

- What are the major challenges of the PRC at the ACCE?
- What are the possible grounds of the challenges of the PRC?
- What are the consequences of these challenges on the role of the PRC?
- How can we enhance the role of the PRC in the learning and teaching practices?

2. Research process

The validation behind our use of qualitative as well as quantitative approaches was to obtain deeper understanding about our situation and to combine the strengths of both approaches and at the same time compensate for the weaknesses of each (Patton, 1990 in Goodwin, et al. 2014: 286). We decided to obtain quantitative data through questionnaires and "present our findings using graphs and tables so that we can have a solid and objective research" (Denscombe, 1998: 177).

We also chose self-study as a research practice to improve our learning and teaching practice. Self-study provides the necessary framework to uncover hidden narratives in the self and in society that are important to practice (LaBoskey, 2004; Pinnegar, 1998 in Ragoonaden, 2015: 84). LaBoskey (2004: 817) outlines the major features of self-study methodology by saying, "it is self-initiated and focused; it is improvement-aimed; it is interactive; and it includes multiple, mainly qualitative, methods". In order to ensure the quality of the action research process, we have made efforts to rely on our "reflexive sensitivity that [our] data collection, analysis and interpretations are mediated by [our] sense of self and identity" (Somekh, 2006: 14). Figure 1 shows the main framework of our reflective process and approaches.

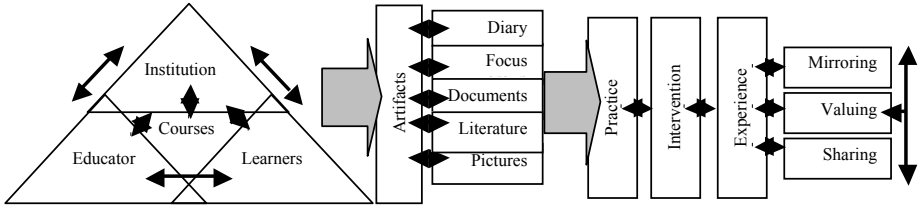

Figure 1: Reflective framework and approaches: (Berhane, 2014: 4)

Educators from all departments were invited to take part in the collaborative research particularly during the data collection process. Eight volunteers from different departments participated in the focus group discussion and four educators were resolute to take part in implementing the schemes sketched. The schemes included a joint planning of various pedagogical issues, implementing what was planned (interventions), and engaging in reflective conversations (evaluation). Besides, seventy learners from grade 11, grade 12 and the diploma program took part in extra-curricular activities in drawing, painting, poetry, drama, and video recording.

The study developed various instruments and was thus rigorous. Elliot (1991: 69-90) has articulated that there are various approaches used for the purpose of self-study in action research, including diaries, participant profiles, document analysis, photographic facts, voice/video recordings, transcripts, critical colleagues, interviewing, running commentaries,

shadow observations, checklists, questionnaires, inventories, and analytic memos. Document inquiry was conducted to investigate how the role of the PRC has been envisioned and what activities have been accomplished so far. This enabled us to find useful sources of information about the events that we were not able to discern in advance (Open University, 2001: 130). Besides, a focus group interview was conducted with educators and learners. Data collected was triangulated to enable the researchers to make sound and consistent sense of the research questions, process, and outcomes.

The first step in the research process was to find out the position of the PRC in the learning and teaching process and its future obligations at the ACCE. The second step was to investigate the results of the interventions made in terms of pre and post-interventions. Interventions are essential elements of our study because of the "cyclical nature of collaborative planning, carrying out the evaluation of a particular intervention which has an identifiable focus and purpose, but which does not predetermine outcomes, or discard those that are unexpected" (Armstrong & Moore, 2004: 2).

A focus group of eight ACCE staff and ten learners from the three programs (grade 11, grade 12, and diploma) was established in accordance with the guidelines of Tomal, "interviewers ask questions, participants often just share their feelings and perceptions while the interviewer records their response" (2010: 51). Data was collected from the group interviews on two separate sessions. Six learner informants were from the active participants while the four were from the non-active participants in the extra-curricular activities. In order to consider some of the ethical standards outlined by the American Psychological Association (APA, 1992 in Tomal, 2010: 33), a notice was posted that invited volunteer educators for the focus group interview. From the group interview, the perceptions of staff members were added to the document analysis in order to gain more comprehensive answers to the first research question (major challenges of the PRC).

During the interview, focus group participants were asked to voluntarily engage in joint lesson planning, implementation and evaluation with the PRC. This was a critical point for starting the next phase of intervention in the action research by identifying teaching staff who wished to cooperate with the PRC in order to generate a synergetic influence between participants (Whitehead & McNiff, 2006: 138).The general intention was to allow us to see ourselves as learners during our involvement in classroom research, accept the classrooms as venues and circles of our continuous learning, and the data we collected as essentials to be understood (Keyes, 1999: 21 in Gray & Campbell-Evans, 2002: 2).

Moreover, investigating the achievements of the extra-curricular activities has been among the major tasks of the study. Curriculum, in this sense, is about the "totality of experiences that a child [learner] receives through various classroom activities as also from activities in library, laboratory, workshop, assembly hall, playfields etc." (Forster, 2009: 157). Those activities which were formerly considered as co-curricular or extra-curricular activities can become part of the curricular activities (Ibid). Therefore, our understanding of the concept of the curriculum had to include elemental aspects of learners and educators' life in the college.

In order to broaden and deepen our understanding about the PRC, literature was searched and reviewed because it was valuable to discover relevant practices of other people (Tomal, 2010: 27). We have made efforts to justify our approaches and take substantial actions through essential readings. Plans were mapped out to implement the actions proposed. This stage followed reflective mechanisms available to higher education lecturers (Crow & Smith, 2005: 492). After interventions were made, reflective conversations followed based on educators' individual self-reflections, learners' evaluations, peer observations, shared experiences, and reiterative discussions with a critical colleague and mentor. Diary and probing observations of the researchers were instrumental in recording events. This was compared with the participants' ideas, beliefs and arguments in developing relevant substantiations.

Hence, there were three phases in the study process. Phase one involved the collection of qualitative data. The phase involved two streams: collaboration with volunteer educators in the process of teaching-learning, and collaboration with learners who took part in the extra-curricular activities. The collaborations were intended to last for a semester. The position of the PRC in the college was first familiarized and then a joint planning was crafted with the four volunteer educators. The planning phase was thoughtfully done by considering the distinctive contents to be taught by respective educators in relation to pertinent pedagogical concepts and practices.

Discussion was held on critical elements of lesson planning taking into consideration human, professional, and institutional characteristics and realities. The planning discussions actively involved volunteer educators, local and expatriate experts, and the action researchers. Adequate part of the process was voice-recorded and photographed. Reflective conversations were held and participants had prepared written reflections on the discussions conducted in the meetings.

Data about the extra-curricular activities were collected, documented and results were evaluated via various instruments and group interviews. Participants' profiles that reflected their educational and social backgrounds were analyzed in comparison to their accomplishments. The activities included displays and a college wide exhibition of forty learners' drawings, recitation of several poems in local languages including Tigrigna, Tigre, Afar, Arabic languages. Besides, the activities included drama and dancing of thirty learners that were recorded in still and video pictures by the learners themselves.

Phase two was mainly about implementing the schemes and intentions of Phase one. The four volunteer educators made the necessary interventions in their respective classes over a one-unit plan period of two weeks. Moreover, lessons on drawing and drama were organized for 80 volunteer learners. Phase three involved the collaboration of the four educators in collecting data of the interventions carried out in Phase two. The educators wrote reflective journals and were encouraged to share their experiences about the classroom situations with the PRC. Besides, questionnaires were administered among forty learners for evaluating the results of the extra-curricular activities and the trainings, exhibitions, and performances organized by learners.

Analysis of the reflective framework and approaches helped us to address the research questions and construct our comprehensions and practices about our learning and teaching process. We chose to employ interpretive analysis because we believe that "interpretation illuminates experience, refining the meanings that can be sieved from the account

of the experience (O'Donoghue & Punch, 2003: 122, emphasis added). Interpretation was accomplished through critical discourse analysis that focused upon the analysis of language. According to Scott and Morrison (2005: 42) the ideas and knowledge that form the content of such texts reflect a form of power which may be used by one group to influence another group.

Qualitative data collected from the focus group discussions were transcribed, and reflections of the action researchers and participants were coded and sorted by "identifying themes, issues, or factors that seem to be emerging from the data" (Sagor, 1992: 33). The ensuing step was to interrogate the data using a matrix (Ibid) that correlates the research questions, data sources, instruments, and the major themes identified. All the way, our main research code was integrity within us and with our collaborators.

Careful analysis of data related to the themes was carried out in order to reach into acceptable interpretations. An essential technique for ensuring analytic rigor was triangulation (McNiff & Whitehead, 2002: 32). The technique was used for compensating the imperfections of data gathering instruments and increasing our confidence in the results (Sagor, 1992: 34). Data about the same events were reflected upon by the different participants and the researchers that helped in evolving different perspectives of the participants and the researchers. The approach enabled the researchers to make comparative analysis, in sensing a diverse triangulation of a kind (Somekh, 2006: 96).

3. Findings, discussion and implications

As mentioned earlier, data analyzed interpretatively helped the action researchers to grasp the meaning and implication of the collected data. Contextual realities were compared with other contexts and contemporary findings that helped in understanding the position of the PRC profoundly. The results that were constructed during the three phases of the study are discussed and their pertinent implications outlined both in this section and in the action plan section.

A. Pre-intervention perceptions and practice about the PRC

Educators' perceptions of the PRC were generally found to be deficient. They considered it as a mere place where curricula souvenirs and materials of art works are displayed. All focus group participants remarked, except one educator, that they did not have deep understanding about the PRC. Learners' responses were similar. They viewed the PRC as the sheer keeper of materials like posters and pictures. The views of the educators and learners were thus far below par from the duties and responsibilities of the PRC.

The response of the focus group discussions with the educators also indicated that their awareness about the PRC was overwhelmingly lacking. Actually, it was worrying to find it similar with that of the learners. Only one educator among the ten in the group visited the PRC once in a semester. An educator said, "I never thought I could use the PRC because I did not know its role". Close to five of the learners said they did not visit the PRC at all. It was also clearly observed that the PRC had its own weakness in not propagating its roles. The effect of the lack of collaboration between the PRC and educators was this significantly sensed.

All focus group interviewees also agreed that lack of collaboration and pedagogical guidance and practices has affected learners' achievements and insisted that there is still a relentless focus on content by educators and an urgency to cover contents in time. Hence an educator among the focus group said, "content is mainly preparing learners for short term memory that does not enable them to be independent and life-long learners." Such evidence of lack of educators' pedagogical innovations were revealed when learners were asked about the quality of teaching they witness at the ACCE. A learner among the focus group discussants confirmed, "our educators use the lecture method to finish a topic and in grade twelve we are in a hurry to finish the content and prepare ourselves for the matriculation exam. The educators write notes on the blackboard and then explain them. When learners were asked to list their favorite methods of teaching that their educators employ, they mentioned lecturing, question and answer, demonstration, discussion, and visits to the libraries.

Both the focus group interviews of the learners and the educators revealed the prevalence of limited collaboration, even within the department staff members, has been a reason for the educators in encountering challenges in their teaching and learning practices. The group suggested that the Department of Pedagogy and the PRC should work hard in organizing and facilitating workshops for supporting pedagogic intentions and reflections at the ACCE.

B. Intervention phase

A joint plan of intervention was schemed between the volunteer educators and the PRC. The discussions for the purpose were positive and the educators were encouraged to write their reflections about the classroom sessions and meetings held. The collaborative efforts made were highly favored by all educators and the reflections written by the educators suggested the need for renewed learning and teaching approaches that seemed to obligate the educator to go beyond their past limitations and avoid being bogged down in 'routine' practices. An educator commented:

"I am motivated to use a learner-centered approach because such an approach maximizes learners' voices and minimizes teachers' talking time. Role playing is one of the best methods that are used to develop the learners' speaking skills. Moreover, it is fun. Secondly, I have learned a new method of teaching which is reading accompanied with drawing pictures to check the learners' understanding even though it may take some time. Finally, collaboration is very important because working jointly is strength."

Collaboration was highly appreciated by the four educator researchers. Their reflection revealed that working together for a common objective created a dynamic learning environment. An educator reflected, "the cooperation among the departments was a very good initiative and has motivated me to make the map reading course more practical because cartography is a science, art and technique of map making...and the PRC encouraged me for using two and three dimensional maps."

The significance of planning was stressed during the process of the interventions and a participant responded, "planning is essential and we cannot work without it. Discussion among educators is relevant to avoid focusing on content than methods. The discussion allowed me to share experiences in selecting relevant methodologies and practices." Besides,

the study basically revealed that the majority of ACCE educators do not engage themselves in an exhaustive process of course management.

Learners' engagement was also emphasized in the findings. Along with the classroom practices, learners' diverse potential and skills were explored and a number of learners, especially in grades11 and 12 were found to have skills in dancing, painting, drawing, drama and writing poems. Lessons intended to develop some areas of art were offered for twenty-four sessions. As a result, various activities related to organizing exhibitions, cultural and drama events were provided. The activities and events have thus helped in enriching learners' aesthetic appreciations and skills.

The data collected through questionnaires indicated that learner's knowledge about and relationship with the PRC increased after the interventions (Table 1: see responses in columns 2 and 3). The role of the PRC in promoting effective learning and teaching was gradually valued. Besides, learners' response indicated that the trainings offered improved their skills notably. Empirical evidence showed that learners of grade 11 were able to emotionally touch the feelings of hundreds of ACCE learners, educators and managers during the show they organized. They skillfully demonstrated artistic capabilities and vividly indicated learners' ownership of cultural values and the competence to represent and publicize them.

Rate your awareness on the following themes	Very high	High	Low	Very low	No response
Current knowledge of the PRC	15	50	30	5	-
Relationship with the PRC	25	60	13	3	-
Role of the PRC in teaching and learning process	38	53	5	5	-
Role of the PRC in enhancing learners' skills	43	43	13	3	-
Role of the PRC in the training (painting, drama, dancing)	18	60	15	-	8
PRC resources	18	30	40	3	10
Role of the PRC in the learners' future endeavors	60	30	10	-	-

Table 1: Learners' knowledge about the PRC: Responses in percent (N=40)

The result of the questionnaire also indicated that PRC has currently a number of limitations related to essential tools and facilities. These limitations were identified by learners as shortage of educators, inadequate time for training, computers, cultural clothes, musical instruments, and PRC's small space. In addition, recommendations were forwarded that include the need for regular classes of painting, drama and music. Digitalizing the resources of the PRC was also frequently recommended.

3. Post-intervention phase

The action researchers had the opportunity to observe, document and reflect on the various classroom practices and educators and learners were also asked to share their experiences. Significant differences between the pre- and post-intervention phases were observed. The classroom environment created a collaborative process that was constructive. Learners were exposed to new learning experiences manifested by the practicality, engagements and independence in the classroom practices. A setting was enriched that allowed learners to interact and support each other. Educators' perception of learning was thus improved. An educator said, "though I had a lot of workload, the process motivated me to identify the capacity of each learner by recording his/her participation in the group and learners have shown improvement in participating in their respective groups. Besides, it created good relationship between me and my learners."

The creation of the learning atmosphere was demanding and required educators' extra efforts. However, it was visibly noticed to be motivating and heuristic that changed the interaction between the educators and the learners. One educator commented by saying, "the classroom environment was very participatory and learner were genial in the process. Moreover, it helped to improve my relationship with learners." Learners were also inspired and motivated by the learning environment. A learner said, "in my view, I really appreciate the active ways of teaching and learning. It is more attractive because learning through practice is essential. I will make all effort to practice it in my future career."

Those learners who were highly engaged in the extra-curricular activities were able to identify the strengths and weakness of the PRC. They listed a number of limitations the PRC had. These limitations included scarcity of teaching and learning materials, musical instruments, cultural clothes, premises, and computers.

4. Overall findings

The findings suggest that collegial efforts lead to improve classroom practices and enabled both the educators and learners to resourcefully use their potential. Promoting communication and collaboration was important in establishing a network (Vavrus F. et al. 2011: 67-68) that added value to the social interactions among learners and between learners and educators (Ibid). Empirical evidences showed that the collaborative work that started with joint planning helped the researchers and participants of the study to develop a sense of interdependence that brought about a change in classroom practices. The experience allowed learners to appreciate new approaches that prompted them to think and act differently. Similar experiences by other researchers like Chin concluded that joint planning as well as debriefings after each lesson "served as a powerful catalyst for reflecting on the effectiveness of their classroom practices" (1997: 120).

This study also ascertained that educators should spend adequate effort and time in developing the necessary skills of communication and collaboration for developing, implementing, and assessing choices made in the learning process. Similarly, Richert (1997: 82) emphasized, "teachers need to learn the value of collaboration and develop the knowledge and skills that will allow them to do collaborative work successfully." In an attempt to realize learners' engagement and achievement, the researchers in collaboration with the participant educators made an effort to utilize the available resources at the ACCE. The findings suggest that both human and material resources encourage learners' participation in constructing their own knowledge.

One of the significant results of the research was that self-study as a methodological approach enabled the researchers and participants to work together from the very beginning of the research process. The result supports the notion that self-study is often conducted collaboratively (Tidwell, 2009: xiv) and, "the findings of a study depend critically

upon who the collaborators are and what they individually and collectively bring to the research process" (Ibid). The exertion that the researchers entered into was to make sense and construct a better understanding about their "*pedagogy of particularity,* a way of teaching that is sensitive to local conditions" (Kumaravadivelu, 2001 in Milambiling, 2011: 20, emphasis original). The ACCE is actually a melting pot that involves more than a thousand learners who represent all the Eritrean ethnic groups. Identifying the diversity of learners and tapping the resources of these diversities as a resource was an essential element of the study.

Another essential part of the research was promoting cultural activities. The aim, among others, was to "promote the development of the learner's potentials in line with their needs and interests" (UNESCO, 2010/11: 10). The researchers worked relentlessly to promote culture-based learning in order to help learners discover their potentials and skills. A significant issue that emerged from the research indicated that learners owned diverse skills and talents. The study established that proper pedagogical approaches are required to develop learners' potentials and capabilities related to curricular and cultural activities.

Research shows that culturally relevant pedagogy "validates students' life experience by utilizing their culture and histories as teaching resource (Byle-Baise, 2005 in Young, 2010: 249), and recognizes learners' home culture, promotes collaboration among peers, holds high standards', and connects home life with school experiences (Neuman, 1999, in Young, 2010: 249). The initiative made college life meaningful to learners but not necessarily as a way of promoting rigorous academic learning (Young, 2010: 249). It is also argued that "a pedagogically proficient teacher shall in different context demonstrate a good ability to use subject knowledge in research-related, practical, pedagogical actions with student learning in focus" (Olatunji, 2013: 75).

Besides, the study venture was highly regarded by all educators. They considered the initiative as a process for personal and professional development. The role of PRC was recognized and commended. Critical and encouraging comments were forwarded by the educators in their reflections that were also significant for all educators at the ACCE. The pedagogical stance that emerged from the experiential learning urged the participant educators to value collaboration highly. One of them said, "educators should continue to work together, share their experiences, co-teach, invite resources persons, and use teaching materials from the PRC for the sake of learners' development."

The study enabled the educators to renew their pedagogical approaches and sketched further plans for effective learning. All participants agreed that learning experiences need to be transformed for the interest of learners. An educator said, "my future plan is to depend more on joint planning and co-teaching. I will do my best to transform the traditional way of teaching to learner-centered strategies and approaches."

The educators concluded that the use of pedagogic resources in the classrooms enabled the educator's effective facilitation and promoted independent learning. The use of pertinent resources in the process of learning and teaching was also emphasized. Resources available at the PRC and created by learners positively affected persistent engagement in learning. The PRC has thus far produced considerable resources that can be used by educators and learners.

During the course of the study the PRC offered resources to educators and learners during the teaching practice accompanied by extensive guidance on planning, presentation and evaluation of lessons. The PRC initiated a plan that involved other educators and learners as to why, what and how to produce learning and teaching resources. During the process, it offered professional support to other elementary schools and PRCs, and organized a number of workshops related to planning lessons, teaching methods and the use of resources.

4. Conclusion and recommendations

The findings of the study have shown that educators' and learners' engagement in pedagogical activities promote effective learning. The experiences learned by educators and learners were explicit in the curricular and extra-curricular activities too. The activities were carried out inside and outside classrooms that enriched the diverse skills of learners. The activities were systematized through the collaborative process of planning, implementation and reflective practices.

The findings of the study were significant in two ways: collegial work and innovation. Both were found to be valuable ways of ensuring the quality of learning to teach. Collegial reflective conversation in order to introduce new methods of learning and teaching provided opportunities for learners to develop their interest in learning and maximize their potentials. Contents to be taught need to be open in order to allow educators and learners to construct knowledge. A positive relationship among educators and learners can allow them to innovate better ways of teaching and learning. Such constructive relationships among learning communities is at the heart of contextually effective pedagogy at the ACCE and beyond.

Based on the findings of the stud, the PRC has initiated a plan that is intended to improve educators' and learners' practices for better learning. The result of the research has informed us that joint efforts lead to sensible and intentional learning and teaching process. Besides, the research has revealed that there exists adequate potential for change. In order to ensure the sustainability of quality learning, the engagement of the whole professional community is thus required. The study gave adequate light into the major challenges of the PRC. It indicated that the organization of the PRC and the attitudes of educators and learners as the main grounds for the underutilization of the PRC. Hence, the study recommended proactive measures that the PRC should engage in enriching the learning experience of both educators and learners at the ACCE.

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Shortfalls of recruitment process of prospective teachers for mother tongue education

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Abstract

This study explored the recruitment process of secondary school learners to join Asmara Community College of Education (ACCE) and looks into their initial competence in their respective ethnic languages to qualify being mother tongue (MT) teacher in elementary schools. It uses data obtained from learners' questionnaire, interview with the learners, telephone interview with regional and sub-regional education office heads, document analysis and test results of learners in their MT. Out of the nine Eritrean languages the two Cushitic languages, Bélin and Saho, were the main focus of the study. The findings indicate that most of the recruits of these languages do not want or cannot teach in their respective MT languages. As most of our participants were from urban centers their neglect to teach in their MT may be due to the influence of dominant languages in the urban areas including the absence of MT schools.

Key words: Recruitment process, SSSEP, prospective teachers, MT education, ACCE,

1. Background

Our elementary schools are expected to facilitate their learning process in nine respective mother tongue (MT) languages. Hence, the preparation of teachers for effectively handling MT education in elementary schools is an inevitable demand for Asmara Community College of Education (ACCE) that is vested with the responsibility to educate the teachers. Correspondingly, the need for an effective process of recruiting candidates for our senior secondary school program (SSSEP) marks a very reliable beginning for preparing potential elementary school teachers in our college. However, the shortfall that has been worrying us was whether the recruitment process that has been going on in the regional education offices appropriate enough to send us competent learners that qualify to enroll as MT teachers.

The SSSEP aims to develop young teachers for elementary schools that should use respective MT languages all over the country. The learners are recruited from all secondary schools among grade 10 (G10) completers and join the SSSEP for staying for two years at the ACCE. This study explores the recruitment practice of the regional and sub-regional education offices in selecting prospective teachers for the SSSEP at the ACCE. The study focuses on two of the nine Eritrean languages, Bélin and Saho. Our main research questions are:

- What are the criteria used to recruit candidates for the SSSEP?
- How far do the recruits qualify the basic requirements to become MT teachers?
- How can we improve the recruitment process in selecting qualified candidates?

2. Literature review

It has been estimated that there are nearly 7,000 languages spoken in the world today, yet

only few of them are used as languages of education and among these languages, about 90% are predicted to disappear within the next century (Beson & Kosonen: 2013: 21). Currently all Eritrean Languages are used as medium of education in elementary schools but due care should be taken to ensure that the policy is implemented at all levels of the school system so that the languages survive to serve their communities.

Since the liberation struggle, elementary schools have been using their respective MT languages as their medium of education. The nine Eritrean languages belong to two different language phyla (supper families) i.e. Afro Asiatic and Nilo Saharan language. The Afro Asiatic comprises of Semitic and Cushetic language branches of Eritrean languages and the Nilotic branch Kunama and Nara are from Nilo Saharan supper family. Semitic branch consists of Tigre, Tigrinya and Arabic. The Cushitic branch encompasses Afar, Saho, Bélin, and Bidhaawyeet. The time when the languages started to have scripts also varies.

Speech community	Language	Script	Population in percent
Afar	Afar	Latin	5.0
Bélin	Bélin	Latin	2.1
Hidareb	Bidhaawyeet	Latin	2.5
Kunama	Kunama	Latin	2.0
Nara	Nara	Latin	1.5
Rashaida	Arabic	Arabic	0.5
Saho	Saho	Latin	5.0
Tigre	Tigre	Geez Fidel	31.4
Tigrinya	Tigrigna	Geez Fidel	50.0

Table 1 Eritrean ethnic communities: Language, script and population share
Source: Eritrean Relief and Rehabilitation Agency (ERRA, January 1995)

The term Bélin refers to the people and the language they speak. Currently most Bélin community reside in the Anseba region. Before the liberation, Bélin used the Geez script, which has greatly helped to preserve some traditional stories and fables. Several initiatives were taken by interested Bélin scholars towards the development of the language. Very few letters that are the unique endowments of the language could not be represented in Geez script. After liberation, the government decided that the Latin script be used for the language.

Saho is one of the lowland East Cushitic group of languages belonging to the Afro-Asiatic family. These languages are spoken in Eritrea, Northern Sudan bordering Egypt, Djibouti, Somalia, Ethiopia, Kenya, and in some parts of Tanzania. The word Saho refers both to the people and the language. In Eritrea there are linguistic minority of 190,000 native speakers. Two periods in the development of orthography of the Saho are the efforts made by foreigners in recording the sound inventory of the language, and the efforts made during the armed struggle and after independence. The Saho language uses the Latin script like all the other Cushitic and Nilotic languages.

3. Methodology

Data were collected through questionnaires from 22 SSSEP and three diploma learners Bélin; and 35 SSSEP and three diploma learners from Saho. Face-to-face interviews were conducted with eight learners from both the languages and both programs (SSSEP and diploma). Telephone interviews with three sub-regional education office heads (Foro, Tsorona, Ghidae) and one regional education office head (Semienawi Keyih Bahri) were conducted. Learners were tested for their respective language proficiency with the collaboration of a staff from the Curriculum Development Division of the Ministry of Education (MoE) and an experienced teacher from elementary schools in Bélin

The focus of our study were Bélin and Saho due to the limitation of our time. We were also encouraged to choose the two languages because from our casual observation we have noticed that most of their members are multilingual may be owing to their proximity with the other Eritrean languages.

4. Findings and discussion

According to our telephone interviews with three sub-regional education heads, ethnicity was an important criterion for the secondary school learners to be recruited for the SSSEP. However, there were no additional criteria for further ensuring that the recruits are reasonably competent in their respective MT languages. Besides, the entrance tests that were supposed to be given during the recruitment for ensuring the competence of the learners included English and Mathematics but not respective MT languages. If the recruits are to teach in elementary schools, measures for finding out the skills in listening, speaking, reading and writing of the recruits in the respective MT language should have been seriously considered. If this is said to be difficult to test, at least the recruits should be confident in oral skills (listening and speaking) in their MT languages to fit to be prepared for teaching in the respective MT languages.

		Bélin		Saho	
#	Category	#	%	#	%
01	Learners who are ready to teach in general	15	60	32	84
02	Learners who are not ready to teach at all	10	40	6	16
03	Learners who are ready to teach in their language (MT)	6	24	19	50
04	Learners who are not ready to teach in their language (MT)	19	76	19	50
05	Learners whose medium of instruction was in their Mother tongue in elementary level	9	36	19	50
06	Learners whose medium of instruction was not in their MT in elementary level	16	64	19	50
07	Learners who use/know the language of their ethnicity as first language	9	36	25	66
08	Learners who do not use/know the language of their ethnicity as first language	16	64	13	34
09	Learners who have competence of their language in (listening, speaking ,writing and reading) skills	9	36	19	50
10	Learners who do not have competence of their language in (listening, speaking ,writing and reading)	14	56	12	32
11	Learners who have the competence of listening and speaking (oral) skills but not reading and writing skills.	2	8	7	18
	Total	25	100	38	100

Table 1 Participants response to questionnaire item

Table 1 shows respondents' rating of their skills in Bélin and Saho languages at ACCE and their willingness towards the teaching profession in general and teaching in their MT in particular. About 76% of Bélin and 50% of Saho speakers are not willing to teach in Bélin and Saho language. In Table 2, an extract from the responses of the learners in why they do not want to teach in Bélin and Saho is shown. The most frequent reasons provided included that the medium of education they attended during their elementary school education was not Bélin or Saho correspondingly. The other frequent response was their incompetence in their respective MT languages. In their interview, the learners also shared that they attended schools with Tigrinya or Arabic medium of education because schools that used their Bélin or Saho as medium of education were remote from them. Thus about 64% and 50% of the learners didn't attend in Bélin or Saho schools respectively.

	Response	Bélin	Saho
1	I know nothing in my language	x	x
2	My medium of education instruction was Tigrinya/Arabic (very few)	x	x
3	I don't want to be a teacher	x	
4	I cannot read and write my MT	-	x
5	I don't want to be assigned in rural areas	-	x
6	I want to teach but I don't have any knowledge of my MT	-	x
7	Teaching in Bélin/Saho is not prestigious	x	-
8	No good future if you teach/learn in Bélin	x	-
9	No or unclear response	x	x

Table 2 Reasons for not teaching in MT: Extracts from learners' responses

Learners' responses about their skill in Bélin and Saho can be categorized into three groups. About 64% Bélin and 50% Saho learners have not acquired the four skills of their languages. About 56% Bélin and 32% Saho speakers have low or no competence in their languages. Only 8% Bélin and 18% Saho had only oral skills. Interviews with respondents indicate that in some cases the learners do not have the ability to communicate even about mundane matters with their family members. Though families should have been more responsible to familiarize their children with their respective ethnic languages, such shortfalls could have been supported by somehow allowing the learners to attend in schools of their respective MTs. Hence, the absence of such intergenerational transfer of the languages would have been sustained by institutional support Michael Krauss (1992, in ACCE, 2015: 21).

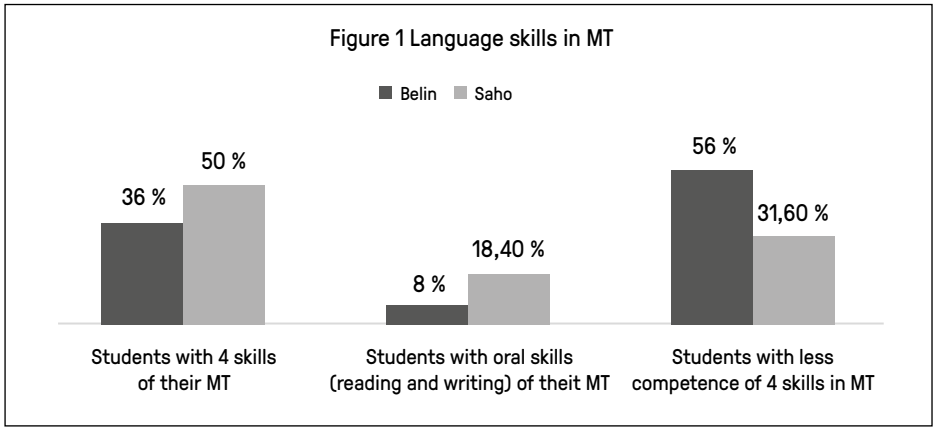


Figure 1 shows the language competence of Bélin and Saho speakers in their MT (at ACCE)

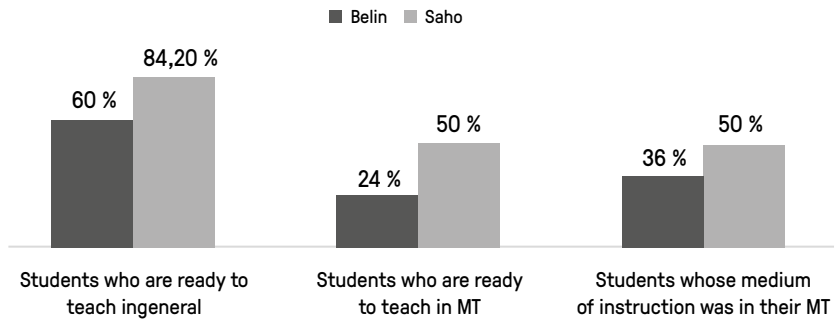
The linguist Michael Krauss (1992: in ACCE, 2015: 32) divides the state of oral languages into three categories: moribund languages that are no longer being learned by children; endangered languages that will cease to be in the coming centuries if prevailing condition continues (languages which are not learned by children properly); and safe languages that are neither moribund nor endangered. As this categorization is based on number of speakers, intergenerational transfer, and institutional support, today there may be a number of Bélin and Saho speaking communities that may be shifting their language to other languages. In this case there may not be intergenerational transfer of Bélin and Saho languages in our urban areas like Keren, Massawa, Adi-Keih, Ghindae, Senafe, Hagaz, Ela-bered, and Asmara. Besides schools with their respective medium of education that might have encouraged families to use their MTs do not exist in such urban areas. Language death occurs when one group is dominated and absorbed by other and adopts its language (Crystal, 1997 in Benson & Kosonen: 2013: 21) either forcibly or by choice.

Besides, 40% Bélin and 16% Saho learners in our college were not willing to be teachers at all. The irony is that recruits should opt to be teachers to join the SSSEP. Here too there is some shady reason for the learners to join the SSSEP far beyond becoming teachers be-

cause the program is meant to prepare prospective teacher. This indicates that the regional or the sub-regional education offices are either somehow deceived by learners' choice or they are not strictly following the guidelines for the recruiting the learners' for the SSSEP.

Figure 2 indicates willingness of Bélin and Saho learners towards the teaching profession in general and teaching in Bélin and Saho MTs in particular. Out of the respondents only 36% and 50% of Bélin and Saho learners attended their elementary school education in their respective mediums. During the interview learners also indicated that one reason was that MT schools of linguistic minorities are mostly located in rural areas while most of Bélin and Saho learners at ACCE come from urban centers. In this case languages of linguistic minorities are becoming languages of rural societies. Thus recruitment based on ethnicity without adequate competence in the respective MTs from urban areas should be closely monitored and some means must be established to enforce its implementation.

Figure 2 Willingness towards teaching profession



Equal respect for all the nine national languages is secured in Article 4 of the Constitution regardless the number of their members and their level of development (National Educational Policy of Eritrea, revised 2009: 29). It is true that all Eritrean languages are actively being taught in elementary levels but the languages of linguistic minorities are mostly used in remote villages and hamlets and many times not accommodate to learn in their MT in urban areas.

The test results that the researchers conducted with the collaboration of a Saho language expert from the Curriculum Division of the MoE and an experienced teacher in Bélin, indicated that the Saho learners (N=22) performed well relatively. Among the Bélin leaners (N=25) only 9 (36%) learners participated in the test that was given in the form of dictation in Bélin. The others couldn't participate due to their language barrier.

5. Conclusion and recommendation

The recruitment criteria and process for selecting prospective teachers for SSSEP should be reviewed and its implementation closely monitored through the active involvement of the ACCE. The process will require genuine and committed implementation if the program is to reach its intended objectives for developing young and dedicated elementary school teachers who can effectively use their MT languages in our elementary schools. Recruitment based on ethnicity alone is thus an inadequate and deceiving criteria that may not ensure the language competency of recruits in their respective MTs. Most Bélin (76%) and half of Saho respondents were not willing to be teachers in their respective languages mainly because they do not know the languages. Besides, readiness of the learners towards the teaching profession has been found to be very weak indicating that the recruitment process is not selecting the appropriate SSSEP candidates.

The researchers would like to recommend the inclusion of MT tests in entrance exam along with English and Mathematics at least orally. The nominees who represent respective ethnic languages should come from the linguistic environment where the language is dominantly used. Besides, the medium of education the recruit experienced in elementary schools should be well recognized. Moreover, the ACCE should actively take part in the recruitment process.

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“Since we are humans collaboration is inside us” - improving research skills through collaborative action research

Hanna Posti-Ahokas & Ikali Karvinen

Abstract

The paper discusses the role of collaborative action research in enhancing research skills at the Asmara Community College of Education (ACCE). Collaborative action research conducted at the college during academic year 2016-2017 is analysed as a context for collaborative development of quality programmes and a space for staff capacity building. The analysis is based on a qualitative questionnaire study conducted among academic staff of ACCE (N=24) in June 2017. The focus of analyses is on the self-assessment of research skills with emphasis on the role of collaboration and the identified needs for further research capacity development. Findings indicate an increasing commitment to collaborative development of practice through action research and enhanced interest of ACCE staff in engaging in research among other professional duties.

Key words: research skills, teacher education institutions, collaborative action research, Eritrea

1 Introduction

It is widely recognized that to be able to achieve quality education for all, teachers must be empowered to participate to the development of their own professional practice and the teaching environment (Unesco 2015, 196). Moreover, the theory of Scholarship of Teaching and Learning suggest that teachers are in the best position to study and develop their own work (Booth & Woollacott 2015, 1-7). This paper intends to describe how teachers became researchers in the Asmara Community College of Education (ACCE) in Eritrea, and more specifically how their research skills were improving through collaborative action research process. The collaborative action research had four specific aims. First, it targeted to find solutions for daily challenges of teachers work in the institution. Second, it aimed to enhance the understanding of evidence-informed teaching in the teacher training. Third, it specifically aimed to give teachers a possibility to learn the meaning of collaboration in practice and finally, fourth, it aimed to equip teachers with necessary skills on research to be able to base teaching practice on evidence. In this article, we focus on the research skills development by analysing data from a self-assessment of research skills by ACCE faculty with emphasis on the role of collaboration and the identified needs for further research capacity development. Building on review of literature on the role of research in teacher education institutes, we use the data to reflect the ways of supporting the teacher-researchers in their task and additionally, analyse the potential of collaborative approaches to research skills development.

2 Role of research in teacher education institutions

2.1 Supporting teacher educators’ diverse roles through professional development

A teacher, at any level of education, performs several roles. Not only being a pedagogue and mentor, but also an administrator, a counselor and an examiner. Beside these, teacher educators working in higher education contexts juggle between their pedagogic and research-oriented roles - working the dialectic of scholarship and practice (Cochran-Smith, 2005). One will find that teacher is also researcher and developer of his or hers own work. Conducting research is, or at least should be, an inseparable part of teaching activities in higher education. Even though one would not necessarily carry out one’s own research, every teacher is recommended to be informed of the role of research in teaching, base the teaching in latest evidence and be able to use the research information to develop her own profession. (Tack & Vanderlinde, 2014; Cochran-Smith, 2005)

Teachers’ collaborative professional learning and development are challenged by organizational issues and the professional culture (Westheimer, 2009). In their review of studies of teacher communities, Vangrieken et al. (2017) identified 1) leadership 2) group composition and dynamics and 3) culture of trust and respect critical to conducive collaborative development. Successful collaborative professional development in teacher communities can be driven both top-down and bottom-up and involve various stakeholders (Vangrieken et al. 2017). Collaborative action research and teacher self-study are increasingly used as tools for collaborative development of practice also in teacher education institutions. The collaborative action research conducted in the Asmara Community College of Education is analysed here as a context for enhancing the culture of collaboration for improved quality of teacher education.

In the Eritrean context, recent thesis study by Isotalo (2017) and study by Posti-Ahokas, Idriss and Hassen (forthcoming) analysed the conditions for professional development in teacher education institutions. Isotalo’s (2017) study identified collegial support, knowledge-sharing, and the educators’ both personal and collective motivation as building blocks for development of teacher educators’ professional identities and overcoming challenging working conditions. The action research to develop practice for collaborative professional development by Posti-Ahokas, Idriss & Hasen (2017) conducted at the Eritrean Institute of Technology, College of Education, suggested collegial collaboration and creation of a learning community as key challenges for developing quality teacher education. Balancing between institutional capacity building and individual academic ambitions, as well as between pedagogical development and research remains a challenge in Eritrean teacher education institutions.

2.2 Collaborative action research as a tool for development

The action research can be defined as “the study of a social situation with a view to improving the quality ofs action within it” (Elliot 1991, in Altrichter, Posch & Somekh 1993, 4). The action research can be used to improve one’s work, professional qualities, working environment and the given services. In the educational action research, the focus is on teachers work, teaching environment and the interaction between the teacher and the student. Rather than letting someone outside the profession to study teachers work, teachers are

encouraged and empowered themselves to study what is meaningful in their professional practice. It can be said that action research is closely linked to the Right to Education, since it replies to the cognitive development needs of the schools and aims to promote creative and emotional development (Unesco 2010, 104).

Educational action research processes might vary, but there are components that are characterizing the processes. First, the researcher question has its origin in the daily educational practices. Moreover, it has relevance to the educational institute where it is taking place. This can be describe as a starting point for the research. Simple, but also sometimes specific, methodologies are used to clarify the situation and develop the actions strategies and facilitating their implementation in the process. Addition to that, work is made public among the relevant stakeholders. (Altrichter, Posch & Somekh 1993, 3-9)

2.3 Case Study from Asmara Community College of Education

The Asmara community College of Education wanted to improve the overall capacity of the college and started the action research process by mapping the relevant fields of interest and daily challenges from the work. The first action research cycle started in October 2016 and continued until August 2017. Finn Church Aid (FCA) participated to the process by offering the assistance on planning, implementation and evaluation. The teaching and library faculty formed 18 action research groups which formulated the research questions, planned and implemented the data gathering and analysis to inform future practise.

In this publication, 16 articles on sub-projects are reported. The articles are characterized with strong link to basic educational and pedagogic activities in the institution, even though the topics vary from infrastructural development to student admission. The research projects could be categorized to three different groups, where one is development of faculty practises and quality, the second development of teaching and pedagogic practises and the third developing the suitable support and auxiliary structures. The findings will be used to improve practise and inform future planning and collaboration to improve quality of teacher education.

3 Support for teacher-researchers on research skills

3.1 The forms of support during the action research process

During the course of participatory action research several types of support methods for the teacher-researchers were arranged. The types of support mechanisms can be categorized to two: Institutional support mechanisms and group-adjusted mechanisms.

Institutional support mechanisms included workshops, seminars and reading circles. These were, in fact, the ordinary FCA weekly activities, but they were adjust to meet the needs of the research groups. Several topics were introduced and discussed in the gatherings, including preparations for research, data collection, data analysis, report writing and referencing. Moreover, the timing of the events were targeted to meet the needs of the research groups in the different stages of the research. Significant part of the research were the discussions and Question and Answer sessions, where group members had a possibility to ask further clarification and learn from other groups work. Participatory methods were used in the gatherings, including among the others, mind map drawing, article reviews in the groups and small presentations.

The group-adjusted methodologies included research clinics and personal consultations. The weekly research clinics were meant to be forums for groups and individuals to get to a deeper discussion with FCA specialists on research related issues, such as how to form a valid questionnaire or how to analyse data with certain analysis methodologies. The research clinics lasted from one to two hours and approximately on average four to six teacher-researchers used the possibility. Additionally, personal consultations were available for the groups and individuals to strengthen their understanding on research process. Support was provided by the specialist working in the college and by the FCA specialists and experts.

3.2 Consultancy, tailor-made trainings and material-packages as a support for research

As a part of general research capacity building FCA arranged intensive two weeks consultancy to assist the research groups to finalize their work. The aim of this consultancy was to elaborate a Review on Research Skills at ACCE containing the information on the past and current situation of research skills at ACCE, including review on the impact of FCA Research support for the institution. Moreover, the aim was to provide recommendations for research skills support and review the further ideas of how to support research in the institution. Parallel to that, the consultant supported the collaborative action research at ACCE by assisting the 19 action research groups to finalize their research work and articles.

The continuous support for the teacher-researchers included also the research-related material packages. FCA supported the process by offering the research-group members so called researcher's starter kits, which included items which are needed in the research work, such as pens and papers, flash drives and internet time. Additionally, small group of teacher-researchers got also trained on information literacy and information access skills. They were provided a one time training on critical thinking, evidence-based approach and information search, where the themes of credibility and quality of the information were discussed and participants were guided to search research articles to their literature review.

Small group of teacher-researchers from ACCE could also participate to the one-week long academic exchange to Finland. The current stage of the action research was taken into consideration when the trip was planned and many topics covered during the week were touching the importance of research as a basis of education and implementation of the research results in ones work.

4 Analysis of skills development through collaborative action research

Data was collected using a qualitative questionnaire administered to ACCE teaching staff (N=24). The questionnaire data was complemented by discussions with ACCE research coordinators and FCA education experts and through a 2-week intensive work period of the research expert at ACCE in June 2017.

Self-assessment of research skills

An analysis of core research skills was developed based on a model developed by the University of West England (UWE, Research Observatory) in collaboration with FCA education experts. The questions guided ACCE staff to define their competence levels (Foundation,

Intermediate, Advanced, Expert) in the core areas of planning and management, area/subject knowledge, data collection and analysis and in generating a research report.

Level	Planning and managing a project		Area / subject knowledge		Data collection and analysis		Generating a research report	
	N=21	f (%)	N=21	f (%)	N=21	f (%)	N=17	f (%)
Foundation	1	5%	1	5%	-		1	6%
Intermediate	12	57%	7	33%	5	5%	7	41%
Advanced	7	33%	10	48%	11	52%	9	53%
Expert	1	5%	2	10%	5	5%	1	6%

Table 1. Outcomes of the self-assessment of core research skills by ACCE staff (N=25)

The figures above indicated that a majority of respondents consider their research skills as either intermediate or advanced. The strongest areas are data collection and analysis and report generation. Also, 58% of the respondents consider to have advanced or expert level subject knowledge of their research area. Only one respondent defined him/herself at the foundation level.

When analysing the self-assessment by ACCE staff, it is considerable to note that the model was based on the one used at the novice level at the University of West England. Although a number of ACCE staff are holders of MA degrees, they didn't consider to possess expert level skills that should be the outcome of conducting research at Master's level. On the other hand, the assessment was done in relation to the ongoing CAR projects which may have not encouraged thinking back to the thesis process. Similarly, Cochran-Smith (2005) discussed the conflicting ideas about the value of practically oriented action research. On one hand, contextually relevant, development focused research conducted by practitioners has been effective in improving practise but on the other, it has been said to lack rigour and generalizability. Therefore, balancing between (seemingly) conflicting objectives of individual research skills development aiming at academic upgrading and organizational development is a critical challenge for research conducted at ACCE.

Strengths in research skills and collaboration

Based on the self-assessment of four core areas, respondents were asked to describe their individual and collaborative strengths in research. Responses clearly reflected the four core areas but also emphasised the strengths in collaborative work itself. Of the four core areas, data collection and analysis was mentioned as a strength most often (14 mentions), while content knowledge (7 mentions), planning and management (5) and report writing (5) were given an equal amount of mentions. What is notable are the 13 mentions of the team work. Respondents were giving credit to their teams for conducive collaboration and development of skills.

"Open and friendly discussion, working hard towards the research team as if it is personal work." R4

"The fact that we can coherently work together, we took a detailed look at our data collected – eventually analysed it critically" R13

"The strongest one is the joint work, the discussion, the independent works among us, the sharing of ideas"

Some respondents did also point out to the deficiencies in collaboration:

"Because of short time I didn't participate many times. Most of the work have been done by the three members of the team" R17

"As a team I still haven't seen much strong areas." R22

The individual statements give a lot more positive picture of collaboration than what was observed from discussions with coordinators and the research teams. While meeting the research teams, several people were complaining about the low commitment of some of their team members and also pointed to forced nominations to the groups. Also, the CAR coordinators told about the problems of passive groups and the low commitment of some individuals. However, the responses analysed above indicate that most respondents did value the collaborative work despite its deficiencies. It is also possible that the more enthusiastic individuals were the ones to fill and return the questionnaire.

The focus group discussion carried out among four FCA education experts also reflected increasing commitment to research at ACCE. Motivation to conduct research as part of daily duties has clearly increased through the collective CAR process. An increasing number of individuals are showing their interest in pursuing further studies. Supporting this motivation will be a key challenge for FCA experts working at ACCE in the coming academic year.

Needs for further research capacity building

In the questionnaire responses, the following priority areas were suggested by ACCE staff for research capacity building in the future:

Focus area	Issues
Planning and managing research projects	• Systematizing data collection • Planning and time management
Methodology	• Data collection and analysis • Literature based studies • Generating results
Academic reading and writing	• Proposal writing • Conducting literature reviews • Reporting
Specific content knowledge areas	• Learning in mother tongue • English language learning • Language teaching and teacher education • Literacy (reading) • Replacing paper based work by automated computer based work • Anthro-linguistic studies
Pedagogical research to enhance	• Active learning and teaching • Classroom management • Learning styles • Assessment
General issues	• Teachers' motivation and support • Language of instruction • Communication skills • Introducing online examinations • Improving aesthetics of the college • Recruitment

Table 2. Priority areas for future research capacity building needs indicated by ACCE staff

The issues presented by participants indicate a variety of interests and priorities among ACCE staff. Also, many of the ideas are not limited to research but to professional development in general. Prioritising and focusing support is of critical importance. Collaborative planning is encouraged to ensure engagement of all staff in research and professional development activities. Bringing back the findings from the current needs analysis could be a way to make these processes visible and to emphasize the importance of responding to such surveys.

Future steps in the ACCE-FCA partnership

Finally, suggestions for potential areas and practices for ACCE-FCA partnership were given by the respondents. The suggestions can be divided to material and non-material support. Out of the 25 respondents, only 5 brought up the material support (e.g. laptops and other equipment and direct financial aid). This is significantly lower than in the previous needs assessments conducted in 2015 and 2016. This may indicate an increased understanding of the FCA approach and an increasing value given to the non-material capacity building activities. Also, several individuals expressed their frustration to the poor accessibility of the equipment procured by FCA in 2016. This may have directed the suggestions to the non-material, more accessible means of support. In order to follow-up the previous needs assessments, it was suggested that FCA experts conduct discussions at each department to fully understand the departmental contexts and challenges.

In general, workshops, seminars, reading circles and trainings were commended and suggested to be continued. The ideas presented in the previous section can give ideas on the priorities related to content. Besides the formal events, the role of daily contact with experts is critical "by giving immediate advice and corrections, guidance and encouragement" R9.

Several respondents expressed their appreciation to FCA and wished for the collaboration to continue:

"FCA has played a great role in us conducting our CAR at its right pace and we're extra thankful." R13

"There will be a need to consult experts in the field. In this respect, I hope FCA contribution will continue." R12

The three FCA education experts who had been closely involved in supporting the CAR process, further emphasized the value of continued presence and hands on support to enable ACCE staff to keep up with their research among other, often more pressing, demands. However, demands for opportunities to gain further academic degrees increases with the enhanced engagement in research. Also, accessing international research journals and getting opportunities for co-authoring articles is frequently requested. The academic interests of current and future FCA experts are recommended to be put in practice in these areas.

5 Discussion

This action research project can be considered unique for two reasons. First, the whole institution was involved in it and all the teacher educators played an important role in developing their own professional practices. Second, the Finn Church Aid's role for supporting the practice was tailored to meet the needs of institution and individual teachers. It was characterized by the idea of collaboration rather than support or aid by an international organization.

This project helped ACCE faculty to diversify their roles (Tack & Vanderlinde, 2014); teachers started to recognize themselves not only as teacher educators but also as researchers and developers. Individuals and groups have learnt to conduct research using various methods and have improved their research writing skills. Importantly, the action research project contributed to an idea that rather than highlighting the development of research skills, the collaboration between the faculty members is the most important aspect of the project. However, to sustain interest in research, individual academic ambitions and objectives for institutional development have to be balanced. Engaging the whole staff in setting objectives for professional development and research activity is essential in sustaining motivation and for creating a culture of collaboration. Close partnership of ACCE and FCA has a potential to support sustained capacity building of ACCE as an institution and the members of the ACCE community.

The first action research cycle has taught its participants important lessons on inclusive, collaborative target setting and open communication between everyone involved in research. The groups have identified critical issues influencing quality of education and developed strategies to overcome the challenges. As emphasized by Vangrieken et al. (2017), leadership, group composition and dynamics as well as culture of trust and respect are critical to successful teacher communities. Lessons should be drawn in these areas to enhance the potential of action research as means to further improve practice at ACCE. The identified areas for future capacity building and ACCE-FCA partnership can guide the next steps of collaborative action research.

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Promoting career paths in education through support to the teacher training programme at the Asmara Community College of Education

Finn Church Aid (FCA) engaged with Eritrea in 2014 with a mandate to work in the education sector to build capacities for the provision of quality education in the country. The cooperation is stated in the framework of a Memorandum of Understanding with the National Commission for Higher Education (NCHE),which is valid until end of the year 2020.

The FCA Right to Quality Education (R2QE) Programme was initiated in 2015, and focuses on improving the capacities of College of Education/Eritrea Institute of Technology (CoE/EIT) and Asmara Community College of Education (ACCE) to lead teacher education and professional development. Since the beginning, FCA's work has been guided by global, regional and national development strategies and plans. This will support Eritrea to advance towards compliance of the international commitments and implement Universal Periodic Review's (UPR) recommendations in the education sector.

Asmara Community College of Education (ACCE) is a governmental institution established in 1980, with a mandate to train primary and middle school teachers who will be assigned to teaching positions by the Ministry of Education (MoE). Currently, there are approximately 80 teacher educators working for the Certificate and diploma level education. The first certificate graduates from the programme which was specifically supported by FCA, included 290 women and 210 men, received their certificate on July 2017. With the dedication of ACCE staff and the contribution of FCA, the quality of teaching has been improving at the institution, and about 62 % of the certificate graduates passed the matriculation exam so well that they can continue directly to diploma and degree level programmes.

FCA's work at ACCE is supported by United Kingdom's Foreign and Commonwealth Office (CSSF/FCO) and the Swiss Confederation's State Secretariat for Migration (SEM) granting a total of 205,940€ and 156,331€ for the cooperation, respectively. Daily activities are conducted by FCA's education specialist and education experts. They contribute their professionalism to build institutional capacity of the ACCE and develop skills of teaching staff to deliver quality teacher education through the ATTP and the diploma level teacher education programme.

With CSSF/FCO's contribution, FCA has been able to provide specialized support to ACCE for diploma programme general curricula revision and professional development for teaching staff members, of whom 44 have already completed the personal professional development programme. The contribution of SEM has made it possible to add on targeted support for enhancing the quality of the ATTP. The activities at ACCE have included pedagogical and research training workshops, peer-tutoring, pedagogical cafes, co-teaching and provision of quality learning materials. Thanks to the support of FCO/CSSF and SEM, six ACCE staff members have also had the opportunity to attend an academic exchange programme in Finland to further enhance their knowledge on the Finnish education system and teaching methods.

The contribution of CSSF /FCO and SEM has also made it possible for FCA to support 19 collaborative action research groups to complete their investigation. The results of the hard work undertaken by ACCE staff are presented in this 16 article collection. It must be emphasized that this kind of collaborative action research conducted by staff members themselves is quite unique in academic circles, and will surely support the sustainability, development and quality of the initiative. It is also a valuable initiative to promotion of evidence-based policy dialogue around career paths for the local youth.

Warm thanks to the partners who made this process and printing of this collection of articles possible.

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