Artificial Intelligence and the Future of Teaching profession: Implications for Quality Teaching/ Learning.

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Abstract

The study which aimed at examining artificial intelligence and the future of teaching profession: Implications for quality teaching/learning was anchored on one research question. The study adopted descriptive survey research. The population of the study comprised all the teachers from 19 public secondary schools in Awka South LGA, Anambra State with the teachers numbering 495. Simple random sampling method was used to select 248 teachers from 10 schools which is 50% of the entire population. The researcher designed an instrument titled "Artificial Intelligence, the Future of Teaching Profession for Quality Teaching/Learning" (AIFTPQT/L) which was used for data collection. The instrument was 20-item questionnaire structured four-point weighting scale. There was face and content validation which was diligently carried out by experts in the relevant discipline. Test re-test method was used to ascertain the reliability of the instrument. The result when exposed to Pearson Moment Correlation Coefficient gave rise to 0.73 co-efficient values which was considered adequate for the study. The findings revealed but not limited to: that artificial intelligence is an accelerator to the future of the teaching profession. It was recommended among others that government should expedite action and ensure that needed artificial intelligence devices are put in place to boost the future of teaching profession for quality teaching/learning.

Keywords: Artificial intelligence, Teaching profession, Quality, Teaching/learning.

Introduction

Teaching profession is a certified profession which is traditionally perfected by teacher education institutes in Nigeria that posses the government accreditation and approval. The student-teachers when they complete their years of study were let out to teach in schools. Even with the advent of the online teaching and learning teachers through their compulsory professional development, updated their knowledge and skills to align with the world best practices. In line with the dynamism with which education is known, there seem to be more innovation in education that led to the involvement of Artificial Intelligence (AI) in all spheres of life with education not an exception.

Artificial intelligence is the process of using man-made machines to do complex works formally done by man which include verbal communication, way of thinking, problem solving, decision making etc. Consequently, AI is found in hospitals, Hotels, Factories and so many other industries to increase productivity and efficiency. It is premised on this that Coursera Staff (2024) asserted

that AI is both a theory and development of computer systems' ability to execute responsibilities or rather carry out roles previously performed by human elements like speaking, taking decision and recognizing pattern. This implies that AI is affecting the historical ways of performing tasks which were only done by man. This humanoid machine has found its way in education majorly on teaching profession. It is for this reason that Dorfler (2022) posited that Artificial Intelligence comprised of machines that do the complex duties of human beings through rational thinking. Similarly, Jamal (2024) aptly put that artificial intelligence is the type of computerized machine that could imitate human complex tasks such as dialogue etc.

Following the above scenario, Salas-Pilco, Xiao and Hu (2022) espoused that in recent times, the use of artificial intelligence and learning analytics have made waves in education industry. Education in this regard encompassed all the levels of education mostly secondary and posts secondary education as well as the process of teaching and learning. It also goes to cover teacher education which is the place where teachers are professionally groomed. Teacher education is very crucial in that it determines the future of the younger generation in identifying their potentials in the field of works. This is achieved through efficient and effective production of qualified, certified and knowledgeable teachers into the teaching profession.

Teaching profession is a kind of career whereby teachers who obtain specific knowledge, skills and attributes intend to provide distinctive service to meet the educational needs of the individual and of the society where they find themselves.

According to Study.com (2024), teaching profession is an activity/programme in education that has the unique role of shaping and imparting to the learners relevant knowledge and skills that would make them useful not just to themselves but to the society of their abode. Teaching profession is the occupation set aside for qualified teachers who are knowledgeable in education as well as their teaching subject. It is meant for teachers who have mastery of their subjects and pedagogy in order to cultivate friendly environment that facilitates palatable and excellent platform for trading of ideas and development of critical thinking that mirrors problem solving. The main role of the teaching profession is to fortify the learners to compete in the world right now and prepare them to cope in the ever-changing world. This feat could only be accomplished in the face of functional and quality educational delivering process.

Quality goes to point at the worth or value of something. It is non-inferiority or superiority of something. In corroboration with the above expression, Decapede (2024) opined that quality has to do with production of goods and services that conforms to requirement of the customer the first time, in the accurate quantity and at the exact time. In congruence with the above opinion, Ayodele and Mohammad (2020), Uwaezuoke and Morah (2020) declared that quality lends itself to standard, zero defect, without blemish and excellence both in goods and services. It is the ability to set up a standard, maintain and improve on it without deviation from the original standard. Quality education is that type of education that meets up with the societal expectation which in effects accomplished the predetermined objectives. Quality education

is said to be functional in that it serves the purpose for which education is established. Quality education is achievable when there is effective and efficient teaching and learning experience.

Teaching and learning is a process of transmitting relevant knowledge and skills to the learners which could be carried out in a pedagogical space (physical) or non-pedagogical space (online). Teaching and learning is often referred to as teaching/learning experience or teaching/learning encounter. Teaching and learning must contain the following to make for quality output namely: previous knowledge, content and objectives of the lesson which must be evaluated by the end of the lesson. When the teaching and learning objectives are attained by the learners, quality is guaranteed. In support of the above exposition, Sequeira (2012) noted that one of precondition to be good teacher is to identify the teaching and learning process in more depth which facilitates better positive reception of the teaching profession as the process of imparting education.

In the era of artificial intelligence, teaching profession is expected to accelerate in all aspects of it. It is in line with this that Jamal (2024) maintained that the incorporation of Artificial intelligence in education has the prospect to alter the way teachers are taught and to boost superiority of teacher education. To further buttress the essence of AI in the teaching profession through teacher education, Jamal identified the following as the role of AI in teacher education as under listed: Improving teacher educations; Enhancing teachers skills; Personalized learning; Access to high quality educational resources; Identifying

knowledge gaps Identifying learning styles Adaptive learning and Continuous professional development. This is because AI is an essential part of smart ICT based apps meant for digital learning. It can provide for the teachers the right of entry to high quality educational resources that are designed in line with their personal needs. It can also allow teachers to fathom knowledge gaps as well as furnish feedback on areas where they need to improve upon. AI could also assist teachers to sharpen their teaching skills. It can analyze teachers' performance thereby exposing the kind of teacher development to aid erring teachers. Students learning styles could also be determined by the AI to ascertain the best style needed for accelerated teaching/learning outcome.

While giving credence to the above narrative, lucidly pointed out that AI through personalized learning could provide Al-Matari (2024) personalized guidance, support or feedback by shaping learning content to suit students' respective learning styles and/or level of knowledge thus gives room for students' enhanced performance. The scholar further reiterated that AI can perform automated routine tasks for the teachers by helping to do the grading and provision of feedback thus giving the teachers enough opportunity to concentrate on the teaching/learning encounter and other related tasks. AI could help dictate and develop new techniques that could aid effective and efficient teaching and learning outcome.

Statement of the problem

There has been absolute need to continually improving the standard of education in Nigeria as that would demand the improvement in teaching profession to

cushion the effect of achieving educational objectives at the long run. This explains the speed with which education embraced all forms of technological advancement including the emergence of Artificial Intelligence (AI). Since the advent of AI in teaching profession there has been the speculations that teaching profession would be taken over by humanoid machines thus eliminating the use of human teachers in the field of education. This has been a source of worry to the teachers and other stakeholders whose means of livelihood are under threat. This prompted the researcher to go into the field to ascertain the future of teaching profession in the face of Artificial Intelligence.

The purpose of the study
This study is aimed at examining the artificial intelligence and the future of teaching profession: Implications for quality teaching/learning. Specifically, the study is meant to:

1. Ascertain the perception of teachers on the future of teaching profession in the face of AI.

Research Question:
1. What is the perception of teachers on the future of teaching profession in the face of AI ?

Methods
The study adopted descriptive survey research design. The population of the study comprised all the teachers from 19 public secondary schools in Awka South LGA, Anambra State with the teachers numbering 495. Simple random sampling method was used to select 248 teachers from 10 schools which is 50% of the entire population. The researcher designed an instrument titled "Artificial Intelligence, the Future of Teaching Profession for Quality Teaching/Learning" (AIFTPQT/L) which was used for data collection. The instrument was 20-item questionnaire structured four-point weighting scale. There was face and content validation which was diligently carried out by experts in the relevant discipline. Test re-test method was used to ascertain the reliability of the instrument. The result when exposed to Pearson Moment Correlation Coefficient gave rise to 0.73 co-efficient values which was considered adequate for the study. Mean statistics was used to answer the research question. Administration of the instrument was done by the researcher using fill-on-the spot method which allowed 244 copies of questionnaire to be returned out of 248 distributed giving rise to 98% rate of return.

Results

1. The perception of teachers on the future of teaching profession in the face of AI.

Table 1: The perception of teachers on the future of teaching profession in the face of AI.

S/N	Item Statement: state the level of your agreement on the perception of teachers on the future of teaching profession in the face of AI	Strongly Agree	Agree	Disagree	Agree	Mean	Decision
1	AI can address the issue of bad teachers	85	90	48	25	2.94	Agree
2	AI can enhance the capabilities of good teachers	77	84	69	18	2.88	Agree
3	Teachers can exact human connection	68	76	56	48	2.66	Agree
4	AI can exact humanoid connections	49	50	69	80	2.27	Disagree
5	The teacher can mentor the learner	71	69	60	48	2.65	Agree
6	AI can mentor the learner	38	52	80	78	2.20	Disagree
7	Teachers are indispensable	79	88	36	45	2.81	Agree
8	AI is indispensable	83	66	53	46	2.75	Agree
9	AI can respond to students unspoken anxieties	35	40	90	83	2.10	Disagree
10	AI machine only provide the assistance needed to enhance learning	80	75	68	25	2.84	Agree
	Grand mean					2.61	Agree

Table 1 presents the result analysis of the responses of teachers' perception on the future of teaching profession in the face of AI with most of the teachers agreeing that AI can address the issue of bad teachers, enhance the capabilities of good teachers, teachers can exact human connection, mentor the learners, are indispensable and that AI can only provide the assistance needed to enhance learning. These are seen in items with serial numbers 1, 2, 3, 5, 7, 8, & 10 with all the mean scores ranging from 2.65 – 2.88 which is clearly above the criterion mean of 2.5. On the other hand, items with serial numbers 4, 6 & 9 had their mean scores ranging from 2.10 – 2.27 which fall below the criterion mean of 2.5 thus disagreed

AI can exact humanoid connections, can mentor learners and respond to students unspoken anxieties. The grand mean stood at 2.61.

Discussions

In view of the results analysis, it is the findings of the study that artificial intelligence and the future of teaching profession is leverage to quality teaching/learning. This is made manifest by the assistance giving by the AI to grade scores, analyze students' pattern of studies

and even provide feedback thereby providing the teachers adequate opportunities to focus on the other pertinent areas of the teaching and learning experience for meaningful outcomes. This finding is tandem with the discovery of Al-Matari (2024) who cogently pointed out that AI through personalized learning could provide personalized guidance, support or feedback by shaping learning content to suit students' respective learning styles and/or level of knowledge thus gives room for students' enhanced performance.

Conclusion

Based on the findings, it is concluded that teachers' perception on artificial intelligence and the future of teaching profession is an elevation of the quality of teaching and learning process. This is to say that future of teaching profession has gained a milestone in advancement, sequel to this very bright.

Recommendation

Stemming from the findings and conclusion, it is recommended that:

1. Teachers should be encouraged to make good use of this artificial intelligence in their teaching profession so as to harness the benefits there in for better quality teaching and learning delivery.

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