Learning Styles of Business Education Students for Developing Digital Skill-Ecosystem in Rivers State Universities

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Abstract

The descriptive survey study examined learning styles of business education students as a means of developing digital skill ecosystem in Rivers State Universities. In pursuit of this objective, two research questions and hypotheses were crafted to guide the research. Apart from that, a population of 80 2022/2023 sandwich PGDE / M.Sc /M.Ed students in two public universities were collectively used as sample. The five point rating scale questionnaire which has 14 –items was constructed for gathering relevant information from respondents. The instrument was initially administered to determine the internal consistency adopting test retest method and a reliability quotient of .76 was obtained. Thereafter, the quantitative data collected were subject to one-way ANOVA using SPSS Version 23 in order to establish whether or not significant variance exists. The results thus found the existence of non-significant difference between concrete experiencers, reflective observation as partly components of Kolb's learning inventory styles for developing digital skill ecosystem. Among other it was recommended that Students in universities should practice reflective observation to increase their insights, brainstorms to provide solution to problems by consulting widely diverse sources of information that would invariably boost their digital skill ecosystem.

Introduction

Business education is a fundamental element of comprehensive education. Notwithstanding this well accepted statement, a significant majority of industries maintain the belief that education ought to be broad rather than vocational nature (Cheung & Tsyrlina-Spady, 2016). The ongoing discourse around this issue is important to the contention that a broad-based education confers elevated social standing and significant economic benefits. The integration of academic and vocational education is essential for achieving a comprehensive and well-rounded learning experience within the business education curriculum. In order to thrive in the dynamic and evolving workplace, individuals in the contemporary workforce must possess a strong academic basis. This foundation enables them to cultivate innovation and adaptability, so ensuring their job security amidst the fast transformations occurring in the professional sphere. Furthermore, it

facilitates a consistent upward trajectory in their hierarchical career advancement. The evolution of the aims of business education at universities, aimed at preparing students for transformative professions, has been significantly influenced by two prevailing theoretical contentions. Universities play a crucial role in the generation of highly skilled human capital, serving as pivotal facilitators and catalysts for the emergence and advancement of novel high-tech ventures. According to Jarosinski (2014), it is important for enterprises to have managers who are adequately equipped not just for present circumstances, but also for future endeavors. These managers should possess a diverse set of talents, including technical proficiency, adeptness in project management, effective communication abilities, and intercultural competence. In support of the aforementioned perspectives, Ehiametalor (2019) in their study conducted in Koko, strategically delineated the objectives of business education as including the enhancement of manpower, skill acquisition, and fostering economic growth, therefore making valuable contributions to the national human capital reservoir. This argument has had an equal impact on the manner in which pupils acquire knowledge. Nawaz, Phil, and Gomes (2014) emphasized the need for universities to possess current and globally competitive curriculum, course materials, teaching styles, and research techniques in response to the global, technical, and market developments. The researchers furthermore propose the use of interactive and participatory instructional approaches that will effectively facilitate meaningful learning and the cultivation of skillsets in order to align with employer expectations. The use of effective teaching methodology in business education may facilitate the development of strategically valued and productive abilities among students, aligning with the interests and expectations of many stakeholders. The acquisition of knowledge requires a comprehensive integration of the Bloom taxonomy, which encompasses the cognitive, psychomotor, and emotional domains. The cogni-psychomotor domain has significant intrinsic value as a set of generic competences that directly enhance human performance and make notable contributions to innovation within industries and emerging start-ups. Within the emotional domain, it is anticipated that students would exhibit comprehension of the notion of an object, as well as a crucial knowledge of information that is pertinent to the development of attitudes or values. The cognitive domain encompasses the connection between preexisting knowledge and new information, as well as the capacity to use a suitable encoding technique. Motor abilities allow pupils to exhibit their capacity to execute individual motions in a certain sequence. The aforementioned domains play a pivotal role in facilitating successful learning outcomes and the acquisition of essential information. In their study, Nawaz et al. (2014) emphasized the need for business instructors to include several aspects of pedagogy, including pedagogical knowledge, subject knowledge, curricular knowledge, and faculty knowledge. They also advocated for the integration of creativity, critical thinking, communication, and cooperation in teaching practices. According to Hodkinson, as cited in Cheung and Tsyrlina-Spady's (2016) work, the significance of "knowing how" surpasses that of "knowing what." This concept is closely linked to personal growth, individual proficiency, and overall efficacy. The individual learner is therefore required to exhibit competence in executing tasks accurately and effectively across various contexts.

The conceptual notion of learning has engendered several debates and divergent interpretations. According to Jarosinski (2014), several literary works propose that learning serves as a significant means of acquiring knowledge and fostering personal growth. In essence, the process of learning

may be described as an experiential endeavor that primarily facilitates the formation of knowledge. Learning may be defined as a lasting alteration in an individual's disposition or capacity, which occurs over a certain duration and is not often attributed to natural growing processes. From an alternative standpoint, the process of learning is also linked to the attainment of not just information in specific subjects, but also the development of habits, attitudes, perceptions, preferences, interests, social adaptations, skills, and ideals. In essence, the findings of Koko (2021) support the notion that learning is a process wherein individuals undergo transformative experiences that are influenced by maturity, resulting in discernible and enduring modifications in human attributes. The relationship between behavioural changes in learning and stimulus-response (S-R) connection has been established, with cognition serving as the intermediate factor between the stimuli and reaction. Nevertheless, the curriculum encompasses a range of courses, including accounting, business law, career development, business management, business communication, computation, economics, and finance. These subjects can be effectively taught by business educators who employ innovative teaching methods. By doing so, students are equipped with diverse intelligences and competencies, enabling them to optimize their academic performance and attain elevated levels of academic accomplishment.

The process of learning encompasses several domains and is characterized by experiential engagement. These domains, together with their respective requirements, serve as guiding factors for business educators in the classroom. The enhancement of students' intelligence in business education necessitates the deployment of a range of learning styles or methodologies to accommodate student diversity. Students exhibit diverse learning styles, particularly when the subject matter has significance. Consequently, it becomes crucial for business instructors to acknowledge and include these varying variances via the use of comprehensive approaches, thereby enhancing student engagement in a more efficient manner. By actively engaging in the learning process and actively participating, students have the potential to accomplish their desired outcomes and improve their academic performance.

Learning styles may be described as the manner in which students actively participate in the processes of critical thinking, problem-solving, and knowledge construction. There exists a notable distinction between student-centered teaching approaches and teacher-centered strategies. The teacher-centered approach to learning, which primarily emphasizes memorization, apathy, and underachievement, has faced significant opposition from critics. One thesis that has been elucidated by Glasser's well recognized logical postulation posits that individuals acquire knowledge in varying degrees based on the mode of information delivery. Specifically, it is suggested that individuals retain around 10% of information via reading, 20% through auditory reception, 30% through visual observation, and 50% through a combination of visual and auditory stimuli. According to Weimer (2013), student-centered education promotes active engagement and participation in a range of learning activities that are meaningful to students' interests and future prospects. Learning is often linked to clearly defined performance goals that are created by educators in order to achieve precise criteria within a particular topic. In the study conducted by Koko (2021), a comprehensive framework is proposed to categorize learning into six distinct domains: emotional, cognitive, motor abilities, concept acquisition, rule learning, and problem

solving. The author further examines the autonomous learning behaviors associated with each domain, providing a diagrammatical representation of this organizational structure. These learning experiences cultivate a wide range of employability talents, including technical proficiency, creativity, critical thinking, and effective communication abilities.

Frequently, students engage in the learning process by means of exploration, selecting relevant material, doing analysis, and participating in conversations. In this context, instructors assume the role of facilitators, guiding and supporting discussions, connecting students' observations, and encouraging critical thinking. Researchers have conducted several studies over the course of several decades to investigate various elements that have the potential to predictably alter the process of learning. The components identified in Kolb's research include individual personality traits, educational specialty, career selection, present work responsibilities, and duties, as well as cultural ethos and values. These characteristics have a substantial impact on both the content and methodology of students' learning experiences. In light of several clinical postulations and evidences, there has been a persistent drive by international organizations, governments, academics, and businesses to foster a varied and inclusive environment. This effort involves the adaptation of curricula to include more creative teaching approaches, hence enhancing the learning experiences of students. The primary focus is in creating an atmosphere that fosters research-based pedagogy, innovative exploration, hands-on experiences, and active involvement within the community. Numerous learning models have been suggested by respected scholars. The Myers-Briggs Type Indicator (1978) is a psychological assessment tool that quantifies the dimensions of extroversion vs introversion, sensing versus intuition, reasoning versus emotion, and judgment versus perceiving. The social interaction model (SIM) proposed by Reichmann and Garsha (1974) provides a framework for understanding the dynamics of student interactions inside the classroom. This model categorizes students into several types, such as independent, dependent, collaborative, competitive, participant, and avoidant, based on their observed patterns of social engagement. The learning styles model (LSM) proposed by Dunn and Dunn (1978) is based on the fundamental premise that although most persons possess the capacity to learn, they exhibit varying strengths and preferences in the learning process. The author proceeds to elaborate on the concept of learning styles, specifically focusing on the physiological inputs that influence students' learning, namely visual, aural, and kinesthetic modalities. Individuals that exhibit a preference for visual-based learning tend to be inclined towards using visual aids such as photos, diagrams, charts, videos, and written instructions as means of acquiring knowledge. Auditory learners get more advantages from engaging in lectures, speeches, and the act of reading aloud, while kinesthetic learners derive satisfaction from the act of seeing, touching, feeling, and manipulating items. To accomplish the primary objective of this research, the theoretical framework incorporates insights from Kolb's learning styles assessment, student-centered learning styles, and the interplay between learning styles, digital skill-ecosystem, and digital competencies. The aforementioned learning methods, namely pragmatists - concrete experiencers (CE), reflectors - reflective observers (RO), theorists - abstract conceptualizers (AC), and activists - active experimenters (AE), are commonly referred to as learning styles that highlight student preferences, learner characteristics, and instructor roles. Concrete learning is a cognitive process that happens when an individual engages in a novel experience or reinterprets a prior experience in a novel manner. Concrete experiences may include

several activities, such as engaging in projects, solving puzzles, and participating in games that provide students with excellent learning experiences. These activities provide students in the classroom an enhanced chance to engage in intentional learning. In the majority of instances, kids demonstrate a sense of personal engagement and engage in collaborative efforts with their peers in various daily scenarios. The student places a greater emphasis on subjective experiences, receptiveness to new ideas, and flexibility in response to change, rather than using a methodical approach to circumstances and issues. Reflective observation facilitates the student's ability to engage in introspection and analyze novel experiences in order to derive meaning from them. During this phase, students engage in the examination of several sources of information in order to gain comprehension of different situations and concepts. Students rely on objectivity, patience, and discernment to form opinions based on their emotions and ideas, rather than hastily taking action. Furthermore, prior scientific literature and research have shown a correlation between the four learning styles and other significant learning techniques, namely diverging, assimilating, converging, and accommodating. Kolb and Kolb (2005) posit that students who exhibit a diverging learning style possess a cognitive and experiential (CE) orientation, as well as a reflective observation (RO) orientation. These individuals typically demonstrate a preference for engaging with concrete situations from multiple perspectives, employing brainstorming techniques to generate ideas, exhibiting a broad range of cultural interests, displaying a propensity for information gathering, and exhibiting imaginative and emotional tendencies. Within a formal educational framework, students exhibit a preference for engaging in cooperation, collaboration, and group activities. They also have an inclination towards embracing new viewpoints and actively seeking customized feedback. Primarily, this fundamental element of Kolb's learning styles underscores the endorsement of experiential learning or practical information acquisition in a professional setting. In their study, Krawczyk-Brylka and Stankiewicz (2014) use the learning-by-doing approach to examine the dynamics of cross-cultural teams. Similarly, Peterkova (2014) explores the use of management stimulation games as a means of enhancing managerial skills. Based on the preceding discussion, it can be inferred that the process of acquiring knowledge serves as a stimulant for both human and personal growth. A learning experience refers to an interactive engagement, structured course, educational program, or any other kind of experiential encounter that facilitates the process of acquiring knowledge and skills. The learning process may occur inside either standard or non-traditional educational environments, whereby students engage in interactive activities such as games or software applications. According to Clark and White (2010), it is essential for university entrepreneurial education programs to include experiential learning elements, such as various types of internships, on-campus and distance learning opportunities, massive open online educational programs, as well as service learning or courses that engage with industry. The advertising course is responsible for conceptualizing and creating commercials on behalf of customers, while the computer courses undertake projects catering to the needs of small enterprises. These learning activities provide significant educational opportunities.

According to Buchanan (n.d.), it has been suggested that nations with a higher level of skill equilibrium tend to outperform those with a lower level of skill equilibrium. This perspective suggests that the enhancement of people' employment outcomes and the augmentation of nations'

production and growth are contingent upon the development of skills. Numerous scholarly investigations have made reference to the correlation between skill development and employability, as well as the cultivation of generic competencies (Oliveira, 2010; Young & Chapman, 2011; Buheji & Buheji, 2020; Akpomi & Ikpesu, 2023). It has been established that a highly skilled workforce plays a crucial role in fostering innovation and driving economic growth within industries (Curtain, 2004). As has been accurately shown, 80% of jobs prioritize the use of technical and vocational abilities within the realm of employment. The concept of skill-ecosystem in education has remained a prominent subject of worldwide discourse. The concept of skill-ecosystem has been delineated by several scholars and global institutions. Finegold (1999) offered a conceptual explanation of the technical term "skill-ecosystem" as a social formation at the regional or sectoral level. This formation facilitates the development and use of human capabilities for productive endeavors. According to Akpomi and Ikpesu (2023), the skill-ecosystem primarily revolves around contextual elements, particularly the business environment, regulatory framework, labor engagement methods, job structure, and the degree and kind of skill creation. These factors significantly influence the ways taken towards skill development and use. These elements have a direct impact on the kind and variety of skill development. In addition, the New South Wales Department of Education and Training (2008) asserts that the operationalization of the idea involves defining skill-ecosystems as self-sustaining networks of worker skills and knowledge within certain sectors or regions. The skill ecosystem may be seen as a structured framework for the cultivation and use of industry-specific talents, including both high and low skill levels, in order to effectively fulfill job responsibilities. The advantages of skills-ecosystems, as shown in scholarly literature, include several aspects such as technical advancement, economic development at the national level, promotion of social equity and inclusivity, and fostering economic integration across nations. The growth of the digital skill ecosystem in Nigeria has been propelled by the growing influence of technology and globalization, leading to the emergence of digital education. The advent of technologies and the process of globalization have significantly contributed to the perpetuation of a persistent disparity between the availability and demand for trained labor. Many colleges now strive to cultivate a digital transformational environment in order to augment and increase student learning engagement, foster creativity, facilitate virtual collaboration, and promote effective communication. Universities worldwide have seen a significant transformation in pedagogical and technical approaches, namely in the design and delivery of education to students. Additionally, they have revised their understanding of the many dimensions of learning, including the timing and location in which learning occurs. According to Seres et al (2018), there has been a notable change in the focus of businesses and individuals towards digital transformation. A wide array of technologies are now accessible to enhance and broaden the methods by which students engage in learning and connect with instructors, thereby fostering more autonomy in their educational pursuits. According to Jakoet-Salie and Ramalobe (2022), it has been observed that technology improvements provide significant potential for higher education institutions to effectively tackle the learning and teaching issues they face. According to the findings of a research conducted by Tunmibi, Aregbesola, Adejobi, and Ibrahim (2015), the use of e-learning technology in educational institutions has been shown to enhance communication, foster efficiency, and facilitate shared responsibility between instructors and students for the purposes of learning and academic accomplishments. Information and

communication technology (ICT) tools are used for the purpose of communication, creation, dissemination, storage, and management of information that plays a crucial role in the interaction between teachers and learners. These tools have the ability to replace traditional chalkboards with interactive digital whiteboards. The prevalence of internet use among individuals in Nigeria, particularly students, is on the rise. Undoubtedly, the internet has profoundly transformed our way of life, with a significant portion of the population relying on it as a primary source of information. Digital learning is often regarded as a prompt and effective solution to the many problems and issues encountered in the realm of education. Educational institutions, particularly universities, undergo transformations in order to accommodate rapid advancements in learning and teaching methodologies, hence enhancing flexibility and addressing associated issues. In contemporary educational settings, students have embraced several technological tools to facilitate their learning experiences. These tools include email, chat platforms, video conferencing, and online course management systems. Through these mediums, students are able to effectively organize and share learning materials with both their professors and other students. In the realm of digital technology, researchers have created a diverse array of software programs, applications, and educational games with the aim of fostering and enhancing the process of learning. Students engage in many educational activities, such as seeing instructional films produced by their educators, doing internet investigations on a particular topic, using tablets to document scientific discoveries, and ultimately fulfilling their academic obligations by completing projects outside of the classroom environment. All of these educational activities are facilitated by digital means and contribute to the development of students' digital skills. The digital skill ecosystem is strategically categorized into three main sectors: information and communication technologies (ICT) manufacturing, ICT services, and telecommunications. Based on the European policy report of 2020, it is evident that ICT services play a significant role in contributing to the overall ICT value added, constituting a minimum of 95%. Within the subsector of ICT services, telecommunications specifically contribute 35% to the value added of the service subsector, while also accounting for 16% of job generation. The digital talent ecosystem makes a substantial contribution to Europe's yearly turnover and economic development, amounting to EUR 625 billion, which represents 5.17% of the overall value added. The digital industries have a prominent position within developed economies, with a workforce of over 6.8 million individuals employed across 1.2 million organizations. Notably, a significant portion of these firms are small and medium-sized enterprises (SMEs). In contemporary times, there has been a discernible shift towards a digital culture and economy, resulting in a significant mitigation of the adverse impacts caused by the Covid-19 epidemic. Technological resources have a crucial role in facilitating essential chances for economic development, enhancing competitiveness, and fostering strategic autonomy. The digital skills ecosystem plays a crucial role in economic activity throughout all stages of value chains across different ecosystems. Digital technology and infrastructure are applicable to all sectors, enhancing the competitiveness and resilience of those less digitally advanced. According to Maclean and Wilson (2009) and Akpomi and Ikpesu (2022b), it has been noted that soft skills play a vital role not only in enhancing employees' productivity, but also in facilitating sustained poverty reduction, human capital development, and fostering new economic growth. According to Pavlova and Lin Huang's (2013) study, a survey conducted among CEOs in Australia revealed that a significant proportion of

companies, namely 33.1%, prioritize employability skills as the foremost criterion when hiring graduates.

Research focus / Questions
- To what extent does concrete experience of Kolb's learning style enhance students' development of digital skill-ecosystem competences in Business Education?
- To what extent does reflective observation (*RO)* of Kolb's learning style enhance students' development of digital skill-ecosystem in Business Education?

Hypotheses
- There is no significant difference between business education students in Rivers State University and Ignatius Ajuru University of Education mean responses on the extent concrete experience enhance digital skill-ecosystem development
- There is no significant difference between business education students in Rivers State University and Ignatius Ajuru University of Education mean responses on the extent reflective observation enhance digital skill-ecosystem development.

METHODOLOGY

The present quantitative research study employs a descriptive design to assess and quantify the variables, while also providing analytical explanations and interpretations. The primary objective is to ascertain whether the independent factors differ significantly with the dependent variable. To fulfill the primary objective of this study, the researcher selected a target group of Post graduate diploma in education (PGDE/TE) full-time students enrolled in the 2022/ 2023 academic session in two institutions. The population therefore consists of 42 respondents from RSU and 38 students from IAUE respectively which combined give a total of 80 Postgraduate Diploma in Education students (PGDE/PGDTE). The formation of the research group thereafter constitutes the sample used to generate quantitative data for the analysis. Furthermore, in addition to the aforementioned points, a questionnaire consisting of 14 open ended questions was meticulously developed based on available extant literature for primary data collection. The questionnaire used a five-point grading system, ranging from Very High Extent (5) to Very Low Extent (1), with Moderate Extent (4), Extent (3), and Low Extent (2) as intermediate options. The questionnaire validity was assessed by specialists in the field of test and measurement before evaluating its reliability and administering it. The internal consistency of the instrument was assessed by the use of the test-retest approach. This method included administering the instrument to a group of (PGDE/PGDTE) students at Niger Delta University, Amassoma Bayelsa State. The data obtained from the respondents was subjected to PPMC statistical analysis, resulting in a coefficient index of 0.81. The reliability tested questionnaire was presented to the respondents immediately after their lecture, with the respondents choosing to reply to the items. Immediately this exercise and collection of primary data was analyzed with descriptive statistics namely mean and standard deviation for research questions and hypotheses were tested with one-way ANOVA which guided the study. Collected data finally analyzed with 79 respondents was directly central to the empirical discussion of the statistical results obtained

Presentation of Results
RESE QUESTION 1

- To what extent does concrete experience of Kolb's learning style enhance students' development of digital skill-ecosystem competences in Business Education?

Descriptive Statistics of Concrete Experience and Digital Skills Development

items	Sample no. 79	Mean	Std. Deviation
Constant exposure to new experience leads to discovery of new knowledge		4.0250.	.91368.
Interpreting previous experience exploring new ways in solving problems		4.2000	.84793
Students develop concrete experience when they engage in projects		4.2125	.54410
Using games during learning triggers higher experience		4.0250	.91368
It increases students' participation during learning		4.1750	.38236
Oftentimes it creates an avenue for collaboration		4.9100	.81000
It makes students to always be adaptive to changes learning new situations		4.1625	.66454

The above statistical table displays high mean scores which implied extent respondents believe that concrete experiencers can lead to discovery of new experience and new knowledge, problem solving engage in projects and higher order experience and collaboration.

Research Question 2

- To what extent does reflective observation (*RO)* of Kolb's learning style enhance students' development of digital skill-ecosystem in Business Education?

Descriptive Statistics

Items	Sample no. 79	Mean	Std. Deviation
Students gain insights by analyzing new experiences encountered		4.2125	.41166
Dealing with situations using several sources of information		4.2000	.84793
Constantly focusing on objectivity when dealing with situations		4.2125	.54410
Considering students' emotions when making decisions		4.0250	.91368
Students develop strong cognitive orientations		4.1750	.38236

Prefer to handle new situations to create new knowledge

	5.0000	.00000
Using brainstorming techniques during learning generate new ideas	4.1625	.66454

The statistical table indicates high mean scores suggesting general consensus in the extent the items have closely facilitate the development of digital ecosystem competencies

Ho1.

There is no significant difference between business education students in Rivers State University and Ignatius Ajuru University of Education mean responses on the extent concrete experience enhanced digital skill-ecosystem development

One-way ANOVA measure of Difference between Concrete Experiencers and Digital Skill-ecosystem Development.

	Sum of Square	df	Mean Square	F	Sig.
Between Groups	22.309	2	22.309	68.688	.000
Within Groups	12.667	77	.325		
Total	34.976	79			

The ANOVA table has revealed f-value of 68.688 with .000 significant levels which affirmed no differences in the opinions of respondents with regards to the variables analyzed.

Ho2.

There is no significant difference between business education students in Rivers State University and Ignatius Ajuru University of Education mean responses on the extent reflective observation enhanced digital skill-ecosystem development.

One Way ANOVA measure of Difference between Reflective Observation and Digital Skill ecosystem Development

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	3.668	2	1.834	10.753	..000
Within Groups	13.132	77	.171		
Total	16.800	79			

The ANOVA table above with f-value of 10.753 at .000 significant level rightly shows a consensus of opinions which confirmed there was no differences in the opinions of respondents

Discussion of Findings

The empirical evidence above presents an affirmation of absence of significant variance in the analytical interactions of the measured variables. This clearly validated the notion that concrete experiencers could possibly leads to the development of digital ecosystem competencies when students are constantly exposed to digital tools and new experiences thereby constructing new knowledge, discovers new ways of solving problems, engage in classroom projects and also learn using games. These learning approaches are very critical for developing higher order learning experiences. The finding aligned with the assertion of Tunmibi, Aregbesola, Adejobi, and Ibrahim (2015) who observed that the application of e-learning technology in educational institutions enhanced communication, foster efficiency, and facilitate shared responsibility between instructors and students for the purposes of learning thereby engenders academic accomplishments. Information and communication technology (ICT) tools increase participation in learning and collaboration and helps students adapt to changes when face with new situations. ICT facilities are used by students in the course of learning for communication, creation, dissemination, storage, and management of learning activities thus enhancing interaction between students. Such cognitive process actively connects them to novel experiences or the interpretation of prior experience in creative manners. Using numbers of learning activities such as projects, solving puzzles, and participating in games closely facilitate the development of digital skill ecosystem.

The hypothesized finding has equally showed consensus opinions among the study group which confirmed lack of significant differences in the measure of reflective observation and digital ecosystem competencies. Students are propelled to engage in introspection and critically analyze situations to draw meaning from such problems, examine several sources of information in order to gain comprehension of different situations and concepts. This finding was validated by Weimer (2013) who posits that student-centered education promotes active engagement and participation in a range of learning activities that are meaningful to students' interests and future prospects. Learning is often linked to clearly defined performance goals that are created by educators in order to achieve precise criteria within a particular topic. Corroborating this finding Koko (2021) proposed comprehensive framework which categorize learning into six distinct domains: emotional, cognitive, motor abilities, concept acquisition, rule learning, and problem solving. These autonomous learning behaviors associated with each domain provide a diagrammatical representation of the organizational structure of learning. These learning experiences cultivate a wide range of employability talents, such as technical proficiency, creativity, critical thinking, and effective communication abilities. In addition, it has been discovered that students rely on objectivity, patience, and use judgment to form opinions based on their emotions and ideas prior to action. This empirical observation supports Kolb and Kolb (2005) claim that students who exhibit a diverging learning style possess a cognitive and experiential (CE) orientation which equally link with reflective observation (RO) orientation. The finding increased students' insights of new situations, deals with problems using several sources of information, focus on objectivity when dealing with new situations therefore develops stronger cognitive orientations and thus creating a new knowledge. Educational institutions, particularly universities, adapt and integrate

into teaching methodologies to address associated issues and enhanced flexibility. Such learning environment provides better exposure and access to number of technological tools to facilitate their learning experiences. Internet as one of the important digital sources profoundly transformed the way we educate the students and how they learn. Digital learning is effective solution to the many problems and issues students face in education. Diverse arrays of digital technology commonly used include software programs, applications, and educational games fostered and enhanced learning. Other tools in addition to the above include email; chat platforms, video conferencing, and online course management systems are powerful social platforms that enable students effectively organize and share learning materials within them and also with instructors. Individual student characteristically engaged in concrete situations using multiple perspectives, exhibits a broad range of cultural interests, demonstrate a propensity for information gathering, and have imaginative and emotional tendencies.

Conclusion

Concrete experiencers and reflective observation as critical components of Kolb's learning inventory system have direct impact on the development of digital ecosystem competencies. Most importantly higher education institutions, particularly universities, adapt and integrate methodologies into their curriculum provisions to address associated issues and building positive learning environment driven by access to number of technological tools and internet facilities which transform the way students are taught and how they learn. Digital tools enhance effective solution to problems and issues students face in education. Some technological platforms common to students include email; chat platforms, video conferencing, and online course management systems effectively organize and share learning materials within them and between their instructors. Through these instructional platforms students acquire new experiences and construct knowledge, discovers new ways of solving problems; engage in classroom projects and using games as instructional strategy to enhance learning. Reflective observation is another important part of learning inventory system closely associated with divergent learning style that triggers cognitive development and experiential (CE) orientation. This critical element increases insights of students when face with new situations, problem solving using divergent sources of information while at the same time focus on objectivity when dealing with new situations.

Recommendations

Sequel to the above scientific evidence attained from the study the underneath viewpoints have been recommended to improve the ways students learn.
- Students should give greater attention to concrete experiencers' component of the Kolb's for effective observations and reflections to be assimilated which can be refined into abstract concepts through which action implications are generated. It will constantly foster constant exposure, discovery of new experiences building up their digital skill ecosystems.

- Students in universities should practice reflective observation to increase their insights, brainstorms to provide solution to problems applying several sources of information which would invariably boost their digital skill ecosystem.

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