

Paper presentation on

DIGITAL INNOVATIONS IN LEARNING ENVIRONMENT

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What is Innovation?

Majority of the academic practitioners in the field of business administration regard innovation as a means by which new ideas or inventions are turned into wealth creation or enhancement of the existing activities. In the real practice, innovation begins as a requirement to improve on the existing activities by inventing another method which could be easily integrated to the system. In most cases, innovation may not necessarily be targeted at making money rather it could be aimed at solving a peculiar problem. For example, although the source of internet could not be attributed to an individual, the invention of internet was as a result of the requirement to get connections among the computers that are located in different places in the world. This was eventually achieved by the joint activities of programmers, scientist and engineers in the

late 1960 under the coordination of Advance Research Project Authority-Network (ARPANet) ([Evan, 2019](#)).

Digital innovation could be attributed to manipulation of the languages of computer (Software programming such as C++, Java). It could be observed that in the current century, the operational activities in every industry are changing frequently as result of software digitalization. For example, FinTech reshapes the operational activities in Financial industry, e-commerce changes the phase of commodity market, online classes removes barriers in the education industry, while online booking changes the dynamics in the transport industry etc.

One of the current innovations that is changing the ways of doing things across all industries is the Artificial Intelligence (AI). According to Merriam-Webster dictionary, Artificial Intelligence is a branch of computer science that deals with the simulation of intelligent behavior in computers. Technically, [Intel \(2019\)](#) describes the AI as a program (sets of software instructions) that can sense, reason, act and adapt (or learn and re-learn).

Creating Enabling Environment for Innovation

This responsibility lies with the teachers and parents of the student. Creating an environment where innovation can thrive requires the leaders in such environment to embrace what is called transformation leadership traits. According to [Jackson and Parry \(2011\)](#), the attributes of a transformational leader could be summarized as follows:

- Individualized consideration: The teacher or parent gives attention to every individual student's case and provide advice or support based on the individual requirement. That is, not one cap fits all.
- Intellectual stimulation: Having identified the strength and weakness of each student, the leader is responsible to continuously create an avenue for the students to improve on their strengths and nullify their weaknesses.
- Contingent rewarding: It is recommended that leaders should continuously assess the capability of the students and provide them with

the feedback on their performance as this would encourage improvement. Another way of encouraging innovation is by providing reward for special performances. This reward may be different from the usual end of session and it does not necessarily required to be done regularly.

Exhibition of the above traits encourages the students to express their ideas even when it may not make sense. This is because they would be confident that the teacher or parent would listen and guide them when they are wrong. Therefore, they are not having feeling of being a failure.

Who is an Innovator?

The person that comes up with new idea or method of doing things with the aim of simplifying a specific task or creating a new thing is regarded as an innovator. [Daft \(2008\)](#) concluded that the personality trait for the twenty first century is the “Emotional Intelligence”. The qualities of emotional intelligence which accelerate innovations are:

- Self-awareness: Know your own character and feeling.
- Motivation / Drivers: Identify what motivates you.
- Empathy / Sensitivity: The need for innovation starts with identifying issues from others or environment. While empathy helps in identifying the needs for innovation through people, the sensitivity helps in identifying the needs within the environment.

An individual with innovative mind is mostly driven by self conviction. This implies that such person embarks on the activity as far as they are convinced that such activity will bring result. “Re-inventing the wheel” does not exist in the dictionary of innovators as they are always eager to learn. Summarily, an innovator is emotionally intelligent.

What are the sources of Innovation?

With respect to the academic recommendations, the sources of innovation in the industries are categorized as three and these are Open innovation, Lead users innovation and Disruptive innovation ([Semiu, 2018](#)).

- **Open innovation**

[Chesbrough and Appleyard \(2007\)](#) described open innovation as an open strategy that allows institutions playing in the same industry to collaborate in developing a new business platform in which most players in the industry will be able to benefit by serving the customers with new products or services. A good example of this is the open-source Scratch programming which was initially developed by Lifelong Kindergarten Group at Massachusetts Institute of Technology (MIT) in 2003 to train small children on programming using drag and drop. As at today, there are over 40million registered users of Scratch all over the world ([Scratch, 2019](#)).

- **Disruptive Innovation**

Leaders in the study of innovation recommend that managers in the organizations (or institution) should be vigilant of the effect technology in their industry. Rather than neglecting a technology innovation because it may not affect their customers immediately, the innovative organization would subscribe to such technology and use it to improve the existing services or develop a parallel solution for the customers.

One of the major disruptive innovations in the education industry in the developing countries (including Nigeria) is the e-Learning. Increasing percentage of working-class students (studying Masters or other programmes) are doing it through Online classes in various institutions in the developed countries rather than patronizing the institutions in their own countries.

Meanwhile, instead of the proprietors or the investors in the education industry in Nigeria to continue enduring with this disruption, their institution can utilize the same opportunity to improve their standard of operation by

collaborating with those developed institution to conduct researches and other projects via Online facilities.

Another disruptive innovation in the education industry is the Artificial Intelligence (AI). One of the research posted on the Harvard Business Review (HBR) by [Richard and Daniel \(2016\)](#) revealed the AI is capable of doing higher percentage of what the human professionals are currently doing. For example, the research presented a situation where the AI (as a lawyer) won case against a human lawyer in the United State.

- **Lead User Innovation**

This is peculiar to the products or services where an organization identifies the few innovative users of its products by exerting more effort to encourage such users to go extra miles in utilizing the features available on their product. Such organizations have well defined system to collect feedback from the super users while they analyze and utilize the information to improve existing product or develop a new model.

Conclusion and Recommendation

Most academic institutions and technology companies organize summer classes which are targeted at exposing the students to various technologies in the industries. Another benefit of such classes is that it also reduces the gap between the academic and industrial experiences.

In order to improve the digital competency of the students, they can utilize summer classes for software programming that are available both online and by the volunteers who are available locally for the physical classes. Institution should not only encourage the students in participating in those summer class, they could also sponsor some of the programmes or individuals who are passionate to know more.

In Nigeria, education attracts little sponsorship when compared to other industries like music and sports. This could be attributed to lack of adequate collaboration among the players (i.e. Proprietors or school managements in the competing schools) as each educational institution focuses only on

maximizing the gain through quantity rather than quality. Schools see one another as competitors and they do not collaborate in conducting researches except in few cases.

Utilizing the concept of open innovation, and through the summer classes for example, students from different institutions could meet in the same class and concentrate on implementing innovative projects.

Another thing that is depriving sponsorship in education is the publications. While the sports and music industries utilize the media that are easily assessable by people (i.e. Television, radio broadcast, and internet), most academic publications in Nigeria ends on the paper which may not be effectively circulated. Educationist in the country would be required to also take advantage of the all available media for publishing their activities.

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About

Dothan Schools

DOTHAN COMPREHENSIVE SCHOOLS was established in September 11, 2011 and has since been providing collegiate experiences and richness of diverse cultures in Nigeria. We emphasize total development of each child: spiritual, moral, intellectual, social, emotional and physical; all built on strong ethics and Christian values.

Our mission is to develop children with active and creative minds, a sense of understanding and compassion for others, passion and courage to succeed in life.


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Author

Semiu Amao graduated from University of Liverpool, England with Post Graduate Certificate in Business Administration in 2019. He obtained Bachelor of Engineering (in Electrical/Electronics) from University of Ado-Ekiti, Nigeria in 2004. Before then, he had completed the National Diploma in Computer Science from Federal Polytechnics Offa, Nigeria in 1998.

Since 1999 up till present, Semiu had been actively involved in the software development using various Object oriented languages and script. He is the owner of the brand “Bigsemite” which signifies his Apps in most popular application stores like Google play store, Amazon App store etc.

Having obtained many professional certifications in the ICT industry and contributed voluntarily to various technological development both online and locally, he was recognized by Intel  as a Software Innovator in 2018.

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Presenter

Jamiu Adedayo Quadri is a self-employed software developer with passion to automate every process driven activity. He is a graduate of Computer Science (B. Sc Hon.) from Fountain University Osogbo, Nigeria in 2017.

Jamiu is experienced in modern programming languages like C#, Java and JavaScript with many solutions developed for both desktop and mobile devices (Android OS). He is the lead developer of “Tax Calculator1” Application that is available in the both Android Play Store and Web on <https://tax-calculator1.web.app>

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