

Application of Appropriate Learning Strategies and Development of Competencies in Students of the University of Bamenda

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ABSTRACT

This study examined the relationship between application of appropriate learning strategies and development of competencies in students of the University of Bamenda (UBa). A correlational survey research design, with a quantitative approach for data collection was used. The target population of this study consisted of all undergraduate and Master students, while the accessible population was made up of students selected from six Schools using both probability and non-probability sampling techniques. A sample size of 254 students, derived from the Krejcie and Morgan's Table for sample size calculation, participated in this study. Data obtained were analysed descriptively and inferentially using tables, charts, frequencies, percentages, and multiple response sets. The Spearman's Rho correlation test was used to test the lone specific research hypothesis. The aim was to find out the level of relatedness between application of appropriate learning strategies and development of competencies in students. Findings showed that, there is a significant and positive relationship between application of appropriate learning strategies and development of competencies in students ($P < 0.027$) ($R = 0.139^*$). Therefore, the study concluded that adequate application of appropriate learning strategies by students in their environment have significant positive effects on the development of their competencies. Based on the finding, it was recommended that there is need for a competence-based curriculum to consolidate students' self-confidence towards success in a task, while avoiding a negative self-fulfilling prophecy about learners. Also, there is need for contextual teaching and learning to ensure a connection between what is taught in school and what obtains in real-life situations.

KEYWORDS: Learning, self-directed learning, self-directed learner, learning strategies, competencies

INTRODUCTION

Self-directed learning (SDL) describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes (Knowles, 1975, as cited in Henschke, 2016). Guglielmino (1977), as cited in Benvenuti (2012), describes a highly self-directed learner as:

... one who exhibits initiative, independence, and persistence in learning; one who accepts responsibility for his or her own learning and views problems as challenges, not obstacles; one who is capable of self-discipline and has a high degree of curiosity; (p.73).

He continues the definition and sees the self-directed learner as one who has a strong desire to learn or change and is self-confident; able to use basic study skills, organize his or her time and set an appropriate

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pace for learning, as well as develop a plan for completing work. He adds that the self-directed learner enjoys learning and has a tendency to be goal-oriented (Knowles, 1975). Self-directed learning plays an important role nowadays and is increasingly being applied in higher education, with motivation as an essential element (Cross, 1992).

People can learn lots of things on their own efforts from different sources, especially through the internet and social media (Blaschke, 2014, as cited in Malison & Thammakoranonta, 2018). Such learning channels have an impact on the curriculum decision-making process (Siriwongs, 2015) and the development of competencies in learners.

The integration of SDL in the teaching-learning process can act as a useful strategy to enhance learners' competencies and motivates them to engage in learning activities both inside and outside the classroom, because they can take the responsibility for what lessons to learn and what problems to solve in real life situations; they are able to choose, plan, manage, and evaluate their learning activities which can be carried out at any place and at any time (Moradi, 2018). Hence, SDL gives learners a greater role in their learning process. Some of the controversies over the concept of SDL originate from the variety of terms used to identify it. Oddi (1987) identifies ten different labels describing SDL: self-education, independent study or independent learning, self-teaching, self-instruction, individual learning, independent self-education, autonomous learning, self-directed inquiry, self-initiated learning, and androgological learning. However, given the importance of SDL in the development of competencies among university students in Cameroon, there is need for a shift in paradigm from teachability to learnability and from a transmission to transaction view of learning (Tchombe, 2001). Hence, this calls for reciprocal determinism between the learner and the teacher whereby the learner is an active participant who initiates and directs his or her own learning process under the guidance of the teacher (Tchombe, 2009).

Background of the Study

It is universally acknowledged that education and learning produce the human resources, and facilitate long-term human capital accumulation required to steer development. Evidence of the perceived role of education and learning can be found in national instruments that guide national development such as: constitutions, national visions statements, national development plans, poverty reduction strategies, country investment climate assessments and reports, private sector development strategies, education

sector policies, and others (Marope et al., 2017). Cameroon's Vision 2035 to make Cameroon "an emerging and democratic country united in its diversity" is contained in The National Strategic Development Paper (2020-2030, p.48). However, more often than not, education and learning systems are seen as failing to produce graduates with competences required to meet challenges and to take up opportunities offered by fast changing contexts of the 21st century. For this reason, education and learning systems are perceived as failing to keep up with the pace of change, let alone leading the change. Evidence includes the perceived alienation of graduates from their cultures, poor mastery of national languages, functional illiteracy, poor civic responsibility, poor employability, lack of digital skills required in labour markets, escalating intolerance and violence, and others. Evidence can also be seen in the co-existence of "the educated" and "the unemployable" with unmet demand for skills (Marope et al., 2017; Ndille, 2016).

Studies according to Schneider (2019), show that there many definitions of competence {Hoffmann, (1999); Velde, (1999); Klieme & Hartig, (2008); Stoof et al., (2002); Maaleki (2018); Chan, & Yeung (2020). Blömeke, Gustafsson, & Shavelson, (2015); Jacques, (2016)}. Competence, in its broadest meaning, can be defined as the developmental capacity to interactively mobilize and ethically use information, data, knowledge, skills, values, attitudes, and technology to engage effectively and act across diverse 21st century contexts to attain individual, collective, and global good. This definition recognizes that it is no longer sufficient to enable learners to acquire discrete knowledge, skills, and values. The higher-level concept of competence is ability, which refers to cognitive ability and is distinguished by domain-specificity. The concept of ability is logically related to other concepts located on the same level. We differentiate cognitive ability at least from practical ability and specify the cognitive according to domain-specific competence, and domain-non-specific ability (Schneider 2019). It is critical that learners can intelligently make connections across elements of a competence, integrate, and interactively apply them to respond to contextual demands, as well as to change their contexts. What learners learn is necessary but no longer sufficient. What is most critical is how they can apply what they learned across fast-changing, unpredictable, and even disruptive contexts of the 21st century. It is whether learners can use what they have learned to demonstrate adaptability, agility to adapt, and resilience. Hence, curricula need to focus on competencies that prepare learners for an unknown

future in order to make them futuristic (Marope et al., 2017).

Review of Related Literature

Contextual teaching and learning

Contextual teaching and learning (CTL) is a student-centered learning strategy that emphasizes students' interests and experiences (Satriani et al., 2012). Berns and Erickson (2001), as cited in Khaefiatunnisa (2015), put forward a definition of CTL from a study conducted by the Office of Vocational and Adult Education as follows:

Contextual teaching and learning is a conception of teaching and learning that helps teachers relate subject matter content to real world situations; and motivates students to make connections between knowledge and its applications to their lives as family members, citizens, and workers and engage in the hard work that learning requires (p. 83).

Educators frequently refer to learning that is related to a context as "situated cognition" (Brown et al. 1989; Henning, 2004). Contextualists recommend presenting problems in situations that are realistic to learners and common to everyday applications of knowledge. This type of learning is termed "authentic learning," and the instruction related to the learning situation as "anchored instruction" (that is, instruction "anchored" in a realistic problem situation) (Cognition and Technology Group, 1990; Streibel, 1995).

Crawford (2001) points out that contextual teaching and learning has five strategies: relating, experiencing, applying, cooperating, and transferring. These strategies are collectively known as the REACT strategies. Relating helps students to create their own knowledge by relating the topic discussed with their experience. Experiencing helps students to learn a new concept. Applying motivates students to use the new concept learned in solving problems. Cooperating encourages students to develop their cooperative and communication skills in order to build their self-confidence. Transferring helps students to apply new knowledge and skills to a variety of real-life situations and future learning tasks (Smith & Regan, 2005). The five strategies of CTL help students to improve their learning.

Principles of Contextual Teaching and Learning

Ruhimat (2012) identified seven principles of CTL, which a teacher needs to apply in a classroom. These principles are: constructivism, inquiry, questioning, learning community, modelling, reflection, authentic assessment.

Constructivism promotes meaningful learning which can help students put the material they have learned in their long-term memory. Brown (2001), as cited in Khaefiatunnisa (2015), observed that "Meaningful learning subsumes new information into existing structures and memory system, and the resulting association links create stronger retention" (p. 56). The learner in this learning process, ponders on the information that has been taught, constructs an interpretation based on past experiences, and personal views which enables the learner to situate, and apply the new knowledge. Inquiry learning encourages students to develop knowledge based on their own experience. It helps learners to develop creativity and critical thinking which enables them to evaluate information and arguments, identifying patterns and connections, resulting in construction of meaningful knowledge and applying it in the real world (Fullan & Scott, 2014).

Questioning is of great benefit to the teaching-learning process, it feeds students' curiosity, and helps the teacher gain students' attention. TEAL (2013) and Tambo, (2012) are of the view that questioning also promote students' thinking, reasoning, problem solving, evaluation and the formulation of hypotheses. Learning community encourages students to work cooperatively with others and share their knowledge. In learning community, students can learn how to work in team, how to interact with others, and can get information from the community, inside and outside class, such as family or society.

Modelling provides an example for learner. It involves the teacher doing something and the students watching, thinking, and reflecting about the process that is taking place. Modelling also means a progression of teacher doing less and students doing more. This is important to help students acquire knowledge and skills to be learned (Lea, 2013). Reflection guides students apply their knowledge, attitude, and skill in real-life situations. Authentic assessment is conducted during and at the end of the learning process. It shows the teacher how much academic material the students know and what the students are able to do.

Mediated Learning

Mediated learning (ML) is when children are guided to "learn how to learn" (metacognition), by someone who is more knowledgeable. It occurs when a more skilled person (teacher, peer, parent, or grandparent) assists a child to grasp something that they could not do independently. Mediated learning occurs in a child's learning zone where a mediator does not tell the child what strategy to use, but guides him/her

to discover his/her own strategy for learning. The goal of ML is to assist someone to be a more skilled and independent learner. Mediated learning works through exploration, problem identification, planning, self-regulation, and questioning (Greenberg, 1990). Mediated learning is a vital approach that promotes effective thinking and learning, and is a kind of parent/child interaction that develops the basic attitudes and competence for SDL. It begins within the family context with parents and significant others passing on cultural norms, values, and modes of thought from one generation to another (SeokHoon, 1997). Feuerstein et al. (1980) maintains that many learning problems are the results of insufficient or inadequate ML. A child who lacks ML will be unable to adapt to and learn from interactions in his/her environment (SeokHoon, 1997). When a child does not interact effectively with the environment, or experiences difficulty with learning, we as educators developed what Feuerstein called a “stiffed finger.” This is where the index finger points stiffly in the direction of the child indicating that the problem and failure is fixed firmly with the child. However, in mediation, learning is an interaction between child and mediator and fingers have to be pointed in both directions (Skuy, 1991).

Forms of Learning

Blended learning (BL) refers to the use of a combination of instructional delivery approaches such as face-to-face mode, online learning mode and self-directed learning mode (Kibinkiri, 2019). Blended learning derives its meaning from the concept of e-learning. E learning is the systematic use of networked information and communication technology in teaching and learning (Naidu, 2003). The following sub-section examines the learning modes of BL.

Face-to-face learning refers to a teaching-learning process in which students are in the classroom on seat with the teacher. It is also called on-campus delivery mode. The teacher can bring Internet sites of relevance and interest into the classroom. Students can also access topics or course materials using multimedia technologies, but do not replace traditional teaching methodologies (Kibinkiri, 2019).

Online-learning mode: On-line learning mode or delivery, popularly known as E-learning, is a field of education that focuses on teaching methods and technology with the aim of delivering teaching, often on an individual basis, to students who are not physically present in a traditional educational setting, such as a classroom (Subrahmanyam & Ravichandran, 2013). Modern educational technologies and online learning resources have a

significant potential in supporting autonomous and SDL (Moradi, 2018). According to Moradi (2015), “technology has the potential to restructure and transform the traditional curriculum and teaching methods, particularly, the interaction with course material and the delivery of associated sources” (p.112). On their part, Malison and Thammakoranonta (2018) purport that online learning is a sign showing that technology is possibly important for learning. Online learning mode can either be synchronous or asynchronous.

Synchronous online learning (SOL) is a mode of delivery where all participants are present in real time. Bates (2005) maintains that internet-based synchronous technologies are those technologies that operate in “real time” over the internet. Some examples of synchronous technologies are: web-conferencing, video-conferencing, internet telephone service (VoIP), and mobile computing using wireless devices. He adds that web-conferencing currently focuses more on audio, graphical and text communication in real time. Long (2005) articulates that, the learner and facilitator interact directly in this mode of delivery. Feedback may be provided instantly by both the student and the facilitator, for instance, students can answer the questions teachers ask, as well as ask their own questions in a written format from wherever they live (Semenov, 2005).

Asynchronous online learning (AOL) refers to interactions between students and instructors that do not occur at the same time and place (COL, 2000). McIntosh (2005) views asynchronous model as individual learning, where the students access the course material when it is convenient for them. Long (2004) states that asynchronous learning is characterized by its nature of learner-facilitator interaction, during which information is presented in recorded format and the learner can interact with it at any time thereafter. He further explains that asynchronous format may also use online communication but the online learner activity usually is a response to stored data. Asynchronous online learning can either be experiential or collaborative.

Theoretical Review

Cognitive Apprenticeship Theory and Application of Appropriate Learning Strategies

Cognitive apprenticeship (CA) theory is an instructional model that describes the design of a learning environment that helps novices become experts through guided learning. It emphasizes the importance of learning in context (Austin, 2009). The term was first coined and articulated by Collins et al. (1989), as cited in Tompkins (2016), who wrote: “We propose an alternative model of instruction that is

accessible within the framework of the typical American classroom. It is a model of instruction that goes back to apprenticeship but incorporates elements of schooling. We call this model "cognitive apprenticeship" (p. 453).

Before the advent of schooling, apprenticeship was the most common means of learning and was used to transmit the knowledge required for hands-on activities (Collins et al., 1989). Cognitive apprenticeship is an instructional model whereby teachers/experts make explicit their generally tacit cognitive processes which help learners to observe, practice, and enact highly cognitive, complex tasks. Also, it helps learners to gain both cognitive and metacognitive skills. Here, learners focus their observations of expert performance to facilitate skill development. Through this, learners gain autonomy through formulating personal learning goals (Stalmeijer et al., 2013). Cognitive Apprenticeship allows learners to actively practice what they have learned in a real-life environment (Driscoll, 2005). The CA learning environment consists of four dimensions: content, method, sequencing, and sociology (Collins et al., 1991, as cited in Brown, & Stefaniak, 2016). The contents of method and sociology, as dimensions of CA, are elaborated in the following paragraphs.

Instructional Methods/Models Associated with Cognitive Apprenticeship Theory

There are six instructional methods/models associated with CA (Collins et al., 1989, as cited in Giebler et al., 2019). The six teaching methods are classified into three groups: The first group (modeling, coaching, and scaffolding) are the core of CA, designed to help students acquire an integrated set of cognitive and metacognitive skills through the processes of observation and of guided and supported practice. The second group (articulation and reflection) are methods designed to help students both to focus their observations of expert problem-solving and to gain conscious access to (and control of) their own problem-solving strategies. The final method (exploration) is aimed at encouraging learner autonomy not only in carrying out expert problem-solving processes, but also in defining or formulating the problems to be solved (Collins et al., 1987). The six teaching methods associated with CA are briefly elaborated below.

Modeling: Here, learners observe the teacher perform activity or task and build a conceptual model of the processes that are required to accomplish the task (Collins, 2005). Teachers actively demonstrate and explain skills and procedures to learners. With this, the teacher articulates an approach to problem-solving

(heuristics) and intentional thought process (controlled processes). Learners observe the expert performing a task and ask questions (Walker et al., 2017).

Coaching: This involves the teachers observing learners and providing specific and concrete feedback on their performance. The goal here is to bring the learners' performance closer to the expert performance (Walker et al., 2017). Coaching is realized through interactions that are "immediately related to specific events or problems that arise as the student attempts to carry out the target task" (Collins et al., 1989, as cited in Giebler et al., 2019).

Scaffolding: This refers to supports the teacher provides to help the students carry out a task. The support can either be in the form of suggestions or help when he recognizes that a student is unable to solve a certain aspect of a task, or they may take the form of physical supports where the students and the teacher solve problems in a cooperative way (Giebler et al., 2019). A prerequisite for such scaffolding is an accurate diagnosis of the student's current skill level or difficulty in carrying out the target activity. With this, the teacher gradually reduces support as the learner becomes more independent. This process is called fading. Fading consists of the gradual removal of supports until students are on their own. Learners feel motivated and appreciate when their instructors show interest in their prior knowledge/skills (Walker et al., 2017).

Articulation: This occurs when students are given the opportunity to articulate their and understanding of a particular task, concept, or method through some type of content mastery assessment (Stalmeijer et al., 2010). Here, the teacher asks learners to explain their understanding and thought processes, as well as encourages learners to ask questions. This helps to deepens knowledge, understanding, and memory in learners (Walker et al., 2017). Reflection: This involves a teacher prompting students to deliberately consider their strengths and weaknesses. This method helps learner to understand their strengths and weaknesses and to process recent experiences. The teacher here asks for learners' reflections more often and then provides suggestions to reinforce their strengths and improve their weaknesses (Walker et al., 2017). Reflection occurs when students reflect on their own problem-solving strategies and understanding of concepts and compare them to other experts and/or students (Stalmeijer et al., 2010). Reflection has also been suggested as a way to achieve SDL, as it requires individuals to learn

through experience (Parker et al., 1995, as cited in Hewitt-Taylor, 2001).

Exploration: In this stage the learner is able to accomplish tasks and solve problems independently. The teacher offers a task/problem for the students to solve on their own (Giebler et al., 2019). Here, exploration is the natural culmination of the fading of supports, wherein the teacher encourages learners to set and pursue personal learning goals. Learning at this stage is self-directed and guided by learners' personal strengths and weaknesses. This enables learners to be engaged and focused on their learning process. This equally helps teachers identify meaningful learning experiences for individual learner (Walker et al., 2017).

Statement of the Problem

Education can foster the manpower requirements of a Nation by helping learners to develop their competencies, in terms of knowledge, skills, and attitudes, in order for them to become self-reliant. From observation, the teaching-learning process in The University of Bamenda is highly campus-oriented and lecture-based, characterized by lengthy classes that run up to Saturdays and Sundays, fewer assignments and/or tasks to students, dominant teaching role of lecturers, narrow mode of assessment and evaluation of learning that bases students' success on measured skills only in some particular intelligences, and too many courses with similar content knowledge. Consequently, students have limited time to practice, are unable to apply what they have learnt in order to solve real-life problems, have low degree of control over the learning process, are dependent and unable to direct their own learning without teacher support, are less interested, motivated, and willing to do relevant assignments, have difficulties to effectively assess and evaluate their own learning, have limited opportunities to experience the joy of discovery in learning, and are passive recipients of untested and disconnected ideas that give no direction to learning. The heavy workload challenge in the number of lessons and classes is contrary to Whitehead's (1929) two educational commandments: "Do not teach too many subjects," and again, "What you teach, teach thoroughly". Introduction to *Wonder, Education, and Human Flourishing*. Hadzigeorgiou (2001; 2012;

2016; 2020), encourages the teacher to provoke curiosity in the learner by asking questions such as "I wonder why, when, how..."? in the teaching learning process.

This study therefore sets out to investigate the relationship between self-directed learning (SDL) and development of competencies in students of The University of Bamenda.

Objectives of the Study

This study is guided by a lone research objective;

- To investigate the relationship between application of appropriate learning strategies and development of competencies in students of The University of Bamenda.

Research Questions

- What is the nature of the relationship between application of appropriate learning strategies and development of competencies in students of The University of Bamenda?

Research Hypothesis

Ho: There is no significant relationship between application of appropriate learning strategies and development of competencies in students of The University of Bamenda.

Ha: There is a significant relationship between application of appropriate learning strategies and development of competencies in students of The University of Bamenda.

Research Methodology

A correlational survey research design was used in this study. The sample size was 254 respondents. A 40 items closed-ended questionnaire with was used for data collection.

Data Analysis

Verification of Hypothesis

Ho: There is no significant relationship between application of appropriate learning strategies and development of competencies in students of The University of Bamenda.

Ha: There is no significant relationship between application of appropriate learning strategies and development of competencies in students of The University of Bamenda.

Table 1: Relationship between Application of Appropriate Learning Strategies and Development of Competencies in Students

Correlations			
		Application of appropriate learning strategies	Development of competencies in students
Spearman's rho	Correlation Coefficient (R-value)	1.000	.139*
	P-value		.027
	N	254	254
*Correlation is significant at the 0.01 level (2-tailed)			

Source: Field Survey, 2021

Statistically, there was a significant and positive relationship between application of appropriate learning strategies and development of competencies in students ($P\text{-value} = 0.027 < 0.05$). The positive sign of the correlation value ($R = 0.139^*$) implied that the development of competencies were more likely to increase when students apply appropriate learning strategies in their environment. The null hypothesis was rejected and the alternative which states that, that there is a significant and positive relationship between application of appropriate learning strategies and development of competencies in students was retained.

Summary of Findings

The question examined here is the nature of the relationship between application of appropriate learning strategies and development of competencies in students of The University of Bamenda. Statistically, the findings show that, there is a significant and positive relationship between application of appropriate learning strategies and development of competencies in students. Most of the respondents were of the view that, the application of appropriate learning strategies such as contextual teaching and learning, mediated learning, and blended learning help in the development of competencies in students. Kibinkiri (2019) is in agreement with this perception on the use of the blended learning model which influences the professional development of University students in Cameroon. He further indicated that students are more comfortable with face-to-face learning mode as compared to online and self-learning modes

Conclusion

The study therefore, concludes that adequate application of appropriate learning strategies by students in their environment have significant positive effects on the development of their competencies.

Recommendations

It was recommended that there is need for a competence-based curriculum to consolidate students' self-confidence towards success in a task, while avoiding a negative self-fulfilling prophecy about learners. Students' errors should be seen as occasions to learn about students' understanding. Also, there is need for contextual teaching and learning to ensure a connection between what is taught in school and what obtains in real-life situations.

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