

Effects of Culture on the Learning Styles of Secondary School Agriculture Students in Uasin Gishu County, Kenya

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Abstract: *Culture strongly influences students' learning styles. Understanding and appreciating the cultural differences of secondary school agriculture students in order to make the appropriate instructional decisions will enhance their learning. However little information is available whether there is any significant relationship between culture and learning styles of secondary school agriculture students. The aim of this study is to determine whether an individual learner's culture, affect his or her learning. This paper describes the use of Kolb's learning style inventory (KLSI) and experiential learning theory to identify students' learning styles in secondary school agriculture classroom. The Kolb Learning Style Inventory (KLSI) was administered to two hundred and ninety one form three agriculture students in Eldoret East sub county, Kenya. Survey research design was used. The author adopted the proportionate sampling technique. The Data collected were analyzed using descriptive statistics and the results indicated that agriculture students possess all the four learning styles; Accommodating, Assimilating, Converging and Diverging. The study contributes to best teaching practices by the teachers in the sense that understanding the students' learning styles, is essential preparation for facilitating successful learning in secondary school agriculture classrooms, so as to adequately provide for learners' diversity.*

Keywords: Agricultural Education, Culture, Learning style

1. Introduction

Agriculture is the mainstay of the Kenyan economy. Kenyan agricultural sector contributes directly about 24 percent of Gross Domestic Products [GDP] and about 19 percent of the formal wage employment (1). It is the main source of livelihoods for about 80 percent of the population in rural areas, (2). Agriculture contributes over 60 percent of exports and provides 80 percent of all industrial raw materials (3). The importance of agriculture to the economy may account for its inclusion in school curriculum for learners to acquire the appropriate skills that will enable them cope with life challenges. According to Ministry of Planning and National Development (4), agriculture is key to national food security and is expected to play a critical economic role as Kenya envisages it's transformation into a rapidly industrializing, middle income nation by the year 2030. In primary school curriculum, agriculture is integrated into the science curriculum while in secondary schools; it is a separate subject in the school curriculum, (5).

The agriculture classrooms have student with diverse and unique ways of learning. Individuals have preferences in the way they take in and process information. Knowing students' learning styles can help in various ways to enhance learning and teaching. Teachers need to be responsive to individual cultural values, to accommodate for cultural diversity that influence learning styles in their classroom.(6). It is indeed vital for teachers to have awareness of their learners' learning styles preferences for effective classroom teaching and learning in this fast growing world. Research illustrate and document learning differences ,whether by the name of learning styles, cognitive styles, psychological type, or multiple intelligences. Learners bring their own individual approach, talents and interests to the learning situation. It is

also know that an individual learner's culture affect his or her learning. The context in which someone grows and develops has an important impact on learning. The aim of this study is to determine whether an individual learner's culture, affect his or her learning in Eldoret East Sub County, Kenya. Despite acknowledgment of important differences among learners, uniformity continues to dominate school practices. The public secondary schools in Kenya generally project what they consider to be the proper way of learning which is uniform for all students. Most schools still function as if all students were the same. Students use the same textbooks and the same materials for learning; they work at the same pace on the same quantity of material. They study the same content and work through the same curriculum on the same schedule. Teachers talk with whole groups of students, delivering the same information at the same time to everyone. Even more valid is the argument for general standards and equality across schools.

In Kenya education practices have been developed to consciously promote the same education for all students. Students whose families value collaboration are told to be independent. Students whose culture values spontaneity are told to exercise self- control. Students who are rewarded in their families for being social are told to work quietly and alone. This cultural clash often causes students to struggle in school, and yet their individual strengths, if valued, respected, and promoted, would bring them success and increase their self- confidence. Students who do not learn through whatever the current "best approach" happens to be are too often labeled low achievers because their way of learning does not respond to that particular method. The low achievers are identified for remedial classes. For example, in secondary school agriculture, remedial classes are a strategy, used for learners who were not successful in understanding

the concepts in class during the normal time table learning. Therefore they receive additional instruction on the same. Remediating a deficit technique rather than teaching the desired skill through the student's strength is the norm in too many schools. The same pattern is evident in behavioral areas where, for example, an active, hands-on learner who does not have the opportunity to use that approach in a positive way in the classroom is described as lacking self-control and labeled disruptive or hyperactive without an examination of their learning styles.

Culture and learning are connected in important ways. Early life experiences and the values of a person's culture affect both the expectations and the processes of learning. The cultural difference in secondary school agriculture students is based on the idea that students who are raised in different cultural settings may approach education and learn in different ways. It is important for teachers to be aware of the difference between the school atmosphere and the home environment, (7). People from different cultural traditions may have an approach to education that differs from the approaches used by the teachers. Teachers need to ensure that they incorporate methods of teaching in their classrooms that accommodate various cultural notions students bring to school. Guild (8) examined the relationship between culture and learning style and concluded that the only way to meet the learning needs of culturally diverse students would be to intentionally apply diverse teaching strategies. Including open discussion and physical experiments as part of instruction to correspond to the unique learning styles of students.

2. Research Design and Methodology

This study adopted a cross-sectional survey research design. Cross-section is an approach where information on a population is gathered at a single point in time which was the case for this study. According to Mugenda and Mugenda (2012), a survey is an attempt to collect data from members of a population in order to determine the current status of that population with respect to one or more variables. Survey research is considered as the best method in collecting original data for purposes of describing a population which is too large to be observed directly (Kombo & Tromp, 2006). Forty seven secondary schools register students in Kenya Certificate of Secondary Education, (KCSE) in agriculture in the Sub-County, with a total number of twelve hundred form three agriculture students Using the formula developed by Krejcie and Morgan (1970), a sample size of 291 respondents consisting of 148 boys and 143 girls were randomly selected from the twelve hundred form three agriculture students.

Kolb's Learning Styles had been researched popularly in education (9). Experiential learning is a process in which knowledge is created through the transformation of experience. It focuses on "doing" in addition to the "hearing" and "seeing" that occur in traditional learning (10). Additionally, it involves active participation of the learner and learning takes place on the affective, behavioral as well as on the cognitive dimensions. Kolb's (11) model offers a

system for teachers who are attempting to reach all students in their classrooms.

The learning cycle and activities associated with the different modes definitely provide students with maximal learning and significantly reduce students' boredom and alienation. For example, teachers can lecture on the theory (abstract conceptualization); have students personally reflect on the content, ask questions, and discuss the content (reflective observation); assign homework, fieldwork, and laboratory projects (active experimentation); and direct small group discussions, give concrete examples, show videotapes, and discuss personal experiences (concrete experience). The LSI can be used in a classroom setting to assess each student's learning style. Associated with each of the four stages of the cycle of learning are activities the teacher can use to meet both the course objectives and the instructional needs of their students. Doing so will also mitigate the learning style differences that are culturally derived as well as address the varied learning styles of students in a classroom.

Kolb's model assumed that active experimentation (AE) and reflective observation (RO) are opposite modes and that abstract conceptualization (AC) and concrete experience (CE) are opposite modes. By crossing or combining the four learning modes, a student's learning style can be defined as shown in figure 1

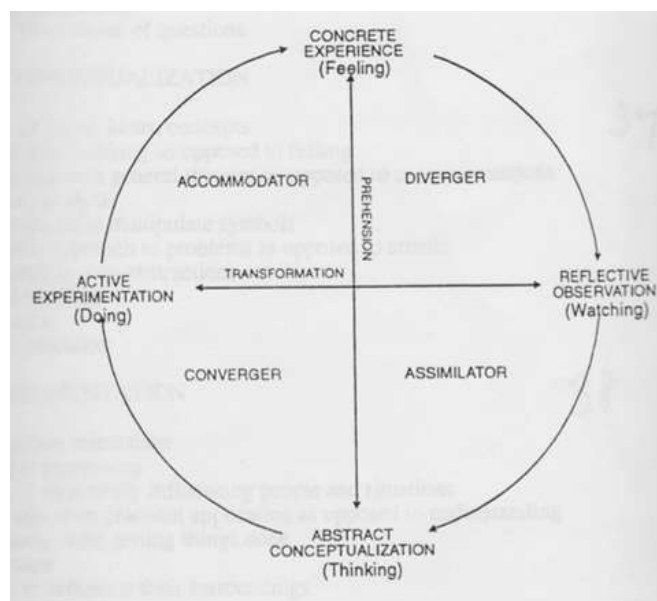


Figure 1: The four learning styles through learning cycle.
 Source Kolb's (1984), *Experiential Learning Model*

- Accommodators—active experimentation combined with concrete experience.
- Convergers—active experimentation combined with abstract conceptualization.
- Assimilators—reflective observation combined with abstract conceptualization.
- Divergers—reflective observation combined with concrete experience (Kolb, 1985).

Movement through all four stages of the learning cycle increased learning retention (12).

3. Results and Discussion

Two hundred and ninety one students from ten public coeducational secondary schools in Eldoret East Sub County participated in the study. 49 percent of the students who participated in this study were female while 51 percent were male. All the participants completed Kolb learning style inventory and indicated their ethnic background and gender. From the study, 46 (15.8 percent) were accommodators, 49 (16.8 percent) were divergers, 65 (22.4 percent) were assimilators and 131 (45 percent) were convergers. This is illustrated in Figure 3.

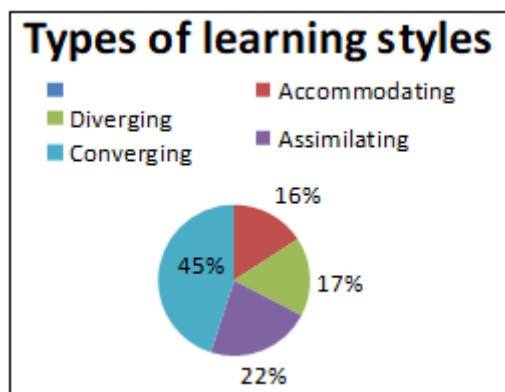


Figure 2: Categories of agriculture students according to learning styles

The agriculture students owned least the Accommodating learning style which was 15.8 percent. Majority of the respondents had the Converging learning style than any other learning style. This study also agrees with the findings by (14). Adel and Louis investigated into the preferred learning styles of 274 accounting and Marketing students in the Clayton State University and their findings were that all the four learning styles existed. However preference of majority was Converging Learning style. The converger's dominant learning abilities are in abstract conceptualization (AC) and active experimentation (AE). The convergers' greatest strength is in the practical application of ideas (15).

Further analysis was done to establish the differences in learning styles of students who participated in this study based on gender. The findings indicated that there were more male accommodators (8.2 percent), divergers (8.6 %), and convergers (24.1%) than female (7.6 %, 8.2% and 21% respectively). There were more female students (12.4 %) who were assimilators than male (10%) students. This implies that female and male students perceived learning styles differently. This compares well with (16) findings that female students extremely preferred assimilating learning style whereas male students were in favor of converging learning style. Both male and female student's least preferred Accommodating learning style.

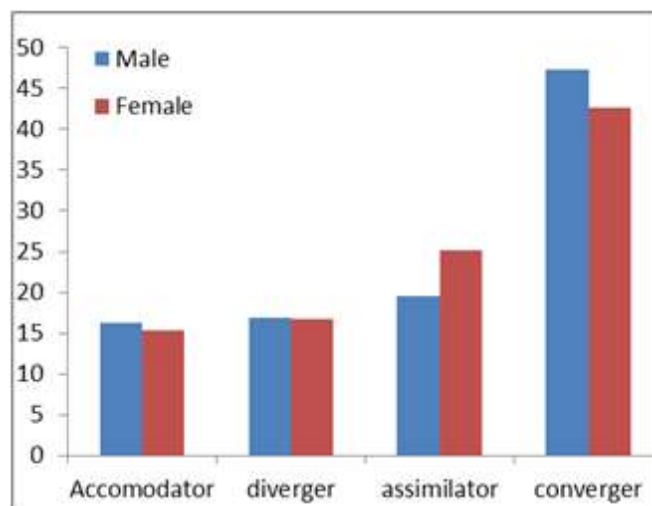


Figure 3: Learning styles by gender

The findings also showed that every ethnic group seemed to exhibit all the four learning styles. This supports Kolb and Fry (17) learning cycle theory that states that an individual will go through four stages of learning process or cycle while experiencing learning activities that are concrete experience, reflective observation, abstract conceptualization; and active experimentation. The only difference is on the domination. Some individuals are dominated by one stage or may be more than one stage.

Converging learning style was found the highest and accommodating style was the least for every ethnic. This result consistent with (18), findings where converging style was dominant in all the different ethnic groups and diverging style the least.

4. Conclusion

The study findings generally indicate that there were four learning styles among the secondary agriculture students; Converging, Diverging, Assimilating and Accommodating. Convergers (those who use abstract conceptualization and active experimentation) were the majority compared to those who preferred assimilating, diverging and accommodating. Specifically, the accommodating learning style was the least preferred.

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