East African Scholars Journal of Psychology and Behavioural Sciences
Abbreviated Key Title:EAS J PsycholBehavSci
ISSN 2663-1865 (Print) | ISSN 2663-6751 (Online)
Published By East African Scholars Publisher, Kenya

Volume-3 | Issue-6 | Nov-Dec-2021 | DOI:10.36349/easjpbs.2021.v03i06.006

OPEN ACCESS

Original Research Article

The Role of Lecturers Innovative Assessment Strategies in Fostering Critical Thinking among Teacher-Trainees: Towards Acquisition of Skills to meet Global Demand

Dr. Amakiri Hager Atisi Eremina[1*]

[1]Department of Educational Psychology, Guidance and Counselling, Ignatius Ajuru University of Education, Rivers State, Nigeria

Article History
Received: 13.11.2021
Accepted: 24.12.2021
Published: 31.12.2021

Journal homepage:
https://www.easpublisher.com

Quick Response Code

Abstract: This study investigated the assessment strategies used by lecturers, the challenges of innovative assessment strategies and the perceived assessment strategies that can foster critical thinking among teacher-trainees. The population of the study consists of 1,430 teacher trainees from three public universities in Rivers State. The study adopted a survey research design with a sample of 180 lecturers who are teacher-educators drawn from the population. The study was guided by three research questions and two null hypotheses. An instrument developed by the researcher titled: "Innovative Assessment Strategies for Critical Thinking Scale" (IASCTS) was used for data collection. The validity of the instrument was established using experts in Measurement and Evaluation from the Ignatius Ajuru University of Education and the University of Port Harcourt, Rivers State, Nigeria. The reliability of the instrument was determined using the Cronbach Alpha technique with coefficients of 0.81, 0.87, and 0.74 obtained for sections B, C, and D respectively. Data analyses were done using mean and standard deviation to answer the research questions, while one-way ANOVA was used to test the corresponding null hypotheses. Notably, results revealed that the most used assessment strategy in teacher education was the final examination at the end of the course, while the least used is field trip. Furthermore, the major factor hindering lecturers' use of innovative assessment strategies to foster critical thinking is the high enrollment of students, while the least factor is inadequate support from fellow lecturers. Based on some of the aforementioned findings, it was recommended that Lecturers should integrate aspects of educational policy analysis as part of the assessment framework used in developing critical thinking among teacher-trainees in Rivers State.

Keywords: Role of lecturers', innovative assessment, critical thinking, teacher-trainees, acquisition of skills.

INTRODUCTION

The need for innovative assessment practices in today's modern society cannot be overstated. Modern society is becoming more demanding and complex and has thus required that educational practices, including assessment, adopt a more sophisticated, aligned, and robust approach to developing students for the future. In this direction, the advice of Biggs (2003) becomes relevant that assessment should be used to support high-level learning, rather than the current focus on knowledge testing and comprehension. Therefore, assessment must evolve from traditional assessment to modern assessment as the educational system addresses the needs for modern learning outcomes such as critical thinking.

There are various types of assessment that have been developed based on different criteria and the purpose for which the assessment is to be used. Generally, assessment is classified based on the time the assessment is conducted which are summative and formative assessments. Summative assessments are often done at the end of an education program and are often done for accountability purposes, such as grading and promotion. On the other hand, formative assessments are often done during the course of the programmes to guide instruction and support individual learning. Summative assessment is also referred to as *assessment of learning*, while formative assessment is referred to as *assessment for learning* (Shute & Zapata-Rivera, 2010).

A more recent classification of assessment is that which classifies assessment into traditional and innovative assessment strategies. Traditional assessment refers to assessment tasks that check

***Corresponding Author:** Dr. Amakiri Hager Atisi Eremina

students' ability to recollect and reproduce the content studied during a course. These are often teacher-made or state-wide standardized tests that are at times applied to all learners under the same conditions (Coombe et al, 2020). Other characteristics of traditional assessment as identified by Brown (2004) include an excessive focus on the final product of assessment, expecting standardized answers, having feedback based on grade computation, and lacking real-world application of the assessment process. On the other hand, innovative assessment strategies which are also called authentic assessment strategies are designed to simulate a complex and real-life situation. They are often designed to ascertain how students would approach, respond and resolve a problem. Often lacking in right or wrong answers, innovative assessment strategies have varying solutions to a specific problem based on how students perceive, interpret and approach a problem (Nobre & Villas-Boas, 2020). Mueller (2009) provided a more simplistic distinction between traditional assessment and innovative assessment as shown in the table below.

Traditional	Innovative
Selecting a response	Performing a Task
Contrived	Real-life
Recall/Recognition	Construction/Application
Teacher-structured	Student-structured
Indirect Evidence	Direct Evidence
Curriculum-driven	Mastery-driven

The distinction and implications between traditional and innovative assessment have continued to generate research concerns, with results showing that innovative assessment has significant advantages over traditional assessment. This is affirmed in recent research by Ajala (2021) who indicated that integration of rubrics in the assessment of teacher-trainees in Rivers State has a significant effect on their performance in a statistics course. Innovative assessments have more valid implications than traditional tests because they require higher-order thinking skills. They are also likely to be more interesting and motivating for students as they involve more real-world tasks. Finally, they are more likely to generate useful, specific, and practical information about what students have learned, what gap in performance remains to be filled, and what needs to be done to fill such gaps (Ponciano & Yan, 2017). Various forms of authentic assessment identified by Mueller (2009) include interviews, short stories, writing samples, group projects, public speaking and debates, experiments, app development, constructed response, recorded observations, and portfolio projects.

The concept of critical thinking has received greater attention in the 21st century. Different educational authorities, including national, state, regional and local governments have recognized critical thinking as one of the skills needed for individuals to function effectively in the 21st century. For example, the Organization for Economic Co-Operation and Development (2008) stated that critical thinking is one of the fundamental skills that students need to learn in the 21st century where there is an apparent information overload. Specifically, in arguing for the relevance of critical thinking among university students, Sunday and Iweke (2021) averred that critical thinking enables students to ask questions, define words operationally, solve problems with novelty, examine issues practically, and avoid hasty generalization. Similarly, Butler (2012) and Halpern (2003) opined that critical thinking is one of the higher-order skills, believed to play a central role in logical thinking, decision making, and problem-solving.

At the policy level, critical thinking as a learning outcome of 21st-century education has received positive acclaim. About a decade ago, the Association of American Colleges and Universities (AAC&U, 2011) reported a survey in which 95% of academic officers in 433 institutions ranked critical thinking as one of the most important intellectual skills for their students. The survey also showed that 81% of employers surveyed out of the 400 employers reported that critical thinking should be included in the skills taught to students in school. Irrespective of this importance and the attention placed on critical thinking, there exists no clear-cut definition of what critical thinking means. Commenting on this, Liu, et al (2014, p. 1) stated that critical thinking continues to be a contentious skill with regular debates on its definition, its amenability to assessment, and the practicality of its impacts on academic achievement, career advancements, and personal life choices. Based on this assertion considerable evidence abounds on what critical thinking means and how best it can be assessed, as well as used for improving educational outcomes, especially at the higher education level.

The concept of critical thinking has been relatively difficult to define. This can be partly attributed to the reality that it has been employed in a variety of disciplines and concerns itself with ethical, pedagogical, and technical implications (Lorencova et al, 2019). Facione (2013) defined critical thinking as a complex cognitive process that is purposeful and involves insightful judgment requiring multiple cognitive aspects to interpret and analyze a situation to arrive at the most suitable conclusion. To Ennis et al (2005), critical thinking is a reflective thinking pattern

that focuses on the rational evaluation of perspectives or alternatives to arrive at an informed and right decision. In consideration of the various definitions provided above, it can be seen that critical thinking involves more than just compiling information or gathering facts, knowledge, or ideas. Rather it involves the rational evaluation of ideas, opinions, or information to deduce consequence from a known premise.

The relevance of critical thinking in 21st-century education, and for 21st-century teachers has been well-documented. According to Zulfiqar (2016), critical thinking provides the foundation for strategic thinking and good judgment which are skills that enable teachers to identify relevant information from the abundant information. Similarly, Lorencova et al (2019) reported that critical thinking is important in teacher education programmes as it can equip teachers and learners to be good thinkers which can further enable them to compete for educational opportunities, jobs, and recognition; and to perform effectively in the workplace, become good citizens, and to attain an optimal state of well-being and the full expression of humanity. Furthermore, since critical thinking is relevant to the generation of new knowledge and innovation in all human fields, teachers who provide the needed education should be adequately trained on effective critical thinking (Anastasiadou & Dimitriadou, 2011). Finally, the promotion of critical thinking is useful for the teaching of the new generation of students who are expected to exhibit a high level of flexibility in an age of massive digital revolution. Thus, teacher education programmes must provide training for pre-service teachers to acquire critical thinking skills regarding the organization, practice, and evaluation of their work at school and to turn their students into good critical thinkers, which is not possible unless the teachers are effective critical thinkers.

Globally, educators and stakeholders are focusing more attention on the role of innovative assessment strategies in stimulating critical thinking among learners. Thus it becomes imperative that the assessment strategies adopted by lecturers in teacher education programmes advance critical thinking among teacher-trainees.

Statement of the Problem

Higher education institutions are specially positioned to provide not only educational and economic skills, but to develop in those who pass through them the ability for self-confidence, self-respect, and self-reliance. Individuals who pass through higher education institutions are expected to possess the ability to generate new knowledge, create innovative solutions as well as promote national development. Sadly, the higher education system of most countries, including Nigeria is tailored towards the acquisition of knowledge and the recall of facts. Teaching and learning are often tailored towards the writing of exams and the issuance of certificates, with little or no application of knowledge gained to everyday life.

The resultant effect of this is that students lack the skills to be critical thinkers with little or no innovative strategies developed to solve real-world problems. In addition, students invest more time in trying to recall segregated knowledge rather than in processing information. While the effect of the problem is evident in students' academic and professional outcomes, it is unfortunate that most lecturers still adopt the traditional assessment paradigm which only tests for lower-order skills. In the short term, students have resorted to unethical practices to achieve a minimum standard of performance. Repeated cases of examination malpractices, with instances of staff and students expulsion, have become a staple in social media as well as mainstream media. In the long term, employers of labour have complained about the shortage of competent manpower, irrespective of the large number of students that are churned out from higher educational institutions.

The situation becomes more glooming when a teacher-education programme is considered. Teacher education programmes are geared towards providing manpower globally. In addition, graduates of teacher programmes are expected to serve as models of critical thinking in the changing educational system. Considering that the development of critical thinking ability is one of the most "universally emphasized goals" of higher education, there is a need to ascertain the assessment strategies used by lecturers in teacher education programmes, as well as establish some innovative assessment strategies that can foster critical thinking among teacher-trainees in Rivers State. This is informed by research findings that critical thinking, as well as its various components, can be learned, developed, and improved through purposefully designed education (Halpem, 1996). It is therefore on this basis that the current research seeks to determine the role of lecturers' innovative assessment strategies in fostering critical thinking skills among teacher trainees towards meeting global demand.

Purpose of the Study

The purpose of this study is to identify the role of lecturers' innovative assessment strategies in fostering critical thinking among teacher-trainees in Rivers State. In specific terms, the objectives of this study are:

1. To investigate the assessment strategies that are predominantly used by lecturers in teacher education programmes in Rivers State.
2. To determine factors hindering lecturers' use of innovative assessment strategies to foster critical thinking among teacher trainees in Rivers State?
3. To ascertain the perceived assessment strategies that lecturers can use to foster critical thinking in teacher education programmes in Rivers State.

Research Questions

The following research questions were developed to guide this study:

1. What are the assessment strategies that are predominantly used by lecturers in teacher education programmes in Rivers State?
2. What are the factors hindering lecturers' use of innovative assessment strategies to foster critical thinking among teacher trainees in Rivers State?
3. What are the perceived assessment strategies that lecturers can use to foster critical thinking in teacher education programmes in Rivers State?

Hypotheses

The following null hypotheses which were tested at 0.05 level of significance were further used to guide the study:

1. There is no significant difference in the mean rating of assessment strategies used by humanities, social science, and science lecturers in teacher education programmes in Rivers State.
2. There is no significant difference in the perceived assessment strategies that humanities, social science, and science lecturers can use to foster critical thinking in teacher education programmes in Rivers State.

METHOD

The survey research design was used for this study. The survey research design was considered the most appropriate because the researcher only sampled the opinion of teacher educators on the innovative assessment strategies that can be used to foster critical thinking among teacher-trainees in Rivers State. Lecturers who were teacher educators were considered the most appropriate for this study because they were more likely to understand the changes taking place in the educational system. Furthermore, they are more likely to understand the difference between traditional and innovative assessment strategies. A sample of 180 teacher-educators was conveniently drawn from three universities in Rivers State. An instrument developed by the researcher titled: "Innovative Assessment Strategies for Critical Thinking Scale" (IASCTS) was used for data collection. The instrument consists of four sections: A, B, C and D. Section A is designed to gather data on the demographic characteristics of respondents, Section B to elicit responses to the assessment strategies used by lecturers, Section C to generate data on the perceived factors that hinder the use of critical thinking assessment and section D to elicit responses on the assessment strategies that foster creativity. Each section of the instrument contained 10 items each and the responses were based on the four-point Likert scale of Strongly Agree (SA), Agreed (A), Disagreed (D), and Strongly Disagreed (SD). The instrument was validated by three experts in Measurement and Evaluation from the Ignatius Ajuru University of Education and the University of Port Harcourt, Rivers State, Nigeria. The reliability of the instrument was determined using the Cronbach Alpha technique with coefficients of 0.81, 0.87, and 0.74 obtained for sections B, C, and D respectively. Data analyses were done using mean and standard deviation to answer the research questions, while one-way ANOVA was used to test the corresponding null hypotheses. A criterion mean of 2.50 was used to determine the decision of acceptance or rejection. The result obtained is summarized below.

RESULTS

Table 1: Mean rating of assessment strategies used by lecturers

S/N	Item	Mean	SD	Decision
1	Regular Assignments	3.16	0.99	Accepted
2	Final Examination at the end of course	3.27	0.98	Accepted
3	Group Assignment	2.82	0.88	Accepted
4	Classwork	2.33	0.93	Rejected
5	Oral presentation	2.62	0.99	Accepted
6	Field trips	1.81	0.99	Rejected
7	Group Practical work	2.54	0.79	Accepted
8	Unscheduled Test	2.09	1.07	Rejected
9	Class discussion among students	2.19	0.82	Rejected
10	Individual Practical works	2.67	0.93	Accepted

The result in Table 1 on the assessment strategies used by lecturers, show that regular assignment (mean = 3.16, SD = 0.99), final examination at the end of the course (mean = 3.27, SD = 0.98), group assignment (mean = 2.82, SD = 0.88), oral presentation (mean = 2.62, SD = 0.99), group practical work (mean = 2.54, SD = 0.79), and individual practical work were accepted assessment strategies used by lecturers in teacher education programmes in Rivers State. On the other hand, strategies such as classwork (mean = 2.33, SD = 0.93), field trips (mean = 1.81, SD = 0.99), unscheduled class test (mean = 2.09, SD = 1.07), and class discussion among students (mean = 2.19, SD = 0.82), were not accepted as assessment strategies used by lecturers in teacher education programmes in Rivers State. From this result, it is deduced that the most used assessment strategy in teacher education was the final examination at the end of the course, while the least used is field trip.

Table 2: Mean rating of the factors hindering lecturers' use of innovative assessment strategies to foster critical thinking among teacher trainees

S/N	Item	Mean	SD	Decision
1	High enrollment of students (large class size)	3.45	0.79	Accepted
2	Excessive workload for lecturers	3.11	0.73	Accepted
3	Inadequate training in innovative assessment techniques	2.83	0.82	Accepted
4	The rigid structure of university administration	2.92	0.93	Accepted
5	Inadequate support from fellow lecturers	2.40	0.69	Rejected
6	Lack of cooperation from students	2.61	0.85	Accepted
7	Rigid assessment schedule by university management	2.75	0.61	Accepted
8	The negative attitude of students towards innovative assessment	2.64	0.72	Accepted
9	Short academic calendar	2.38	0.99	Rejected
10	Incessant strike action by trade unions	2.41	0.79	Rejected

From the result in Table 2 on the mean ratings of the factors hindering lecturers' use of innovative assessment strategies to foster critical thinking, it indicates that high enrollment of students (large class size) (mean = 3.45, SD = 0.79), excessive workload for lecturers (mean = 3.11, SD = 0.73), inadequate training in innovative assessment techniques (mean = 2.83, SD = 0.82) rigid structure of university administration (mean = 2.92, SD = 0.93), lack of cooperation from students (mean = 2.61, SD = 0.85), rigid assessment schedule by university management (mean = 2.75, SD = 0.61), and negative attitude of students towards innovative assessment (mean = 2.64, SD = 0.72) were accepted as factors hindering lecturers' use of innovative assessment strategies to foster critical thinking in teacher education programmes in Rivers State. On the other hand, inadequate support from fellow lecturers (mean = 2.40, SD = 0.69), short academic calendar (mean = 2.38, SD = 0.99), and incessant strike actions by trade unions (mean = 2.41, SD = 0.79) were not accepted as factors hindering lecturers' use of innovative assessment strategies to foster critical thinking. From this result, it is shown that the major factor hindering lecturers' use of innovative assessment strategies to foster critical thinking is the high enrollment of students, while the least factor is inadequate support from fellow lecturers.

Table 3: Mean rating of innovative assessment strategies lecturers can use to foster critical thinking in teacher education

S/N	Item	Mean	SD	Decision
1	Posing questions that require students to make their contributions	3.24	0.81	Accepted
2	Assign students and their peers to solve group problems	3.07	0.62	Accepted
3	Require students to provide an application of learned materials to real-life situations	3.09	0.59	Accepted
4	Allow a group of students to brainstorm on the information before presenting solutions	3.14	0.77	Accepted
5	Assessment should involve argumentative essays where students defend their positions	3.24	0.77	Accepted
6	Administer assignments that require the application of new knowledge	3.15	0.93	Accepted
7	Provide assignments that involve the synthesis of multiple perspectives	3.25	0.73	Accepted
8	Students' should criticise a policy that is related to education	3.29	0.69	Accepted
9	Use of portfolio projects across the semester to grade students	3.05	0.75	Accepted
10	Adoption of rubrics when assessing and grading students.	3.07	0.69	Accepted

Result in Table 3 on the possible assessment strategies lecturers can use to foster critical thinking in teacher education, reveals that among the accepted strategies includes posing questions that requires students to make their contributions (mean = 3.24, SD = 0.81), assign students and their peers to solve group problems (mean = 3.07, SD = 0.62), require students to provide application of learnt materials to real life situation (mean = 3.09, SD = 0.59), allow group of students to brainstorm on an information before presenting solutions (mean = 3.14, SD = 0.77), assessment should involve argumentative essays where students defend their positions (mean = 3.24, SD = 0.77), administer assignments that require application of new knowledge (mean = 3.15, SD = 0.93), provide assignment that involve synthesis of multiple perspectives (mean = 3.25, SD = 0.73), students' should critic a policy that is related to education (mean = 3.29, SD = 0.69), use of portfolio projects across the semester to grade students (mean = 3.05, SD = 0.75), and adoption of rubrics when assessing and grading students (mean = 3.07, SD = 0.69). This result showed that all the assessment strategies were considered useful in fostering critical thinking among teacher-trainees. However, the result further showed that the students' critic of policy related to education is likely the most

effective strategy while the use of portfolio projects across the semester is likely the least effective strategy.

Hypotheses

Table 4: ANOVA of assessment strategies used by lecturers in humanities, social science, and science

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	381.770	2	190.885	0.691	.317
Within Groups	48871.711	177	276.111		
Total	51322.833	179			

Based on the result in Table 4 on the extent of difference in the mean rating of assessment strategies used by humanities, social science, and science lecturers in teacher education programmes in Rivers State, it indicates that F (2, 177) = 0.691, p = 0.317. Since the p-value is greater than 0.05, the chosen alpha guiding the study, therefore, suggests that there is no significant difference in the mean rating of assessment strategies used by humanities, social science, and science lecturers in teacher education programmes in Rivers State. The null hypothesis was therefore retained.

Table 5: ANOVA of the perceived assessment strategies that humanities, social science, and science lecturers can use to foster critical thinking in teacher education programmes

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	491.783	2	245.892	0.759	.429
Within Groups	57321.770	177	323.852		
Total	58903.297	179			

According to the result shown in Table 5 on the extent of difference in the perceived assessment strategies that humanities, social science, and science lecturers can use to foster critical thinking in teacher education programmes in Rivers State, it indicates that F (2, 177) = 0.759, p = 0.429. Since the p-value is greater than 0.05, the chosen alpha guiding the study, it implies that there is no significant difference in the mean rating of humanities, social science, and science lecturers on the perceived assessment strategies they can use to foster critical thinking in teacher education programmes in Rivers State. The null hypothesis was therefore retained.

DISCUSSION OF FINDINGS

From the result in Table 1 on the assessment strategies used by lecturers in teacher education programmes in Rivers State, the most used assessment strategy in teacher education was the final examination at the end of the course, while the least used is field trip. This result is expected and not surprising to this researcher because most of the schools and lecturers are constrained to administer the final exams due to the limited time frame for assessment and submission of students course grades. Furthermore, the result that field trip is the least used assessment strategy might be attributed to the fact that this is expensive and sometimes difficult to execute. The result of the study is consistent with the observations of DeLuca and Volante (2016) who found that in most teacher education programmes in Canada, summative assessment is often used at the end of the programme, with little or no effort made to integrate novel assessment strategies. Similarly, Behrendt and Franklin (2014) observed that most teacher education programmes do not traditionally prepare teachers on how to plan, implement and reflect on the field trips as a form of learning and assessment.

From research question two on the factors hindering lecturers' use of innovative assessment strategies to foster critical thinking among teacher trainees in Rivers State, the result as presented in Table 2 showed that the major factor hindering lecturers' use of innovative assessment strategies to foster critical thinking is the high enrollment of students, while the least factor is inadequate support from fellow lecturers. Other factors also identified include the excessive workload of lecturers, inadequate training on modern innovative assessment strategies, and rigid assessment schedule by university management. These findings are consistent with the result obtained by Lumadi (2013) who showed that statewide or national policy on assessment, short time in the academic calendar, and lack of specific training on assessments were the factors identified.

The final result from this study on the possible innovative strategies that lecturers can use to foster critical thinking in teacher education revealed that among the accepted strategies includes posing questions that require students to make their contributions, require students to provide an application of learned materials to a real-life situation, allow a group of students to brainstorm on the information before presenting solutions, assessment should involve argumentative essays where students defend their positions, administer assignments that require the application of new knowledge, provide assignments that involve synthesis of multiple perspectives, students' should critic a policy that is related to education, use of portfolio projects across the semester to grade students, and adoption of rubrics when assessing and grading students. This result is consistent with the findings of Ajala (2021) who

indicated that integration of rubrics in the assessment of teacher-trainees in Rivers State has a significant effect on their performance in a statistics course.

RECOMMENDATIONS

From the result obtained in this study, the following recommendations were made:

1. There should be improved in-service training for teacher-educators in the development and use of innovative assessment strategies.
2. University administration should encourage and provide lecturers with the opportunity to adapt the structure and method of assessment used in teacher education programmes.
3. There should be a reduction in the number of students admitted into teacher education programmes as this would allow for the implementation of more innovative assessment strategies.
4. Lecturers should be encouraged to adopt assessment strategies that assess higher-order critical thinking among students.
5. Lecturers should integrate aspects of educational policy analysis as part of the assessment framework used in developing critical thinking among teacher-trainees in Rivers State.

REFERENCES

- Ajala, I. (2021). *Effect of rubrics integration in self-and peer-assessment on undergraduate students' attitude, self-efficacy and academic performance in basic statistics*. Unpublished Doctoral Thesis. Ignatius Ajuru University of Education, Port Harcourt.
- Anastasiadou, S., & Dimitriadou, A. (2011). What Does Critical Thinking Mean? A Statistical Data Analysis of pre-Service Teachers' Defining Statements. *International Journal of Humanities and Social Science*, 1(7), 73–83.
- Asola, E. F., & Hodge, S. R. (2021). Traditional and Innovative Assessment Techniques for Students with Physical Disabilities and Other Health Impairments. In F. E. & J. P. Bakken, (Eds) *Traditional and Innovative Assessment Techniques for Students with Disabilities* (*Advances in Special Education, Vol. 36*), Emerald Publishing Limited, Bingley, pp. 181-196
- Association of American Colleges and Universities. (2011). *The LEAP Vision for Learning: Outcomes, Practices, impact, and employers' view*. Washington, DC: Author.
- Awotua-Efebo E. B. (1999). *Effective teaching: Principles and practice*. Port Harcourt: Paragraghics.
- Behrendt, M., & Franklin, T. (2014). A review of research on school field trips and their value in education. *International Journal of Environmental and Science Education, 9,* 235-245.
- Biggs, J. (2003). *Teaching for quality learning at university.* Buckingham: SRHE/Open University Press.
- Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Educational Assessment: Principles, Policy, and Practice*, *5*(1), 7–74
- Butler, H. A. (2012). Halpern Critical Thinking Assessment predicts real-world outcomes of critical thinking. *Applied Cognitive Psychology*, *25*(5), 721–729
- Coombe, C., Vadafar, H., & Mohebbi, H. (2012). Language assessment literacy: what do we need to learn, unlearn, and relearn? *Language testing in Asia*, *10*(3). https://doi.org/10.1186/s40468-020-00101-6
- DeLuca, C., & Volante, L. (2016). Assessment for learning in teacher education programs: Navigating the juxtaposition of theory and praxis. *Journal of the International Society for Teacher Education, 20*(1), 19-31.
- Ennis, R. H., Millman, J., & Tomko, T. N., (2005). *Cornell critical thinking test*. Level X and Z Manual. The Critical Thinking Co.
- Facione, P. A. (2013). Critical thinking: What it is and why it counts. *Insight Assessment,* 1-28.
- Halpern, D. F. (2006). Is intelligence critical thinking? Why we need a new definition of intelligence. In P. C. Kyllonen, R. D. Roberts, & L. Stankov (Eds.), *Extending intelligence: Enhancement and new constructs* (pp. 349–370). New York, NY: Erlbaum
- Liu, O. L., Frankel, L., & Roohr, K. C. (2014). *Assessing critical thinking in higher education: Current state and directions for next-generation assessment*. ETS Research Report Series No RR-14-10.
- Lorencova, H., Jarosova, E., Avgitidou, S., & Dimitriadou, C. (2019). Critical thinking practices in teacher education programmes: a systematic review. *Studies in Higher Education*, *44*(5), 844-859, DOI: 10.1080/03075079.2019.1586331
- Lumadi, M. W. (2013). Challenges besetting teachers in classroom assessment: An exploratory perspective. *Journal of Social Science, 34*(3), 211-221.
- Mueller, J. (2009). *Assessing critical skills*. Linworth Pub.
- Nobre, I. F., & Villas-Boas, V.2020). *Getting into ELT Assessment*. National Geographic
- Organization for Economic Co-Operation and Development (2008). *21st-century skills: How can you prepare students for the new economy?* Partnership for 21st Century Skills.
- Orluwene, G. W., & Sunday, D. (2020). Learning styles and critical thinking among undergraduates of University of Port Harcourt. *Archives of Current Research International*, *20*(1), 56-64. https://doi.org/10.9734/acri/2020/v20i130178

- Ponciano, J., & Yan, K. (2017). Innovative assessment strategies in higher education. *Journal of Institutional Research South East Asia, 15*(2) 5-17.
- Salvia, J., & Ysseldyke J.E. (2004). *Assessment in special and inclusive education*. U.S.A.: Houghton Mifflin.
- Shute, V. J., & Becker, B. J (2010). *Innovative assessment for the 21st century: Supporting educational needs.* New York: Springer
- Shute, V. J., & Zapata-Rivera, D. (2010). Educational measurement and intelligent systems. In E. Baker, P. Peterson, & B. McGaw (Eds.), *Third Edition of the international encyclopedia of education* (pp. 75–80). Oxford, UK: Elsevier Publishers
- Sunday, D., & Iweke, F. O. E. (2021). *Construct validity of critical thinking scale for university students in South-South Geopolitical Zone of Nigeria*. Retrieved from https://www.uniport.edu.ng/publications/pub1/journals/education-journal/construct-validity-of-critical-thinking-scale-for-university-students-in-south-south-geopolitical-zone-of-nigeria.html
- Ukwuijie, R. P. I. (2012). *Educational assessment: A sine qua non for quality education.* 108th Inaugural Lecture Series, University of Port Harcourt
- Zulfiqar, A. (2016). *The importance of teaching critical thinking to students.* Talentlens Retrieved from http://www.talentlens.com.au/blog/teaching-critical-thinking-to-students

Cite This Article: Amakiri Hager Atisi Eremina (2021). The Role of Lecturers Innovative Assessment Strategies in Fostering Critical Thinking among Teacher-Trainees: Towards Acquisition of Skills to meet Global Demand. *EAS J PsycholBehavSci, 3*(6), 127-134.