



Original Research Article

# Correlation between code change strategy, teaching modalities and learners' competence-based abilities: A Case of Arusha Technical College, Tanzania

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This study sought to establish the correlation between code change strategy, modalities of teaching and competence based abilities of college students at Arusha Technical College. Prior to data collection, the questionnaire was piloted at a neighbouring college and the Cronbach's Alpha in three variables was between .78 and .89. Descriptive and inferential statistics analyzed data in order to answer research questions. The study concluded that code change takes place in the classrooms and students are free to switch between English and Kiswahili. Students perceived that knowledge acquired in classrooms is helpful in solving practical problems in their areas of specialization. The study further established no correlation between code change strategy and competence based abilities and between code change strategy and modalities of teaching. Finally, the study confirmed a positive yet weak correlation between modalities of teaching and competence based abilities. Since modalities of teaching influences competence based abilities, it is recommended that educators should employ those teaching modalities that encourage participation of the learners for maximization of competence level. Finally, educators should be flexible to allow code change as this is the best way to increase learners' participation.

**Key words:** Code change, competence, ability, technical college, Arusha, Tanzania

## INTRODUCTION

Medium of instruction plays pivotal role in school systems. According to Olagbaju and Akinsowon (2014), language plays an important role in teaching and learning situations, not only as a subject taught in school, but also as the vehicle through which information is shared between the teacher and the learners. Unless teachers and learners master the medium of instruction, learning effectiveness cannot be fully realized (Ngussa, 2018). Contrary to this, mastery of English as medium of instruction is one of major challenges facing post primary education in Tanzanian (Kikoti, 2004; Mtallo (2015). According to Tibagereza (2010), "Tanzania is a multilingual country with 150 ethnic languages spoken within its boundaries. However, Kiswahili is the language most frequently used in government offices, as well as in everyday activities countrywide." Furthermore, Kiswahili is

used as medium of instruction in Primary Schools while English takes over as language of instruction in secondary schools, colleges and universities. This situation suggests a drastic change which learners experience in secondary and tertiary education where competency-based ability of the learners is expected in preparation for industrious performance after graduating.

While competence based abilities depend on several factors including classroom interaction between the teacher and the learner, limited mastery of the medium of instruction may threaten teaching-learning effectiveness and therefore reduce the rate to which competence based abilities can be realized by the learners. Unless educators come up with effective strategies through which this issue can be resolved, learners may not fully attain intended

learning outcomes due to limited language abilities. To fill this gap, the present study investigates on the role of code change strategy on competence-based abilities in Tanzanian tertiary institutions. Particularly, the study investigates on the correlation between code change strategy and competence based abilities among learners at Arusha Technical College under the following research questions:

*What is the perception of learners at Arusha technical College on the use of code change strategy in the teaching and learning process?*

What is the perceived competence based abilities among learners at Arusha Technical College?

To what extent is competence based approach used in the teaching and learning process at Arusha technical College?

Is there significant relationship between competence based abilities, teaching/learning approach and code mixing?

### **Review of Related Literature and Studies**

This section presents review of literature and studies related to the topic under investigation. Information is extracted from both journal articles and books. Specifically, this section is organized into particular variables namely the concept of competence based curriculum, competence based situation in Tanzania, the concept of code change strategy, code change in Tanzanian context and modalities of teaching and competence based abilities.

### **The Concept of Competence Based Curriculum**

The world is changing from knowledge based to competence based teaching learning approaches that engage the learners toward practical abilities to perform tasks. This section explains what competence based curriculum is all about. According to Amankwah (2011), the introduction of competency based training at the polytechnics aims at providing graduates with the employable skills. He considers the competence based training as the acquisition of appropriate knowledge, attitudes, personal traits and skills to efficiently perform work place roles in industry, commerce, management and administration. In Tanzania, for instance, the intention of competence education is to impart practical capabilities of learners through actual doing of a particular task or skills. The competence tests are carried at the end of each module in tertiary institutions because it combines the different knowledge and skills required to perform a given activity (The National Council of Technical Education, 2014).

According to Mbarushimana and Kuboja (2016), competence based training with its teaching and learning approaches has in recent years received a good deal of attention and support within the educational profession. They further consider it as a system that moves education from focusing on what academics believe graduates need to know (teacher focused) to what students need to know and

be able to do in varying and complex situations. The National Council for Technical Education (2014) presents the aim of competence based curriculum as to produce graduates with high and quality skills, those who are able to perform tasks efficiently.

In Tanzania, there are two regulatory bodies for higher education namely Tanzania Commission for Universities (TCU) and National Council for Technical Education (NACTE). The TCU takes care of university education while NACTE takes care of tertiary education that is offered by accredited colleges in the country. While TCU system uses knowledge based approach of teaching and learning, NACTE uses competence based approach. Arusha Technical College where the present study is conducted falls under NACTE. The NACTE validates curricular that are developed by individual technical institutions or authorities. This practice was adopted on the ground that individual institutions or competent authorities could be better placed in developing curricular that are flexible and would integrate all the dimensions of foundational skills as well as core concepts and scientific skills.

Furthermore, the NACTE is cognizant of and fully accepts its responsibility of contributing significantly towards the realization of the Tanzania vision 2025 which envisages Tanzania to be a nation with high quality livelihood, a nation which produces the quantity and quality of well-educated people sufficiently equipped with requisite knowledge and skills to solve the society's problems, meet the challenges of development and attain a strong and competitive economy. This goal can be realized through the availability of a technical education and training system, which the Council has established with the purpose to produce a critical mass of high quality technicians and professionals required to effectively respond to and manage development challenges in Tanzania (The United Republic of Tanzania, Retrieved 23 April, 2019).

### **Competence Based Situation in Tanzania**

Like many countries, Tanzania has experienced a transition from knowledge based to competence based curriculum. According to Kafyulilo et al. (2012) in Komba and Mwandaji (2015), soon after her independence in 1961, Tanzania, like many other African countries, adopted a content based curriculum. It is not until 2005, when the country introduced a competence based curriculum which led to the development of competence based approaches for teaching with the aim to produce graduates at various levels with practical abilities to perform intended tasks more effectively.

Like many other countries, however, studies have indicated that Tanzania is facing many challenges in implementing competence based curriculum. Komba and Mwandaji (2015), for instance, investigated on the implementation of competence based curriculum in selected secondary schools in the country and found out that the implementation was ineffective in that majority of teachers did not have the proper understanding of the

objectives of competence based curriculum. Likewise, majority of reviewed lesson plans did not reflect the qualities of a competence teaching and learning. Likewise, Kafyulilo et al. (2012) conducted a similar study at college level in Morogoro region, particularly in teacher training colleges and established that although the pre-service teachers perceived their understanding and abilities to implement competence based teaching approach were high, the interview with the teachers revealed that the teachers had difficulties in explaining some competency based concepts. They therefore concluded that competence based teaching approaches are not well implemented. Thus, they recommended that more efforts need to be devoted in the development of teachers' understanding of competence based teaching approaches. With these findings, we can come to realize that preparedness of educators in Tanzania to use competence based curriculum needs to be given first priority.

While competence based curriculum requires not only active participation in task performance, it also requires learners to be actively engaged in theoretical knowledge that take place in classrooms. Much as students' participation in classroom depends on mastery of the medium of instruction, the medium of instruction used must be user friendly to both teachers and learners. This means that both teachers and learners must be competent to express ideas in the process. If learners have not mastered the medium of instruction, for instance, they may face difficulties in capturing some aspects during the teaching and learning process. As a result, the practical aspect of learning effectiveness may fail to get realized.

While Tanzanian colleges employ English as medium of instruction, some learners have limited mastery of the medium of instruction and therefore, the researchers in this study anticipated that the use of code change strategy between English and Kiswahili would be the best way to curb the challenges that both students and teachers face in terms of communication effectiveness (Ngussa, 2018). In this study, the term code change is used to include both code switching and code mixing. While code mixing denotes the use of more than one language within a sentence, code switching means using more than one language between sentences. In other words, when the code changes after a sentence is completed, it is code switching while when the language changes before the sentence is completed, it is code mixing. In this study, the researchers believe that both ways can help to make teachers and learners to understand each other easier especially when the medium of instruction is not the first language of the teacher or the learner.

### The Concept of Code Change Strategy

This section discusses the concept of code change strategy in teaching and learning. Particularly, it goes through literature and studies to throw light on the place of code change toward learning effectiveness. The term code change is complex in nature and it is difficult to come up

with a universally agreed definition because different authors have come up with varied definitions. According to Svendsen (2014), for instance, the definition of code-switching is complex. He cites Gardner-Chloros (2009) who noted that it is problematic to define code-switching, as the term can have several different meanings and refers to whatever one wants it to mean. With this complexity in mind, he decided to use Schendl and Wright's definition of code switching which is the ability to "alternate between languages in an unchanged setting, often within the same utterance" (Schendl and Wright (2011) in Svendsen (2014).

According to Mahbub-ul-Alam and Quyyum (2016), code switching is a shift or change from one language or language variety to another by a speaker or a group of speakers. It can take place in a conversation when one speaker uses one language and the other speaker answers in a different language. While this strategy can break rules by using a language that is not official in the teaching and learning process, it is an opportunity to accommodate those teachers or learners who may have limited mastery of the official language used as medium of instruction. This can be observed in countries like Tanzania where the medium of instruction in post primary education is a foreign of which both teachers and learners may face challenges in mastering it. It is important to note that it is common for speakers of more than one language to be tempted to mix the code. This practice is justified by Van Hell (1998) in Zhou and Wei (2007) who holds that despite individual differences, all bilinguals share the ability to act in their native language, in their second language, and to switch back and forth between the two languages they know. This therefore, suggests that code switching may not necessarily be due to inefficiency in one language mastery, but a situation whereby one is tempted to make use of both languages at the same time or occasion. Shartiely (2016) describes code-switching as a common linguistic practice among multilingual speakers, occurring when a speaker alternates between two or more language varieties in a single conversation. He also argues that "code-switching, the practice of moving back and forth between two languages or between two dialects or registers of the same language, is a common practice among multilingual speakers from all walks of life".

According to Brezjanovic-Shogren (2011), code-switching and code-mixing have been used interchangeably throughout literature. However, he considers code-switching as applied to the patterns described as the juxtaposition within the same speech exchange of passages of speech belonging to two different grammatical systems or subsystems. He further considers code switching to appear in three ways namely; tag switching, inter sentential switching and intra sentential switching. While tag switching refers to insertion of tags such as *you know* and *I mean* in sentences that are completely in the other language, inter sentential switching involves switches from one language to other between sentences. Intra sentential switching on the other hand, occurs within the same

sentence or sentence fragment. Therefore, tag switching may be used as a defence mechanism for one to express mastery of the language he or she is struggling to master. In this study, therefore, code change is used as a general term to embrace both code switching and code change.

Code change can be regarded as a means to overcome communication barriers. This is expressed by Zabrodska (2007) in Simasiku (2016), who argues that in an academic sphere, bilingual pedagogical practices can help learners overcome communication barriers in their classroom environment. This situation suggests that code switching can be helpful in increasing teachers' and learners' confidence in discussions especially when the persons have limited instructional language mastery. This can be clearly seen in the United States of American experiences where an increasing number of Spanish-speaking students enter into the classroom with varying levels of mastery of the English language. While some of these students begin school with English fluency or competency in both English and Spanish, others are monolingual Spanish-speakers or have mastered just minimal vocabulary in the English language, thus creating a gap among the learners. Due to this experience, some schools adopted bilingual education programs, teaching subject matter in Spanish while the English language is taught separately (Pollard'02, 2012). Code change strategy is therefore ideal for learners with multilingual backgrounds. This has been advocated by a range of studies.

Simasiku (2016), for instance, conducted a qualitative study to establish whether the use of mother tongue in English medium classrooms would enhance classroom participation. Using questionnaire, interviews and observation schedules, he came up with a conclusion that the use of mother tongue in English medium classrooms did not constrain learners' understanding of the learning content, but rather, it facilitated classroom participation while teachers agreeing that the code change strategy benefited learners' participation in English medium classrooms. Additionally, Svendsen (2014) investigated on the influences of code-switching in the second language classroom in connection to language development. The results revealed that low-proficiency learners benefit from first language usage, whereas high-proficiency learners both preferred and benefitted more from an English-only classroom. The findings further suggested that code-switching can be a beneficial language strategy.

### **Code Change in Tanzanian Context**

Researchers and educators in Tanzania have shown great concern regarding the country's language-in-education policy that does not effectively promote bilingualism (Tibategeza, 2010). Particularly, studies have shown a struggle experienced by post secondary school learners in Tanzania in the use of English as medium of instruction. This is due to the fact that in the country, Kiswahili is used as a medium of instruction in Primary School Education. When learners join the secondary education, a new language,

English, is introduced as medium of instruction and Kiswahili is used just as a subject. While learners in higher learning institutions experience challenges with regard to medium of instruction, the problem begins from secondary schools where English is also used as medium of instruction. This is put by Vuzo (n.d), who has it that English-Kiswahili code switching is employed in secondary school classrooms by both teachers and learners, as a coping strategy to attain meaningful learning. This practice is not permitted in Tanzania even though it may be the only possible strategy to move away from the difficulty faced in using English only to communicate in teaching and learning.

The study findings of Shartiely (2016) illustrated how difficult it is to avoid code-switching in classroom interaction at the tertiary level of education in a multilingual society such as Tanzania. While there might be several reasons toward such experience, he considers problematic language-in-education policy which fails to adequately prepare students for rigorous higher level learning in English in a traditionally non-English context where another language dominates as a key factor. Particularly, he expresses the experience at the University of Dar es Salaam as follows: "Lecturers... , even after having been cautioned against code-switching in classrooms, still persist with code-switching and make it an integral part of their teaching process primarily to foster learning and bridge the linguistic gap between themselves and their students." Therefore, code change in Tanzanian education system is looked at as a mechanism to help struggling students or teachers to overcome deficiencies in official language for instructional sessions.

### **Modalities of Teaching and Competence based Abilities**

While the present study considers code change strategy as an independent variable that can influence competence based abilities, modality of teaching may also have some effect on competence based abilities of the learners. Teaching modality, also referred to as teaching approach, is therefore an important factor that determines learning effectiveness. Although learning can take, and does take place in the absence of the teacher, the presence of the teacher is essential for maximizing learning effectiveness and learners' abilities to perform intended tasks. The role of the teacher is important for learners to achieve what is intended by the school curriculum. While there are various approaches of teaching, the study of Ngussa (2018) established that teaching-learning approaches that maximizes learners' engagement influence greater learning effectiveness. With this regard, teachers are called upon to engage learners in knowledge construction rather than spoon feeding them with ready-made knowledge.

Instructional strategy is therefore an essential aspect for learning effectiveness whereby learners can be met at the point of their needs regardless of variation of their backgrounds and method used in teaching the subject matter. Although learners may have varied linguistic

Table 1: Reliability Analysis Results

SN	Variable In Question	Cronbach's Alpha	Comment
1.	Code mixing strategy	.78	Reliable
2.	Competence Based Abilities	.89	Reliable
3.	Teaching Learning Strategy	.79	Reliable

abilities, the approach used by the teacher can enhance or hinder learning effectiveness and consequently competence based abilities. According to Moyles and Hargreaves (2003), this can only be possible when such pedagogical traits as imagination, creativity and sensitivity with individual characteristics of the learners are employed. Smaldino et al. (2008) explain the term "strategy" in two different ways. First, a way of doing something, particularly, involving learners in a particular teaching-learning activity while maintaining that the instructional strategy selected can influence learning outcome. Secondly, procedure of instruction selected to help learners achieve their objective or internalize content. They further give examples of instructional strategies to include presentation, demonstration, cooperative learning, gaming, simulation, problem solving, discussion, drill and practice, discovery and tutorial. Effective learning therefore, depends on the extent to which learners are given opportunities to practice, something which increases competence based abilities.

## RESEARCH METHODOLOGY

Research methodology is described by Mugenda and Mugenda (2003) as a research component which includes the proposed research design, population and sampling, data collection procedures, data analysis procedures and sometimes measurement of variables. With this background, this section explains about research design, population and sampling procedures and validity and reliability of the research instrument.

### Research Design

The present study employed quantitative research approach using descriptive correlational research design. Research design is defined by Kothari (2004) as arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose. While descriptive aspect describes existing situation in the field, correlation aspect tests interrelationships among variables under investigation. According to Kothari (2004), the major purpose of descriptive research is description of state of affairs at present. He further considers it as a design which is concerned with describing the characteristics of a particular individual or a group of people. Correlational design, on the other hand, is described by Mugenda and Mugenda (2003) as one which is used to analyze the degree

of relationship between two variables. Therefore, the present study described actual situations and tested interrelationship between variables under investigation as indicated in data analysis section.

### Population and Sampling

While Arusha City has two higher learning institutions under competence based curriculum, Arusha Technical College was randomly sampled for inclusion. Intended total of 90 Second year students taking Bachelor degree in Electrical and Biomedical Engineering, Biomedical and Automation Engineering, Civil Irrigation Engineering, Computer Science and Information Technology. A total of 88 which is 97.7% returned the questionnaire. This includes 68 males and 20 females.

### Validity and Reliability

It was necessary to ensure acceptable validity and reliability of the research instrument prior to data collection. Face validity test was employed in the sense that the researchers, using their expertise critically looked at the questionnaire against research questions and made necessary adjustment before the questionnaire was pilot tested.

A sample of 36 students from a neighbouring university filled the questionnaire for pilot testing prior to data collection and Cronbach's Alpha in three variables was between .78 and .89. While the cut off point of acceptable reliability was 0.7, the questionnaire was considered reliable for data collection (Table 1).

### Statistical Treatment of Data

Data analysis involved both descriptive and inferential statistics. Through descriptive statistics, mean scores and standard deviations were employed. Inferential statistics employed Pearson Product Moment Correlational Coefficient to establish interrelationships among variables under investigation.

### Analysis and Discussion

This section was guided by the four research questions The first three research questions sought to establish descriptive aspects of the study while the fourth research question sought to establish relationship among variables under investigation.

Table 2: Code Switching Strategy

SN	Item in the Questionnaire	N	Mean	Std. Dev
1.	In my class, learners are free to switch between English and Kiswahili	88	3.03	.668
2.	Learning sessions are dominated by Kiswahili and English mix	88	2.88	.808
3.	Sometimes I ask questions in Kiswahili during classroom sessions	87	2.89	.835
4.	My teachers are comfortable when I ask questions in Kiswahili language	88	2.67	.768
5.	My teachers use both Kiswahili and English in teaching and learning sessions	88	3.02	.742

Table 3: Competence Based Abilities

SN	Item in the Questionnaire	N	Mean	Std. Dev
1.	I am able to perform various tasks during practical sessions	88	3.32	.540
2.	Knowledge acquired in classroom is helpful in solving problems in my area	87	3.29	.630
3.	I am able to apply classroom knowledge in solving practical issues	87	3.11	.705
4.	My progress is at my own pace and not at the pace of the teacher	88	2.68	.751

### Descriptive Analysis

The first three research questions were analyzed through descriptive statistics in terms of mean scores and standard deviation. The mean scores were interpreted as follows:

3.50-4.00 = strongly agree

2.50-3.49 = agree

1.50-2.49 = disagree

1.00-1.49 = strongly disagree

### Research Question One:

**What is the perception of learners at Arusha technical College on the use of code change strategy in the teaching and learning process?**

This question sought to establish the perception of learners on the use of code change strategy in the teaching learning process. As observed in Table 2, the mean score in all five items was between 2.50 and 3.49 meaning respondents agreed with all the items. Particularly, they agreed that in their classes learners are free to switch between English and Kiswahili and that learning sessions are dominated by Kiswahili and English mix. This suggests that teachers are flexible to allow learners express their views during teaching-learning sessions in both Kiswahili and English. This situation is similar to what Shartiely (2016) established at the University of Dar es Salaam, that lecturers, even after having been cautioned against code-switching in classrooms, still persisted with code-switching strategy and made it an integral part of their teaching process primarily to foster learning and bridge the linguistic gap between themselves and their students.

Particularly, students agreed that sometimes they ask questions in Kiswahili during class room sessions, teachers are comfortable when students ask questions in Kiswahili and that teachers use both Kiswahili and English in teaching and learning sessions. This suggests that even though English is the official medium of instruction in post

primary education, Kiswahili is still dominant by both teachers and learners. Therefore, code change strategy is used as an instructional tool at Arusha Technical College in teaching and learning sessions. Although this strategy breaks rules by using Kiswahili language which is not official in the teaching and learning process, it is an opportunity to accommodate the learners who may have limited mastery of English language which is the official medium of instruction in Tanzanian tertiary learning institutions.

### Research Question Two:

**What is the perceived competence based abilities among learners at Arusha Technical College?**

This research question sought to establish perceived competence based abilities of learners. As observed in Table 3, the mean score to all the four items in this section was between 2.50 and 3.49 meaning respondents agreed with all items in this section. Particularly, they agreed that they are able to perform various tasks during practical sessions and that knowledge acquired in classrooms is helpful in solving practical problems in their areas of specialization.

Furthermore, they agreed that they are able to apply classroom knowledge in solving practical issues and that their progress is at their own pace and not at the pace of the teachers. This means learners believed to have competence based abilities as a result of what takes place in the classroom.

### Research Question Three:

**To what extent is competence based approach used in the teaching and learning process at Arusha technical College?**

This research question sought to establish the extent to

Table 4: Modalities of Teaching and Learning

SN	Item in the Questionnaire	N	Mean	Std. Dev
1.	The curriculum is flexible in terms of study time per student	85	2.64	.782
2.	My teachers prepare thoroughly and in advance	86	3.00	.632
3.	My teachers respect the choice of the students	87	3.08	.614
4.	Materials presented in class are relevant to practical performance	85	3.23	.610
5.	My progress is determined by my ability to perform	87	3.26	.706
6.	Teachers give me opportunity to develop my own learning goals	87	3.19	.712
7.	Learning experiences are oriented by continuous feedback	88	2.98	.686
8.	Industrial attachment forms a major component of my study program	88	3.29	.570

which competence based approach is used in the teaching and learning process. With an assumption that the institution under investigation uses competence based curriculum, it was necessary to establish effectiveness of this plan.

As observed in Table 4, the mean score to all eight items in this section was between 2.50 and 3.49 meaning respondents agreed with all items in this section. Particularly, respondents agreed that their curriculum is flexible in terms of study time per students, their teachers prepare thoroughly and in advance, the teachers respect the choice of students and that materials presented in class are relevant to practical performance.

Furthermore, they agreed that their progress is determined by their ability to perform, teachers give them opportunities to develop their own learning goals, learning experiences are oriented by continuous feedback and that industrial attachment forms a major component of their study program.

### Hypothesis Testing

The fourth research question sought to establish correlation among variables under investigation as seen below:

#### Research Question Four:

#### Is there significant relationship between competence based abilities, teaching/learning approach and code mixing?

This research question called for testing of the following three null hypotheses which were analyzed through Pearson product Moment Correlation Coefficient. Nature of existing correlations between variables would be either positive or negative and was interpreted based on the following criteria:

- ≥ .70= strong relationship
- ≥ .50 = moderate relationship
- ≤.50= weak relationship

**Hypothesis One:** *There is no significant relationship between code change strategy and competence based abilities of the learners.*

As observed in Table 5, the Pearson correlation between code change strategy and competence based abilities does not exist due to the p value of .371 which is greater than the critical value (0.05). This leads us to accept the null hypothesis and therefore maintain that there is no significant relationship between code change strategy and competence based abilities of the learners. Therefore, code change strategy does not influence competence based abilities among the learners.

Although the use of mother first language in English medium classrooms may not necessarily constrain learners' understanding of the learning content, it facilitates classroom participation (Simasiku, 2016). Therefore, although code change strategy in the present study does not influence competence based abilities, it increases the rate of participation in the teaching and learning process.

**Hypothesis Two:** *There is no significant relationship between code change strategy and modalities of teaching and learning.*

As competence based ability is the major concern in this study, it was necessary to establish whether modalities of teaching can influence the competence based abilities of the learners. As observed in Table 5, the Pearson correlation between code change strategy and modalities of teaching does not exist due to the p value of .708 which is greater than the critical value (0.05). This led the researchers to accept the null hypothesis and therefore maintain that there is no significant relationship between code change strategy and modalities of teaching. Therefore, code change strategy does not influence modalities of teaching.

**Hypothesis Three:** *There is no significant relationship between modalities of teaching and competence based abilities of the learners.*

The last hypothesis was to establish whether modalities of teaching influences competence based abilities of the learners. As observed in Table 5, there exists a weak yet positive correlation of .387 between modalities of teaching

Table 5: Relationship between Competence-based Abilities and Teaching/Learning Approach

Correlations		Code Change	Competence	Modality
Code Change	Pearson Correlation	1	.097	-.041
	Sig. (2-tailed)		.371	.708
	N	88	88	88
Competence	Pearson Correlation	.097	1	.387**
	Sig. (2-tailed)	.371		.000
	N	88	88	88
Modality	Pearson Correlation	-.041	.387**	1
	Sig. (2-tailed)	.708	.000	
	N	88	88	88

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

and competence based abilities due to the p value of .000.. This leads us to reject the null hypothesis and therefore maintain that there is a significant relationship between modalities of teaching and competence based abilities of the learners. Therefore, modalities of teaching and learning slightly influences competence based abilities of the learners. Since this correlation is positive, we can hold the view that the more the competence based curriculum is applied in the teaching and learning process, the more the competence based abilities the learners are likely to attain.

## Conclusions

Based on findings of this study, the researchers came up with the following conclusions with regard to code change strategy, competence abilities and modalities of teaching.

1. Students at Arusha Technical College perceived that code change strategy takes place in the classrooms. They are free to switch between English and Kiswahili and that learning sessions are dominated by Kiswahili and English mix. Therefore, teachers are flexible to allow learners express their views during teaching-learning sessions in both Kiswahili and English.

2. Students perceived that they are able to perform various tasks during practical sessions and that knowledge acquired in classrooms is helpful in solving practical problems in their areas of specialization. Furthermore, they are able to apply classroom knowledge in solving practical issues.

3. With regard to teaching/ learning strategies, students perceived that their teachers prepare thoroughly and in advance and that the teachers respect the choice of students and that materials presented in class are relevant for practical performance. Therefore, competence based curriculum is well implemented at Arusha technical College.

4. The study established no significant correlation between code change strategy and competence based abilities of the learners and between code change strategy and modalities of teaching. Therefore, modality of teaching is not influenced by code change strategy.

5. The study established a positive yet weak correlation between modalities of teaching and competence based abilities. Therefore, modalities of teaching slightly influence competence based abilities of the learners. The more the competence based curriculum is applied in the teaching and learning process, the more the competence based abilities the learners are likely to attain.

Based on above conclusions, the researchers give the following recommendations with regard to code change strategy, competence abilities and modalities of teaching.

## Recommendations

1. Since modalities of teaching influences competence based abilities of the learners, it is recommended that educators at the Arusha Technical College should employ those teaching modalities that encourage participation of the learners so that the students should be fully prepared to be competent in their future careers.

2. Educators at Arusha Technical College should be flexible to allow code change in the teaching and learning sessions as this is the best way to increase learners' participation.

## Conflict of interests

The authors declare that they have no conflict of interests.

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