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The Role of Teaching and Learning Aids/Methods in a Changing World

Abstract

The activity and method of teaching and learning identifies the input factors (students, teachers, instructional materials), the process (research, leadership, student services), and the output factors (employable graduates, knowledge creation and economic growth). Teaching and learning activity is also seen in the skills, attitudes and research orientation of the students. Negative physical and social conditions may affect the quality of effective teaching and learning. It is important that an enabling environment be put in place for effective teaching and learning skills. Furthermore, it is the responsibility of teachers to be sufficiently trained on the use of teaching aids, and have full understanding of their subject in order to pass on the right knowledge to students. The use of pictures, video clips, objects, internet facilities help the students to have a real-life imagination of the context of what is being taught. This leads to the reinforcement of learning: what we hear we forget; what we see we remember; what we do we understand. Motivations for transforming 21st century learning are the lack of preparation for life and work, emerging student characteristics, disengagement and high dropout rates, lack of motivation, the changing conditions and needs of the 21st century labour market, and global scenarios like economic and social crises, global diversity, and climate change. By effectively delivering knowledge content, students acquire transferable skills to be globally competent, think out of the box, and have an intelligent understanding of the complexity of technology.

Keywords: teaching, learning, students, teachers, labour market, global competence

Introduction

Okebukola (2010) identifies that the activity and method of teaching and learning includes input factors – teachers, facilities, instructional materials, students, and curriculum. These input factors are combined in the process of teaching, administration, research, quality assurance, and community impact. The output shows the skilled and employable graduates, new knowledge created, responsible citizens and economic growth. Teaching and learning activity is seen in the skills, attitudes and research orientation of the students. In devising the most effective way by which knowledge content can be delivered, learners are taught technical skills, exposed to career awareness about the labour market, equipped to have an intelligent understanding of technology and stimulate creative thinking (Ogbulogo, George & Olukanni, 2014). Recently, students have demonstrated poor interest towards learning and ability to recall what has been taught (Joseph, 2015). This could be as a result of the teaching methods used by the teacher during the teaching and learning process in the classroom. In order to enhance teaching and learning activities, and avoid learners getting bored during lecture sessions, teachers are encouraged to use pictures, short video clips, and social media tools. These help students to have a

vivid picture of a particular context. The diverse teaching methods used in today's world provide opportunities to enrich and develop teachers. A teaching method is an effective way to organise learning and unite both the teacher's and learner's efforts. It is important that teachers are creative and professionally developed to use and combine these teaching methods.

Problem statement

There is an explosive growth in the volume of information available to learners. Information is now in multiple forms like texts, graphics, video and audio. As a result, teachers have become saddled with the challenge of how to teach learners to make sense of the vast amount of information they find, identify credible sources, question authenticity and accuracy of information, connect new knowledge with prior knowledge, and discern its significance in comparison to what they already understand (Facer, 2011).

Teaching aids

Teachers are great facilitators of knowledge and skills in the 21st century teaching and learning profession (Joseph, 2015). Teachers use teaching aids to enhance classroom instruction, extract learners' attention and create a motivation to learn. These teaching aids are devices (computer, DVD), instructional aids (book, chalk board, picture), or objects (specimen, map, globe) that help the teacher to effortlessly carry out the teaching-learning process. A lot depends on the creative abilities of the teacher. The use of teaching aids can facilitate the learning process by making it interesting and less time consuming. The use of teaching aids enables learners to use their hearing or seeing abilities and actively perform something while learning.

Types of teaching aids

On the basis of time-period

- Conventional/traditional teaching aids: When technology had not yet appeared in the form as it is available today – there was no electricity, phones, computers or internet. Chalks, blackboards and 'dust and mud sketching' were used by teachers as a standard teaching aid. Elements of nature, actual objects and specimen were written and presented as teaching aids. Books formed the traditional or conventional resource available to both the teachers and learners.
- Non-conventional/modern teaching aids: With the gradual technological progress, non-conventional teaching aids became available to teachers and students like computers, television/radio, and interactive whiteboard, multimedia. The modern teaching aids present themselves in different forms. A world of opportunities like teaching aids, games, activities and media have become available to students. They have made teachers' task both enjoyable and challenging. The use of non-conventional teaching aids play an important role in the teaching and learning process today.

On the basis of the sense organs involved

Teaching aids are also called audio-visual aids. Contemporary teaching aids that are in use provide stimulation to ears and eyes together compared to the traditionally used teaching aids that stimulated only one sense organ. The emerging teaching aids involve other sense organs (Đurđanović, 2015). These teaching aids are visual aids (illustrations, textbooks, magazines), auditory aids (sound recordings from CDs), audio-visual aids (combination of audio and video materials, DVDs).

Projected and non-projected aids

Projected aids include PPT, slides, film-strips, overhead projectors, TV/VCR as they can be projected on screen to give an enlarged image of the material. They can be used suitably for large and small groups. The large, bright and colourful images make them more effective than a non-projected aid. Non-projected aids do not require projection screens. Such materials are simply shown, hung or touched, e.g. chalkboard, whiteboard, charts, posters, pictorial materials and models. They provide first hand experiences, make the learners actively participate, stimulate students' interest, ensure better results and longer retention.

Teaching and learning methods in the past, present and future

Past education system

The education system in the ancient days was based on the Vedic, Brahmanical, Muslim, British periods (Siljander, Kontio & Pikkarainen, 2017). Education was compulsory in Vedic periods and students were handed over to the teacher. Education was based on war, protection, arts and craftworks. Vocational education emerged and was based on teaching and learning craftwork. The invasion of the British contributed to the development of the education system. British education gave more importance to the school system up-to-date. The British established several schools and provided facilities in the education system. Significant changes were made in the syllabus, methods of teaching, and the education system. Despite this, access to education was the privilege of a few, with majority being denied in many countries. Teaching and learning process was based on personal experiences. Knowledge and basic social skills were developed by interacting with other people and things (Siljander, Kontio & Pikkarainen, 2017). As a result, there was no room for change or innovation beyond the level of knowledge and skills of the previous generations.

Present education system

The present education has a great difference from the past. Yet, it is still not playing a significant role to teach and develop the youth for the changing world (Carneiro, 2007). The main aim of modern education is to develop skills and knowledge to make money. School owners mostly measure success on financial growth rather than value for students. Evidence shows that the present education environment and system of teaching and learning are inadequate to address and support 21st century learning needs (Carneiro, 2007). In most cases, education system in underdeveloped countries is not evolving. Therefore, students graduate

without the knowledge that is needed to make them better citizens or improve their lifestyle and morals. Because of this business-minded system of education, students are not qualified for proper jobs, and teachers are not ready to train students on practical life skills. Job seekers are being disqualified during interview processes because the education system fails to teach the basic skills and knowledge that are required in real life (UNESCO, 2015). Nowadays, education gives more importance to technology. Students are only graded based on examinations without an understanding of what has been taught. This exposes the puzzle on whether students are tested based on their 'recall' skills or actual intelligence. The present education system does not adequately differentiate students' knowledge and abilities.

Future education system

The future of the education system is uncertain still one can predict how it will be shaped. Future educational systems are expected to transform from institutions with strong emphasis on teaching to organizations with increased emphasis on learning (Scott, 2015). Government authorities must be responsible and take proper action to make some useful changes in the education system. The aim of the future education system is not just to confront new challenges but to create a world for all (Scott, 2015). The future system of education will give more importance to countries' development, students' training, skills and professional qualities. The role of teachers will be transformed from subject experts to guides and coaches (Ericsson, 2012). Educated people are the main asset of a nation. Education plays a vital role in developing personal and social life, and shaping tomorrow's leaders. However, it is feared that the education system is going backwards; that the poor of society cannot risk taking out loans to fund expensive studies and, social mobility will be determined by where people grow up and not by ability. There have been talks regarding the role technology will play in the future of education. Although traditionalists are fighting for children to go 'back to nature'; teachers should be open to embrace advancements in technology, ensure its usefulness in the classroom and employ more effective ways using recent research about how people learn (Scott, 2015). Education is becoming unpredictable and unsteady because future jobs are not in existence today. To solve unexpected challenges, a future-oriented curriculum should be developed to equip students with the right knowledge and skills.

Global competence

Global competence is the capacity to examine local, global, and intercultural issues; understand and appreciate others' worldviews and perspectives; engage in open, appropriate, and effective interactions with people from different cultures; and act for collective well-being and sustainable development (OECD, 2018). It is multi-faceted and includes cognitive development, socioemotional skills, and civic learning. Four dimensions need to be developed for students to interact with others both locally and globally (Scott, 2015; P21, 2013). The first dimension is the capacity to critically examine and solve global issues such as poverty, trade, migration, inequality, conflict. The second is the capacity to think critically and understand different perspectives and world views. The third dimension emphasizes on preparing youth to collaborate across different cultures and backgrounds to

address any sociological, political and environmental difficulty. The fourth dimension emphasizes on acting constructively to address issues of sustainability and well-being. The world requires multi-faceted responses because of its complexity (OECD, 2018). Skills in these dimensions are needed to examine and work toward resolving issues with local and global significance.

Nations, foundations, scholars, international organizations, and educators around the globe are working to develop students' knowledge, skills, attitudes, and values that are relevant to global competence. Drivers of change that affect teaching/learning for global competence are based on themes that cut across the curriculum or transformed using existing lessons. Regardless of the subject or the teaching/learning method, global competence requires a culture that engages students to constructively interact with each other and their teacher on differing perspectives and complex topics.

Teaching for global competence

To gain global competence, students need to be actively engaged in their learning and have the opportunity to reflect. They need to learn how to cultivate their curiosity and ability to think critically. To make informed decisions and collaborate with different backgrounds, students must be prepared to deal with complex issues like economical, socio-cultural, health environmental and geopolitical concerns (P21, 2013). Students need to practice global competence skills in the classroom and apply them to real-world topics. Textbooks, lectures, and memorizing correct answers to factual questions have their place in students' learning, but they must be paired with more active, engaging pedagogy to develop global competence. Today's learners learn in a conducive environment by using trial and error methods to explore, express and exchange ideas using technology before arriving at solutions (Facer, 2011).

Classroom culture

To foster global competence, effective classroom cultures must be created where students have the freedom to respectfully express their opinions with their teachers or fellow students, select which media to access, which tools to use, and how, when and where to use them to support learning (Scott, 2015). Although digital learning tools are now used to support student learning compared to the traditional tools, only a few teachers have made use of these technologies in their 'teaching'. Technology in itself does not drive learning except learning tasks are clearly defined. Benefits are rather derived from the collaboration, creativity and communication that technology supports. Digital tools will affect what and how students learn in the future (Redecker & Punie, 2013).

Students' perceptions of one another can be influenced by who takes on classroom duties, how teachers create teams for projects and how seating arrangements are designed. This way, students are able to tap into the rich diversity in the classroom and illustrate concepts in the curriculum using multicultural examples. These concepts include human rights, cultural diversity, injustice, inequality, and oppression.

Instructional approaches are familiar to teachers and can be applied to develop students' global competence. Regardless of the instructional approach, teachers need targeted professional learning opportunities to support education for global competence. Instructional approaches for global competence include:

Structured discussions and debates

Students learn to openly express their perspectives, back up their opinions with evidence, listen for understanding, and be willing to change their minds when confronted with new information (Witherspoon, Sykes & Bell, 2016). To stimulate a discussion or debate among students, the teacher uses a text, thought-provoking video-clip or controversial image. They engage in class discussions by practicing their communication, collaboration and argumentation skills, researching a particular topic, defending opposing positions on global issues from multiple perspectives, and raising awareness on global issues (Sun et al., 2015). Students form two teams, one supporting a statement and the other opposing it.

Availability of anytime/anywhere learning

In the present and future system of education, the workplace, home, community, 'on-the-move' (mobile) offer powerful sites for flexible learning compared to just the school environment (Carneiro, 2007). Learning activities are no longer done in the classrooms alone as the demands for educational service delivery is increasingly independent of location. The availability of smartphones and broadband networks allow people to access learning irrespective of the time and location. There has been a major shift from traditional educational institutions toward a more diverse and complex system of learning using a wide variety of educational institutions and third-party providers. Schools are expected to "reposition themselves in the emerging learning landscape" (Gijsbers & van Schoonhoven, 2012). The school is not the only place students learn. As learning begins to move out of the classroom into homes and virtual communities, students are able to link their learning into the real world and become more self-directed. As students become familiar with digital tools, they are able to engage in more diverse settings, interact with others, and apply their knowledge in new contexts.

Conclusion

This paper has addressed the teaching and learning aids/methods related to future learning and global competence. Irrespective of the multiple factors driving change in the way students are educated, the fact remains that students are not learning adequately under the present education system and are not being equipped with the skills and knowledge needed to lead productive working lives. Learning should be tailored to the needs of each student to help them reach their full potential. This way, students will be able to interact with their own communities, deal confidently with people from other cultures, while engaging in learning activities throughout their lives. Just as teachers cannot revamp the education system alone, nations must critically evaluate traditional education to determine whether schools are living up to current expectations and equipping students to compete in a global economy. Every nation can contribute to a global pool of expertise on how best to

implement 21st century learning based on its context. Education should prepare students to develop transferable skills such as collaborating among themselves to solve scenarios of real-world challenges, reflecting on their ideas, strengthening their critical and creative thinking capacities, showing initiative, and exploring analytical skills.

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