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ASSESSING THE IMPLEMENTATION LEVEL OF EXPERIENTIAL LEARNING AMONG UNDERGRADUATE STUDENTS AT HARAMAYA UNIVERSITY, ETHIOPIA

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Abstract
The study aimed to assess the implementation level of experiential learning among undergraduate students at Haramaya University. A descriptive survey research design was employed through a stratified random sampling technique (N = 400) to collect pertinent participants' data through questionnaires. The quantitative data generated from the questionnaires were coded, tabulated, and analyzed by descriptive and inferential statistics to answer the study's specific objectives. The first finding revealed that about 63% of experiential learning was implemented either very low or low in the colleges. Secondly, the most frequently used experiential learning component was concrete experience whereas the other three were rated the same. Thirdly, a one-way ANOVA revealed that the four components of experiential learning have significantly resulted in mean differences with small effect sizes among the four colleges under the study. Finally, the computed Karl Pearson's coefficient of correlation among the four components of experiential learning was very highly and significantly correlated with each other except for the concrete experience. To conclude, it must be understood that any learning in a classroom should, therefore, reflect the four interrelated components of experiential learning to promote meaningful, long-lasting, inclusive, and active learning in the colleges under study.
Keywords: Experiential, Haramaya University, Implementation, Learning, Psychology

1. Introduction

Experiential learning theory is about learning by doing. Developed by psychologist Kolb (1984), the theory describes the learning process whereby knowledge is created through experience. Kolb's (1984) theory explains that concrete experience, reflective thinking, abstract conceptualization, and active experimentation form a four-stage process (or cycle) transformed into effective learning. Applying Kolb's learning theory has benefits for students, educators, and employers. Although the history of philosophical interest in learning can be traced back to Ancient Greece, the modern history of the psychology of learning dates back to the late nineteenth and early twentieth centuries (Corbett, 2005; Kolb, Rubin, & McIntyre, 1984). For many years, the institutional behavior and educational fields have focused on theory as the primary validation touchstone for their theories and concepts. In the twenty-first century, however, it has begun to see a shift in focus away from measures of institutional behavior and educational theory that are often limited and subjected to short-term manipulation at the expense of long-term sustainability. In the new perspective, educational institutions are seen as learning systems, and the active process is viewed as a learning process (Corbett, 2005, 2007; Kolb et al., 1984).

Experiential learning (EL) is a philosophy and methodology in which educators purposefully engage with students in direct experience and focused reflection to increase knowledge, develop skills, and clarify values (Yamazaki & Kayes, 2007). It is also referred to as learning through action, learning by doing, learning through experience, and learning through discovery and exploration, all of which are clearly defined by these well-known maxims: (i) I hear and I forget, I see and I remember, I do and I understand. (ii) Tell me and I forget, Teach me and I remember, Involve me and I will learn. There is an intimate and necessary relation between the process of experience and education (Dewey, 1938). Furthermore, Wurdinger and Carlson (2010) found that most college faculty teach by lecturing because few learned how to teach otherwise. Although good lecturing has been a part of an educator's teaching repertoire, faculty should also actively involve their students in the learning process through discussion, group work, hands-on participation, and applying information outside the classroom. This process defines EL where students are involved in learning content in which they have a personal interest, need, or want (Kolb, 1984). Unlike traditional classroom situations where students may compete with one another or remain uninvolved or unmotivated and where the instruction is highly structured, students in

EL situations cooperate and learn from one another in a more semi-structured approach (Corbett, 2007). Instruction should be designed to engage students in direct experiences that are tied to real-world problems and situations in which the instructor facilitates rather than directs the student's progress (Davis, 2011). The focus of EL is placed on the process of learning and not the product of learning. Proponents of EL assert that students will be more motivated to learn when they have a personal stake in the subject rather than being assigned to review a topic or read a textbook chapter which was not applicable in most Ethiopian colleges and universities (Ullman, 2000; Gobena, 2024). What is essential in EL, however, is that the phases of experiencing (doing), reflection, and applying are present. In addition, the stages of reflection and application make EL different and more powerful than the models commonly referred to as learn-by-doing or hands-on learning (Davis, 2011).

This reality does not exist in Ethiopian colleges and universities as far as the very knowledge of the researcher is concerned. Since the Ethiopian teaching-learning processes have been a student-centered approach, it has not been well practiced for the last fifteen years as per the knowledge of the researcher's teaching experiences was concerned. Moreover, the researcher believes that the practices of EL should be used and implemented in the College of Education and Behavioral Sciences (CEBS) rather than other sister colleges in the Haramaya University (HU). This is because, from the very beginning, one of the objectives of CEBS is to establish new methods and best experiences of teaching to its all programs and then propagate them to the sister colleges in the university and local high schools in the Eastern parts of Ethiopia. Besides, there were very little such research has been conducted in the area so far. Therefore, the researcher has highly been interested in conducting the study on experiential learning practices (ELP) in undergraduate programs at the College of Education and Behavioural Sciences(CEBS), College of Computing and Informatics (CCI), College of Business and Economics (CoBE), and College of Natural Sciences and Computation (CNSC) at Haramaya University (HU), Eastern Ethiopia.

1.1. Statement of the problem

Experiential learning theory (ELT) draws on the work of prominent 20th-century scholars who gave experience a central role in their theories of human learning and development Dewey (1938), Lewin (1947), Piaget (1950), Jung (1976), Freire (1996), and Rogers (1986)- to develop a holistic model of the EL process and a multi-linear model of adult development (Kolb, 1984). The theory is built on six propositions that are shared by these scholars. Firstly, learning is best conceived as a process, not in terms of outcomes. To improve learning in higher education, the primary focus should be on engaging students in a process that best enhances their learning process and includes feedback on the effectiveness of their learning efforts. As Dewey notes, "Education must be conceived as a continuing reconstruction of experience: the process and goal of education are the same thing" (Dewey, 1966: 45). Secondly, all learning is relearning. Learning is best facilitated by a process that draws out the students' beliefs and ideas about a topic so that they can be examined, tested, and integrated with new, more refined ideas. Thirdly, learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world. Conflict, differences, and disagreement are what drive the learning process. In the process of learning, one is called upon to move back and forth between opposing modes of reflection and action and feeling and thinking. Fourthly, learning is a holistic process of adaptation to the world. Not just the result of cognition; learning involves the integrated functioning of total personal thinking, feeling, perceiving, and behaving. Fifthly, learning results from synergetic transactions between the person and the environment (Kolb, 1984).

In Piaget's terms, learning occurs through the equilibration of the dialectic processes of assimilating new experiences into existing concepts and accommodating existing concepts to new experiences. Sixthly, learning is the process of creating knowledge. ELT proposes a constructivist theory of learning whereby social knowledge is created and recreated in the personal knowledge of the learner. This stands in contrast to the "transmission" model on which much of current educational practice is based, where preexisting fixed ideas are transmitted to the learner. From what has been said so far, Ethiopian higher education in general, and the study area, in particular, has been highly dominated by the transmission model of teaching-learning processes on which the current educational practice is based to transmit knowledge to learners rather than enhancing learners to construct their knowledge through experiences. Moreover, the six points indicated in the theories of ELT that the researcher has explained in this paper

have neither been partially nor fully implemented in the colleges under study. Therefore, this study tried to indicate the gaps that need to be filled by conducting a rigorous study on the EL in the four colleges at HU, Eastern Ethiopia.

Objective of the Study

The general objective of the study was to assess the implementation level of EL among undergraduate students in CCI, CEBS, CoBE, and CNCS at HU, Eastern Ethiopia. Specifically, the specific objectives of the study were intended to:

Assess the status of the implementation level of EL in CCI, CEBS, CoBE, and CNCS at HU, Eastern Ethiopia.

Point out the most frequently used components of EL in CCI, CEBS, CoBE, and CNCS at HU.

Determine whether there is a relationship between the comments of EL and students' cumulative grade point average (CGPA) in these four colleges under study.

Compare whether there were significant mean differences among colleges, streams, and genders on the components of EL

Provide alternative solutions to the problems of the learning process that might be most emphasized in the implementation level of EL in these four colleges under study.

2. Review of Related Literature

EL is any learning that supports students in applying their knowledge and conceptual understanding to real-world problems or authentic situations where the instructor directs and facilitates learning (Wurdinger & Carlson, 2010). The crux of the learning occurs during the reflective process where students assess their decisions in the light of natural consequences, mistakes, and successes. What matters most is whether the activities allow students to chase answers to questions, make decisions, take risks, think on their feet, and justify their answers. These types of activities enhance students' learning. Firstly, these immersive experiences will help students develop and build upon knowledge, skills, and values associated with thinking like an expert within their field. Secondly, teachers should decide what they want their students to be able to do in the course to make sure the experience they are planning aligns with their learning outcomes. Thirdly, the experience should answer a question or problem relevant to their course. The learning comes from the rationale for their answers and the reflections from the experience. Fourthly, teachers should feel free to start with a single assignment that complements the concepts they are teaching and add more as needed (Wurdinger & Carlson, 2010). Learning that is considered "experiential" contains all the following elements: reflection, critical analysis and synthesis, and opportunities for students to take initiative, make decisions, and be accountable for the results. It provides opportunities for students to engage intellectually, creatively, emotionally, socially, or physically (Wurdinger & Carlson, 2010). When students are engaged in EL that they see the relevance of and the product has more significance than a grade; they have increased motivation to learn and produce a more thoughtful product. From the beginning, EL stimulates academic inquiry to enrich and apply the content students are learning. On the other hand, it provides authentic opportunities for learners to apply their experiences to learning to motivate them about learning. Kolb's (1984) work on EL in which learning cyclically takes place acts as a point of reference for EL especially in the area of higher education.

2.1. EL: A constructivist perspective

Constructivists like Kolb (1984) whose book entitled, "EL" published in 1984, focus more on individual development through reflection on past experiences but issues of cognition concerning environment interaction tend to lack from his theoretical model. Bandura (1977) emphasized that children tend to imitate adults' actions based on their perception. Learning experts must understand that the experiential diaphragm of individuals is filled with information starting from their childhood and lasts throughout life. During their life, individuals tend to draw on their experiences of their interaction with people, places, situations, and environments. Students especially when moving ahead from their adolescence towards young adulthood are prone to absorbing experiences that occur as a part of their daily life. Teachers as constructivists must be able to understand the psychological mindsets of students

and help them engage in the knowledge interpretation process by imparting a constructive approach to learning (Kolb, 1984).

2.2. Understanding the modalities of the Kolbian Cycle

Kolb's EL cycle is considered to be one of the most influential theoretical models in teacher education illustrating the nature of EL (Vince, 1998; Cunningham, 1994). Kolb's model describes learning as, "the process whereby knowledge is created through the transformation of experience" (Kolb, 1984; 17). This model proposes six assumptions (Vince, 1998; Kayes, 2002) which are (Kolb, 1984): firstly, learning is a process not an outcome. Secondly, learning is driven by experience. Thirdly, learning requires the learner to resolve conflicts through dialect. Fourthly, learning carries a more holistic and integrative view. Fifthly, learning requires the individual to interact with their environment. Sixthly, learning creates knowledge. The cycle emerges from the third proposition that a learner is required to interact with the environment as an individual to resolve conflicts that provide a link to other ideas of individual development and knowledge creation (Vince, 1998). A learner learns by responding to a set of diverse demands through two dimensions of knowledge: acquisition and transformation (Kayes, 2002). According to Kolb's (1964) model, effective learning is seen when a person progresses through a cycle of four stages (1) having a concrete experience followed by (2) observation of and reflection on that experience which leads to (3) the formation of abstract concepts (analysis) and generalizations (conclusions) which are then (4) used to test a hypothesis in future situations, resulting in new experiences

Kolb (1984) views learning as an integrated process, with each stage mutually supporting and feeding into the next. It is possible to enter the cycle at any stage and follow it through its logical sequence. However, effective learning only occurs when a learner can execute all four stages of the model. Therefore, no one stage of the cycle is effective as a learning procedure on its own. The process of going through the cycle results in the formation of increasingly complex and abstract 'mental models' of whatever the learner is learning about. Kolb's learning theory (1984) sets out four distinct learning styles, which are based on a four-stage learning cycle. He explains that different people naturally prefer a certain single different learning style. Various factors influence a person's preferred style. For example, social environment, educational experiences, or the basic cognitive structure of the individual. Whatever influences the choice of style, the learning style preference itself is the product of two pairs of variables, or two separate "choices" that we make, which Kolb (1984) presented as lines of an axis, each with "conflicting" modes at either end. A typical presentation of Kolb's (1984) two continuums is that the east-west axis is called the Processing Continuum (how we approach a task), and the north-south axis is called the Perception Continuum (our emotional response, or how we think or feel about it).

2.3. Educational implications

Both Kolb's (1984) learning stages and the cycle could be used by teachers to critically evaluate the learning provision typically available to students and to develop more appropriate learning opportunities. Educators should ensure that activities are designed and carried out in ways that offer each learner the chance to engage in the manner that suits them best. Furthermore, individuals can be helped to learn more effectively by the identification of their lesser preferred learning styles and the strengthening of these through the application of the experiential learning cycle. Ideally, activities and material should be developed in ways that draw on abilities from each stage of the experiential learning cycle and take the students through the whole process in sequence.

3. Methods

A descriptive survey research design was employed because this design with its many applications is a very appropriate design in education in general and this study in particular. They are procedures in research in which investigators administer a survey to a sample or to the entire population to describe the attitudes, opinions, behaviors, or characteristics of the population. In this procedure, a descriptive survey researcher collects quantitative, numbered data using questionnaires and statistically analyzes the data to describe trends in responses to questions and to test the specific objectives of the study. He also interprets the meaning of the data by relating the results of the statistical test to past research studies (Creswell, 2012). This design differs from experimental research in that they do not involve a treatment

given to participants by the researcher. Because descriptive survey researchers do not experimentally manipulate the conditions, they cannot explain cause and effect as well as experimental researchers can. Instead, descriptive survey studies describe trends in the data rather than offer rigorous explanations. The primary data were collected through a questionnaire from students. A pilot study was conducted on 44 students (20 females and 24 males) who represented the population character but not the sample to check the reliability and validity of the items. The reliability of the questionnaire was computed by using Cronbach alpha the following results were found as it was indicated in Table 1 below.

Table 1: Reliability test results

No	Components of EL	Number of Items	Alpha value
1.	Active Experimentation	20	.945
2.	Concrete Experience	20	.876
3.	Reflective observation	20	.929
4.	Abstract Conceptualization	20	.921
5.	Overall Reliability	80	.965

As Table 1 indicates, the alpha values from the highest to the lowest were .965, .945, .929, .92, and .876 respectively for overall, active experimentation, reflective observation, abstract conceptualization, and concrete experience which were highly reliable for the five rating scales that ranged from strongly disagree (1) to strongly agree (5). These alpha values are very high so that they can consistently measure what is supposed to be measured. The validity of the items was checked by expert (well-experienced educational psychologists and educationalists) views. Accordingly, the researcher was able to decide the characteristics of the questionnaire that needed to be adjusted or remained or changed some technical words or phrases that seemed to be technical for these participants as per the comments given by these experts and the reliability test.

3.1. Target Population

The target population for this study consisted of one higher learning institution, HU, particularly the four colleges (CCI, CEBS, CoBE, and CNCS) where two of them were for the natural sciences stream (CCI and CNCS) and the rest two were from social sciences stream regular undergraduate students of 2024. The sample for this study consisted of four colleges with graduating classes of the 2024 academic year which they considered to be the population of interest.

3.2. Sample Size and Sampling Techniques

There were generally 660 undergraduate regular fourth-year students. Out of the four colleges in the HU, 460 of them were taken through a stratified random sampling technique to get the representative samples. Out of 460 samples, 334 (72.61%) of them were males and 126(27.39%) of them were females. Of the 460 total samples distributed, 425 of them returned the questionnaire with a returning rate of 92.39% which was very good; however, from the returned 425 sampled questionnaires, 25 of them were found incomplete which resulted in 400 (94.18%) filled the questionnaire complete that was used for analysis. The researcher used a stratified random sampling technique for two reasons: firstly, there were different subdivisions in the targeted population which are important to be considered. Secondly, there were also variations in population sizes of different strata in this case (sex, population size, and colleges) of the participants under the study. The sample was determined by using Taro's (1967) formula which was presented as follows

$$n_i = \frac{N_i}{1 + N_i(\alpha)^2}$$

where n_i was the total samples taken; Ni was the total population of interest; subscript i is the number of colleges under study and α is the significant level at = .05 or the 95% confidential interval

4. Result

This section mainly deals with quantitative data analyses. Out of 660 students in the colleges, 400 of them completed the questionnaires fully giving a response rate of 86.96 %. The overall mean age was 26.85 years (95% Confidence interval 23. 65 - 25.86 years). The overall age ranged from 22 to 27

years. The mean age for the males (23.86 years) was higher as compared to the females (23.65 years). The researcher employed descriptive statistics (frequency count, percentage, means, and standard deviation) to make a summary of the participants, and inferential statistics (independent t-test, one-way ANOVA, and Karl Pearson's coefficient of correlation) were used to make the mean difference between and among groups whereas correlation coefficient was used to show the relationship between components of EL. To realize the objectives of the study, the collected data were coded, organized, and presented. To interpret the Likert scales, the computed mean scores were interpreted (see, Table 2 below). Mean and standard deviation were employed to determine the assessment of the implementation level of EL using the following range and its equivalent qualitative descriptions where the square bracket indicates inclusion (]) and the bracket indicates no inclusion (Gobena, 2024).

Table 2: Qualitative descriptions of a range of mean scores and coefficient of variability

No.	No Range of scales (mean)	Qualitative Description Psychological Factor	Standard deviation	Qualitative Description Standard deviation
1.	(1.00 - 1.50]	Strongly disagree	(0-.25]	Very Low
2.	(1.50 - 2.50]	Disagree	(.25- .50]	Low
3.	(2.50 - 3.50]	Undecided	(.50-.75]	Moderate
4.	(3.50 – 4.50]	Agree	(.75- 1.00]	High
5.	(4.50 – 5.00]	Strongly agree	Above 1.00	Very High

Table 3: The extent of their implementation level of EL at the four colleges

No	Extent of the implementation level of EL	Frequency	Percentage (%)	Cumulative percentage(%)
1.	Very low	136	34.0	34.0
2.	Low	114	28.5	62.5
3.	Moderate	60	15.0	77.5
4.	High	44	11.0	88.5
5.	Very high	46	11.5	100.0
6.	Total	400	100.0	

Table 3 indicates that 250 (62.50%) of the participants responded that EL was implemented either very low or low in the colleges under study; 90 (22.50%) of the participants responded that EL was implemented either very high or high whereas only 60 (15.00%) of the participants responded that EL was implemented moderately. This indicated that EL was not implemented adequately in the four colleges under the study at HU.

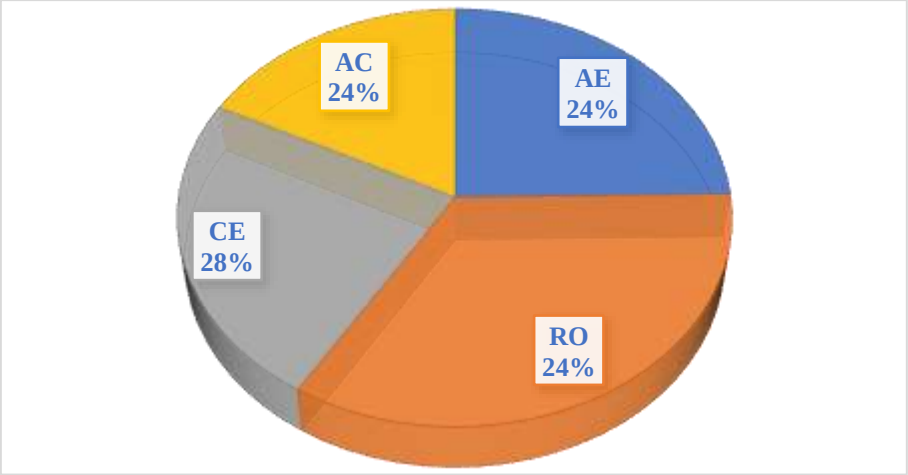


Fig1.The most frequently used components of EL at the colleges under study

Figure 1 indicates that the most frequently used components of EL were Abstract Conceptualization (AC), Concert Experience (CE), Active Experimentation (AE), and Reflective Observation (RO) where three of the components have rated similar and the same. Even if the rating of the components of EL

was a little bit different by the participants, they indicated that all four components of EL were too important. It seems that why they failed to select one of the components of EL as non-applicable.

Table 4: Analysis of descriptive statistics

Components of the EL		N	Mean	Std. D	Std. Error	95% Confidence Interval for Mean		Min	Max
						Lower Bound	Upper Bound		
Active experimentation	CEBS	78	65.04	19.79	2.24	60.58	69.50	35.00	100.00
	CoBE	141	56.32	14.05	1.18	53.99	58.66	35.00	100.00
	CCI	117	61.30	18.04	1.67	58.00	64.60	35.00	100.00
	CNCS	64	59.42	17.19	2.15	55.13	63.72	30.00	100.00
	Total	400	59.97	17.22	.86	58.28	61.67	30.00	100.00
Reflective observation	CEBS	78	64.99	20.40	2.31	60.39	69.59	35.00	100.00
	CoBE	141	56.14	14.09	1.19	53.80	58.49	35.00	100.00
	CCI	117	61.37	17.71	1.64	58.13	64.61	35.00	100.00
	CNCS	64	59.95	17.34	2.17	55.63	64.28	30.00	100.00
	Total	400	60.01	17.30	.87	58.31	61.71	30.00	100.00
Abstract conceptualization	CEBS	78	64.42	20.19	2.29	59.87	68.98	35.00	100.00
	CoBE	141	56.07	13.73	1.16	53.79	58.36	35.00	100.00
	CCI	117	61.44	17.36	1.61	58.26	64.61	38.00	100.00
	CNCS	64	60.45	16.75	2.09	56.27	64.64	35.00	100.00
	Total	400	59.97	16.93	.85	58.31	61.63	35.00	100.00
Concrete experience	CEBS	78	70.99	14.46	1.64	67.73	74.25	40.00	100.00
	CoBE	141	67.83	14.77	1.24	65.37	70.29	35.00	100.00
	CCI	117	71.08	12.37	1.14	68.81	73.34	46.00	100.00
	CNCS	64	65.36	13.97	1.75	61.87	68.85	40.00	100.00
	Total	400	69.00	14.03	.70	67.62	70.38	35.00	100.00

Table 4 indicates that five different means, standard deviations, standard errors, the 95% confidential intervals of means, minimum, and maximum scores of the respondents on the four components of EL (AE, RO, AC, and CE) were respectively identified. Accordingly, the combined means and standard deviations of each component of EL (AE, RO, AC, and CE) respectively were (M1 = 3.00, M2 = 3.01, M3 = 3.00, and M4= 3.45, SD1=.86, SD2 =.87, SD3 =.85, and SD4 =.72) found undecided with a moderate to high variability on the implementation level of EL (See, Table 2 and Table 4). This means that it was too difficult to say the extent to which the implementation level of the EL through its four components has been implemented or not implemented yet because computed mean scores were found between 3.00 to 3.45 which was considered undecided (Gobena, 2024). Moreover, most Ethiopian high learning education institutions still have been dominated by chalk and talk so students might find EL difficult to understand the concept of EL. This means that they lacked the experience of EL. That is why they failed to decide on their responses about the implementation level of the EL.

Table 5: Analysis of ANOVA

Components of EL	Sources of variation	Sum of squares	df	Mean square	F	Sig.	ɧ2
Active experimentation	Between Groups	4109.04	3	1369.68	4.75	.003	.04
	Within Groups	114139.66	396	288.23			
	Total	118248.70	399				
Reflective observation	Between Groups	4257.78	3	1419.26	4.88	.002	.04
	Within Groups	115122.21	396	290.72			
	Total	119379.99	399				

Abstract conceptualization	Between Groups	3956.68	3	1318.89	4.73	.003	.04
	Within Groups	110412.96	396	278.82			
	Total	114369.64	399				
Concrete experience	Between Groups	1854.06	3	618.02	3.19	.024	.03
	Within Groups	76685.94	396	193.65			
	Total	78540.00	399				
*p < .05, one-tailed							

A one-way ANOVA was performed to compare the effectiveness of the implementation level of the four components of EL namely, active experimentation, reflective observation, abstract conceptualizations, and concrete experimentation among the four colleges. A one-way ANOVA finding revealed that there were statistically significant mean differences in the implementation level of the four components of EL among the four colleges under study with small effect size, F (3, 396) = 4. 75, ƞ2 = .04, F (3, 396) = 4. 88, ƞ2 = .04, F (3, 396) = 4. 73, ƞ2 = .04, and, F (3, 396) = 3. 19, ƞ2 = .03, p < .05, two-tailed respectively (see, Table 5). This shows that the extent of the implementation level of EL at the four colleges was too different because of differences among the courses and streams of the respondents, educational experiences of both teachers and students, situations, the environment in which teaching-learning processes occurred, and the individual cognitive structures and preparedness.

Table 6: Multiple Comparisons by Using LSD

Dependent Variable	(I) Colleges of the respondents	(J) Colleges of the respondents	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Active Experimentation	CEBS	CoBE	8.72*	2.40	.000	4.00	13.43
	CoBE	CEBS	-8.72*	2.40	.000	-13.43	-4.01
		CCI	-4.98*	2.12	.019	-9.15	-.81
	CCI	CoBE	4.98*	2.12	.019	.81	9.15
Reflective observation	CEBS	CoBE	8.85*	2.41	.000	4.12	13.58
	CoBE	CEBS	-8.85*	2.41	.000	-13.58	-4.12
		CCI	-5.23*	2.13	.015	-9.42	-1.03
	CCI	CoBE	5.23*	2.13	.015	1.03	9.42
Abstract Conceptualization	CEBS	FBE	8.35*	2.36	.000	3.72	12.99
	CoBE	CEBS	-8.35*	2.36	.000	-12.99	-3.72
		CCI	-5.37*	2.09	.011	-9.47	-1.26
	CCI	CoBE	5.37*	2.09	.011	1.26	9.47
Concert experience	CEBS	CNCS	5.63*	2.35	.017	1.01	10.24
	CCI	CNCS	5.72*	2.16	.009	1.46	9.97
	CNCS	CEBS	-5.63*	2.35	.017	-10.24	-1.01
		CCI	-5.72*	2.16	.009	-9.97	-1.46
*p < .05 one-tailed.							

From the From the descriptive statistical analysis under Table 4, it was found that the mean value of the dependent variables namely (AE, RO, AC, and CE) have respectively been indicated. Moreover, the one-way ANOVA revealed that there were statistically significant mean differences among the colleges on these dependent variables with very small effect sizes (see, Table 5). Based on these analyses, the post hoc multiple comparison was made by using LSD. The multiple comparison test by LSD indicated that there were statistically significant mean differences among the four colleges under the study on the four dependent variables, p = .000, 95% CI = [4.00 -13.43].

Table 7: Independent Samples Test on academic streams

Variables Assumptions	Levene's Test for Equality of Variances	t-test for Equality of Means

		F	Sig.	t	df	Sig.	MD	SED	95% Confidence Interval of the Difference	
									Lower	Upper
Active Experimentation	Equal variances assumed	17	.194	-.12	398	.910	-.20	1.75	-3.63	3.23
Reflective Observation	Equal variances assumed	1.43	.232	-.18	398	.862	-.31	1.75	-3.75	3.14
Abstract Conceptualization	Equal variances assumed	2.80	.095	.14	398	.890	.24	1.72	-3.14	3.61
Concrete experience	Equal variances assumed	.157	.692	.13	398	.897	.18	1.42	-2.61	2.98

NB. MD is the mean difference between upper and lower means and SED is the standard error difference CI means confidential intervals between upper and lower means.

Levene's Test for equality of variances indicated that there were no statistically significant variances among the two streams. Consequently, it was identified that there were no statistically significant mean differences among the two streams on the four components of EL in the colleges under the study, t (398) = -.12, t (398) = -.18, t (398) = .14, and t (398) = .13, $p > .05$, two-tailed.

Table 8. Independent sample t-test on genders

Variables	Assumptions	Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig.	MD	SED	95% CI of the Difference	
									Lower	Upper
Active experimentation	Equal variances assumed	.04	.839	.22	398	.830	.42	1.94	-3.39	4.22
Reflective observation	Equal variances assumed	.03	.956	.46	398	.648	.89	1.94	-2.94	4.71
Abstract conceptualization	Equal variances assumed	.01	.970	.34	398	.734	.65	1.90	-3.10	4.39
Concrete experience	Equal variances assumed	1.14	.287	-.66	398	.512	-1.03	1.58	-4.13	2.07

Levene's Test for equality of variances indicated that there were no statistically significant variances among the genders. Hence, it was identified that there were no statistically significant mean differences among genders on the four components of EL in the colleges under the study, t (398) = .22, t (398) = .46, t (398) = .34, and t (398) = -.66, $p > .05$, two-tailed.

Table 9: Correlation matrices

No		1	2	3	4
	Active experimentation	1	.98**	.95**	.05
	Reflective observation		1	.96**	.05
	Abstract conceptualization			1	.05
	Concrete experience				1
**. $p < .001$ (2-tailed).					

The computed Karl Pearson's coefficient of correlation among the components of El (AE, RO, AC, and CE) were significantly very highly correlated between AE vs.RO, AE vs. AC, and RO vs AC, r (398) = .98**, r (398) = .95**, and r (398) = .96**, $p < .001$, two-tailed, respectively. This indicated

that the relationship between the three components of EL (AE, RO, and AC) was a very high positive relationship which was statistically significant. However, the concrete experience was positively correlated with the three components of EL even though there was no statistically very weak positive relationship among them, r (398) = p > .05, two-tailed.

Discussion

The study aimed to assess the implementation level of experiential learning among undergraduate students at Haramaya University in 2024. One of the findings of this study was that experiential learning was poorly implemented in the colleges under study. Contrary to this finding, Kolb (1984) stated that learning has not yet been considered experiential if it does not contain reflection, active experimentation, synthesis, and opportunities for students to take initiative, make decisions, and be accountable for the results. Moreover, learning has to provide opportunities for students to engage intellectually, creatively, emotionally, socially, or physically (Wurdinger & Carlson, 2010). When students are engaged in learning experiences, they see the relevance, and the product has more significance than a grade; they have increased motivation to learn and produce a more thoughtful product. The second finding was that the most frequently implemented component of EL was Reflective Observation (RO), whereas the rest three components (AC, EC, and CE) rated the same. Even if the rating of the components of EL was a little bit different by the participants, they indicated that all four components of EL were too important. Contrary to the current finding, Kolb (1984) evidenced that effective learning is seen when a person progresses through a cycle of the four components of EL :(1) having a concrete experience followed by (2) observation of and reflection on that experience which leads to (3) the formation of abstract concepts (analysis) and generalizations (conclusions) which are then (4) used to test a hypothesis in future situations, resulting in new experiences. Moreover, he views learning as an integrated process, with each component mutually supporting and feeding into the next. It is possible to enter the cycle at any stage and follow it through its logical sequence. Furthermore, Biabani & Izadpanah (2019) stated effective learning only occurs when a learner can execute all four components of the EL model. Therefore, no one component of the cycle is effective as a learning procedure on its own. The process of going through the components (CE, RO, AE, and AC) results in the formation of increasingly complex and abstract 'mental models' of whatever the learner is learning about. Various factors can influence a person's preferred style. For example, social environment, educational experiences, services, facilities, materials, or the basic cognitive structure of the individual can directly or indirectly influence the implementation level of EL fully ((Alvarez., 2015; Wurdinger and Rudolph, 2009).

The third finding of the current study from a descriptive statistical analysis perspective was that all respondents were undecided with a moderate to high variability on the implementation level of EL (See, Table 2 and Table 4). This means that it was too difficult to say the extent to which the implementation level of the EL through its four components has been implemented or not implemented yet because the computed mean scores were found between 3.00 to 3.45 which was considered undecided (Gobena, 2024). Respondents lacked the experience of EL. However, plenty of research findings pinpointed that EL provides real experience to students, so students can explore their knowledge, and learning experiences and generate new knowledge. Students can link academic knowledge with practical skills, deepening the practical application of knowledge to real-world conditions, and is the best practical way (Bower, 2013; Pfeifer and Jones, 2001; Saleh, 2012; Wurdinger and Rudolph, 2009; Alvarez, Taylor, and Rauseo, 2015). Moreover, Alvarez et al. (2015) stated that EL occurs in students who interact with the environment, including humans, animals, and the situation. Students are involved psychologically, sociologically, and academically so that reasoning and critical thinking can be built through evaluation, reflection, and analysis. One of the components of EL is a concrete experience that can provide research activities that demand accuracy and accountability for the accuracy of research data with the highest mean value in this finding. The EL result shows that (90%) of students' ability (knowledge and skill) was gained through EL. This is due to the students' activities constantly engaging the mind, and the motivation that results in long-term retention (Alvarez et al., 2015; Wurdinger and Rudolph, 2009). Students experience improved tooling skills, decision-making speed, precision of action, and accuracy of results. Experiential learning has built life-effectiveness skills (Biabani & Izadpanah, 2019), which

are shown in terms of time management, social skills, motivation, intellectual flexibility, leadership, emotional control, initiative, and confidence.

The fourth finding of this study was that the implementation level of the four components of EL (CE, RO, AE, and AC) significantly resulted in mean differences with small effect sizes among the four colleges under the study (see, Table 5). This shows that the extent to which EL was implemented at the four colleges was too different because of differences among the courses and streams of the respondents, educational experiences of both teachers and students, situations, the environment in which teaching-learning processes occurred, and the individual cognitive structures and preparedness. However, this finding was contradicted by Kolbs' (1984) models in that the four components of EL are mutually supportive because he explained that effective learning is a cyclic process that involves experiencing, reflecting, thinking, and acting. That means components are integrated and are equally important. Moreover, Brookfield (1986) stated that traditional types of learning academics do not tend to create an environment in which students encounter directly to interpret phenomena rather than thinking about them. This corresponded to learning that occurs as a direct participation in the events of life which was not inviting students for further activities in learning. In this case, learning was not facilitated by the individual. On behalf of the constructivist's point of view, Fenwick (2001) stated that the school of thought emphasizing learning through reflection on experience, considers individuals to gain and construct knowledge by interacting with their environment through a set of perceived experiences which was not holding in Ethiopian higher learning institution in general and the colleges under the study was in particular. Works of Kolb (1984), Piaget (1966), Dewey (1938), and Wells (1995) have greatly contributed to the constructivist view of EL. The theory of constructivism implies that the learners are constructors of their knowledge, skills, and attitudes which are generated by interacting with their sociocultural environment (Vygotsky, 1978).

The fifth finding of this paper is that the four components of EL did not significantly result in mean differences among the two streams in the colleges under the study (see, Table 7). Consistent with this finding, Judith (1997) identified that social science streams were noted receiving encouragement about EL and claimed it through communication; however, in her finding, she suggested that there was no significant mean difference in the way social science and natural science streams rate the EL. Moreover, it was found that there was no significant mean difference between genders on the four components of EL in the colleges under the study (see, Table 8). In supporting this finding, Judith (1997) identified that females were noted to receive encouragement on EL and claimed it through communication apprehension; however, she suggested that there was no statistically significant mean difference in the way females and males rate the components of EL. Finally, the three components of El (AE, RO, and AC) were significantly, positively, and very highly correlated (see, Table 9). This indicated that the relationship among the three components of EL (AE, RO, and AC) was a very high positive relationship which was statistically significant. Kolb (1984) views learning as an integrated process, with each stage mutually supporting and feeding into the next.

Conclusions

In the present study, it was found that the concrete experience was dominant among the CEBS students. However, within this group, the psychology graduating class students exhibited predominantly concrete experience of learning while the CoBE students leaned towards an abstract conceptualization style. Conducting a follow-up study to correlate learning styles with performance would provide valuable insights into student preferences in teaching and could help formulate alternative approaches for students who perform lower academically. To learn, individuals first acquire knowledge of complex situations or demands resulting in gaining knowledge (concrete experience) and breaking down the knowledge into meaningful chunks (abstract conceptualization). The second dimension is transformation which is responsible for the learning process, which helps the individual recall or reflect upon the experience gained (reflective observation) and stimulates the learner to interact with the environment (active experimentation). Any kind of learning in a classroom should, therefore, reflect these four interrelated learning styles to promote meaningful, long-lasting, inclusive, and active learning in the college under study. Learners will often say, "But I do not have any experience, meaning that they do not believe that their experience is of any value for learning the subject matter at hand. The new science of learning is based on the cognitive constructivist theories of Piaget and Vygotsky which

emphasize that learners construct new knowledge and understanding from what they have already known and have believed based on their previous experiences. It was recommended prior knowledge exists in the brain as neuronal networks which the instructor's cogent explanation cannot erase. Instead, the effective instructor builds on the exploration of what students have already known and have believed in the sense they have made of their previous concrete experiences. Beginning with related concrete experiences should allow them to reexamine and modify their previous sense-making in light of the new ideas in the teaching-learning processes.

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