

Teachers' Assessment Informed Instruction and Students' Academic Performance in Public Senior Secondary Schools in Rivers State

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Abstract. *This study focuses on the relationship between teachers' assessment informed instruction and students' academic performance based on: (i) stating clear learning objectives (ii) teachers' continuous assessment and (iii) teachers' use of instructional assessment methods. The study adopted the correlational research design. The population of the study consists of all the public senior secondary school teachers in Rivers State. A simple random sampling technique was used to draw 180 male teachers and 220 female teachers totaling 400 teachers as the sample size. The instrument for data collection was the modified 4-points Likert scale and validated by experts in assessment, measurement and evaluation. The reliability coefficient of the instrument using Kuder-Richardson (K-R20) was 0.78 (i.e. 78%). Three research questions and three corresponding null hypotheses guided the study. Pearson Product Moment Correlation (PPMC) was used to answer the research questions and tested the null hypotheses at 5% probability level. The results obtained show that teachers assessment informed instruction significantly relate to students' academic performances in schools. Finally, recommendations were made for teachers to use assessment informed instructions in assessing the students learning ability in schools.*

Key words: *Teachers Assessment Methods and Assessment Informed Instruction.*

Introduction

Assessment in educational parlance is seen as an important component of teaching and learning process. Here, assessment simply means a process of collecting information to specifically verify problems as well as making decisions about the students. To Asquo et al., (2005) assessment is regarded as a multifaceted process that involves the several procedures used in collecting information. In the same vein, the author anchored that the explicitness of the measuring process, the objectivity of the procedural and the purpose of what the products are put into use actually determined whether or not an activity is an assessment. In the same spirit, Asuru (2011) and Afemikhe et al., (2016) maintained that assessment constitutes the central focus in teaching and learning in the educational industries. It includes the totality in the processes of collating information for decision-making about the learners, teachers, instructional process, curricular, schools, educational policies at large.

Again, Asuk (2017) defined assessment as the gathering of relevant information to help individuals, groups or teachers to make valid and reliable decisions. Furthermore, the author maintained that assessment is one of the critical components in educational process that helps to improve students' academic performances vis-à-vis the quality of education. To Asuk (2022) assessment is a mechanism whereby the evaluation of students cognitive, affective and psychomotor domains are carried out systematically for decision-making during a given period of schooling.

In the same spirit, the author submitted that assessment in educational parlance is to help examining the gaps in students teaching and learning. Thus, provide appropriate remedial measures to reduce the gaps and improve students learning.

There are three distinct purposes of assessment in education and they are as follows:

Firstly, assessment for learning (formative assessment): This is an approach to assessment that aim at using assessment as an instrument to aid and enhance student learning than only measuring student achievement. It is used to monitor student progress in schools, identify areas of improvement and adjust the instruction to meet student needs.

Secondly, assessment of learning (summative assessment) measures student learning at the end of the instruction, lesson, unit or course. It focuses to evaluate students' achievement and mastering of learning objectives.

Thirdly, assessment as learning (Authentic and reflective assessment) is basically an assessment approach that involves students in the process of assessing their own learning and setting goals for future learning. These will enhance effective teaching and learning.

These three types of assessment are synchronized and can inform one another. Therefore, good and effective assessment practice often put together elements of all types of assessment to provide a detailed comprehensive picture of student learning.

To this end teachers' assessment informed instruction simply means a road map for students success in school and teaching based on what the teachers observed, tested or measured about the students. It is a process of using students performance to aid teaching and learning. It is a clear, concise and transparent guidelines that empower students' cognitive ability to take ownership of their learning. These are informed by students' data that are aligned with specific learning objectives. Informed instructions enable students to take informed decision about their learning, develop a good mindset and strive for excellence always. Based on the foregoing, Shulman (1986) defined assessment informed instruction as that which integrates content knowledge, pedagogical knowledge and knowledge of the learners. This implies that those who understand knowledge growth in teaching performed better in their teaching profession.

In similarly way, Stiggins (2005) carried out a study on the assessment informed instruction in students learning outcomes. The results obtained showed that stating the objectives of instruction enhance students performances. This is because teachers defined what students expected to learn in the teaching and learning are align assignments to these targets.

Again, Darling-Hammond (1997) carried out a study on improving students learning outcomes in schools using assessment informed instructions. The results obtained shows that teachers' assessment informed instruction increases students' academic performance in schools.

Theoretical Review

Theories are formulated to guide, explain, predict and understand phenomena. Basically, theories are used to explain and corroborate relationship among variables. Two theories are used here, namely system theory and constructivist theory. The proponent of system theory was Ludwig Von Bertalanff (1961) who defined system theory as the interconnected parts that emphasizing how these parts interact and influence each other to achieve the overall goals. Applying the theory to this study, it shows that teachers should state the objectives in clear terms as this will enhance assessment informed instruction in the school system.

On the constructivist theory, the theory states that children actively construct their own cognitive world through the processes of assimilation and accommodation (Piaget, 1952). This theory is associated with cognitive development which emphasizes that knowledge is constructed by the learners through active engagement with their environment. In this study, the theory implies that teachers should construct children knowledge based on what they observed and test about the children (students).

Statement of the Problem

The cardinal objective of school assessment is focused on using students performance data to enhance teaching effectiveness and decision taking. Assessment provides valuable feedback on students' school progress, guides institutional decisions and help to identify areas of difficulties. Consequently, the problem of assessment ranges from poor administration of the instruments, poor construction of the instruments, poor usage of students' assessment scores got from tests, quizzes, classroom works, observation etc. Again, many practicing teachers do not assess students based on what they observed, tested or measured about the students (learners) and therefore, these constitute the problem of the study.

Aim and Objectives of the Study

The major aim and objectives of the study was to assess the extent teachers assessment informed instruction relate to students' academic performance in public senior secondary schools in Rivers State. Specifically, the study intends to:

1. Investigate the extent teachers' assessment informed instruction relate to students' academic performance in public senior secondary schools in Rivers state based on stating the clear learning objectives.
2. Examine the extent teachers informed instruction relate to students' academic performance in public senior secondary schools in Rivers State based on teachers' continuous assessment practices.
3. Find out the extent teachers' informed assessment instruction relate to students' academic performance in public senior secondary schools in Rivers State based on instructional assessment facilities.

Significance of the Study

The study would be significant in the following ways:

1. **Significance to the Teachers:** The study will provide teachers with adequate insights into the extent teachers informed instructional practices such as proper lesson planning use of students-centered strategies, continuous assessment and using the observed students need to enhance their academic performance in schools.
2. **Significance to Students:** Students will actually benefit from the improved teaching strategies that cater to students learning styles and their academic needs. Thus, showing the relationship between informed instruction and academic achievement. Again, showing the extent effective teaching enhances students confidence, participation, critical thinking and above all the overall performances that improved students results among others.
3. **Significance to School Administrators:** The study again will assist school principals, head of departments and policy makers in identifying the gaps instructional delivery and providing targeted professional development for teachers. Thus, guiding school leaders in allocating resources and creating supportive environments that foster effective teaching and learning.
4. **Significance to Curriculum Planners and Educational Agencies:** Curriculum planners and educational bodies; examples ministries of education and examination bodies will benefit from the study. Again, the study can guide curriculum review, teaching programme of teachers and policy decisions that will enhance quality of education.
5. **Significance to Researchers:** This study will serve as a reference material for further researchers who are interested for similar study. It will provide to the growing literature on effective teaching practices and providing empirical evidences.
6. **Significance to the Society:** As students perform better academically, society again benefits from a more educated, skilled and productive population. Finally, the support the broader goal of national development through high quality secondary education.

Scope of the Study

This study was conducted in Rivers State at the senior secondary school levels. Specifically, the study attempted to identify the relationship between teachers informed instruction and students' academic performance in public senior secondary schools in Rivers State based on: (i) stating the clear learning objectives (ii) continuous assessment practices (iii) availability of instructional assessment facilities.

Research Questions

The following research questions guided the study:

1. To what extent do teachers assessment informed instruction relate to students' academic performance in public senior secondary schools in Rivers State based on stating the clear learning objectives.
2. To what extent do teachers assessment informed instruction relate to students' academic performance in public senior secondary schools in Rivers State based on continuous assessment practices.
3. To what extent do teachers assessment informed instruction relate to students' academic performance in public senior secondary schools in Rivers State based on availability of assessment instructional facilities.

Hypotheses

The following null hypotheses were formulated to guide the study at 5% probability level.

1. Teachers assessment informed instruction do not significantly relate to students academic performance in public senior secondary schools in Rivers State based on stating the clear learning objectives.
2. Teachers assessment informed instruction do not significantly relate to students' academic performance in public senior secondary schools in Rivers State based on continuous assessment practices.
3. Teachers assessment informed instruction do not significantly relate to students' academic performance in public senior secondary schools in Rivers State based on availability of assessment instructional facilities.

Method

The study was guided by a plan of action as presented below:

The correlational survey research design was adopted for this study. This is because it is non-experimental study and the variables involved in the study have been occurred earlier in the population and so they were only measured and not manipulated in the study. Nworgu (2016) described correlational survey research design aims to show the direction (positive or negative) and the magnitude of the relationships. It measures relationships but does not imply causation.

The population of the study comprises all the teachers in the senior secondary schools in the 23 Local Government Area of Rivers State. In selecting the sample size and sampling technique, the appropriate stratified simple random sampling technique was used to draw 180 male teachers and 220 female teachers from public senior secondary schools respectively using Taro Yamane statistical method. On the instrument for data collection, self-constructed questionnaire titled "Assessment Informed Instruction in Senior Secondary Schools (AISSS) in Rivers State.

In the validation of the instrument, experts in assessment instruments and measurement and evaluation vetted the relevance of the items in achieving the objectives and were considered good for the study. Again, the content coverage of the instrument was validated by experts in instrument design and measurement and evaluation. The experts viewed the instrument in terms of phrasing, content coverage, relevance of the items in achieving the set goals were considered. The items with little corrections were considered fit for the study.

To establish the reliability of the instrument twenty (20) copies of the instruments (AISSS) were administered to senior secondary school teachers outside the scope of the study for two (2) consecutive times. Thus, the correlation of the two (2) administrations using the Rulon statistical method gives a reliability coefficient of 0.86, indicating that the instrument is reliable.

In method of data collection, the AISSS which was developed using the modified 4-points Likert scale were validated by experts and consider the instrument fit for the study. Data collected were analyzed using Pearson Product Moment Correlation to answer the research questions and tested the hypotheses at 5% probability level.

Results

The results are discussed based on research questions answered and hypotheses tested at 5% probability level.

Research Question One: To what extent do teachers assessment informed instruction relate to students' academic performance in public senior secondary schools in Rivers State based on stating clear learning objectives?

Hypothesis One: Teachers assessment informed instruction do not significantly relate to students' academic performance in public senior secondary schools in Rivers State based on stating clear learning objectives.

Table 1: Showing the relationship between teachers' stating clear learning objectives and assessment informed instruction in Rivers State public senior secondary schools

	Teachers Stating Clear Learning Objectives		Students' Academic Performance
Teachers Stating Clear Learning Objectives	Pearson Product Moment Correlation significant 2-tailed N	1 400	0.804 0.001 400
Students Academic Performance	Pearson Product Moment Correlation Significant 2-tailed N	0.804 0.001 400	1 400

Table 1 results showed that there is a high positive relationship between teachers stating clear objectives and students' academic performance in public senior secondary schools in Rivers State ($r = 0.804$) when tested for significant difference, the significant 2-tailed was 0.001 which is lower than the acceptable alpha level of 0.05. Hence, the null hypothesis was rejected while the alternate hypothesis was accepted. This implies that there is a significant relationship between teachers informed instruction and students academic performance based on clearing the learning objectives.

Research Question Two: To what extent do teachers assessment informed instruction relate to students' academic performance in public senior secondary schools in Rivers State based on teachers' continuous assessment practices?

Hypothesis Two: There is no significant relationship between teachers assessment informed instruction and students academic performance in public senior secondary schools in Rivers State based teachers' on continuous assessment practices.

Table 2: Showing the relationship between teachers informed instruction and students' academic performance in public senior secondary schools in Rivers State based on teachers continuous assessment practices.

	Teachers' Continuous Assessment Practices		Students' Academic Performance
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Teachers' Continuous Assessment Practices	Pearson Product Moment Correlation significant 2-tailed N	1 400	0.706 0.001 400
Students Academic Performance	Pearson Product Moment Correlation Significant 2-tailed N	0.706 0.001 400	1 400

In table 2 above, the results showed high positive relationship between teachers informed instruction and students' academic performance based on teachers' continuous assessment practices ($r = 0.706$). When tested for significant difference, the significant 2-tailed was 0.001 which is lower than the acceptable alpha level of 0.05. Hence, the null hypothesis was rejected and alternate hypothesis was accepted. This implies that teachers' assessment informed instruction relates to students' academic performance in senior public secondary schools in Rivers State.

Research Question Three: To what extent do teachers assessment informed instruction relate to students' academic performance in public senior secondary schools in Rivers State based on teachers' instructional assessment facilities.

Hypothesis Three: Teachers' assessment informed instruction do not significantly relate to students academic performance in public senior secondary schools in Rivers State based on teachers' instructional assessment facilities.

Table 3: Showing the relationship between teachers' assessment informed instruction and students' academic performance in public senior secondary schools in Rivers State.

	Teachers' Instructional Assessment Facilities		Students' Academic Performance
Teachers' Instructional Assessment Facilities	Pearson Product Moment Correlation Significant 2-tailed N	1 400	0.816 0.003 400
Students Academic Performance	Pearson Product Moment Correlation significant 2-tailed N	0.816 0.003 400	1 400

The results in table 3 above shows that there is high positive relationship between teachers assessment informed instruction and students' academic performance based on instructional facilities in Rivers State ($r = 0.816$). When tested for significant difference, the significant 2-tailed was 0.003 which is less than the acceptable alpha level of 0.05. Hence, the null hypothesis which states that there is no significant relationship between teachers assessment informed instruction and students' academic performance in senior public secondary schools in Rivers State is rejected and the alternate hypothesis was accepted.

Discussion of Findings

In table 1, the findings presented shows that there is high positive relationship between teachers' assessment informed instruction and students' academic performance in public senior secondary schools in Rivers State ($r = .804$). This implies that teachers' assessment informed instruction significantly relates to students academic performance in senior public schools in Rivers State. The results of this study agreed with the findings of Stiggins (2005) who carried out a study on teachers' assessment instruction and students learning outcomes. The results obtained shows that clear learning objectives positively enhance students' performances in schools. These results agreed with the findings of the study.

Again, the results in table 2 showed that teachers' assessment informed instruction significantly relate to students' academic performance in public senior secondary schools in Rivers State. The results of the present study consolidate that of Darling-Hammond (1997). In his finding, the author opined that teachers assessing students on what they observed and taught help to improve outcomes and increased productivity.

Similarly, in table 3 the findings of the present study revalidate the finding of Goldhaber and Brewer (2000) who found that teachers' experiences on the use of assessment facilities positively correlate with students' academic performance in public senior secondary schools in Rivers State. This implies that teachers' ability to use the assessment instructional facilities aid effective teaching and learning. Thus, improve positive outcomes and enhance efficient productivity in schools.

Conclusion

The results of this study showed significant relationship between teachers assessment informed instruction based on (i) stating clear learning objectives, (ii) teachers' continuous assessment and (iii) teachers' use of instructional assessment facilities relate students academic performance in public senior secondary schools in Rivers State.

Recommendations

Based on the findings of the study, the following recommendations are made for public senior secondary school teachers in Rivers State.

1. Teachers should be trained on assessment informed instructions.
2. Teachers should improvise assessment materials to enable them enhance students' learning and improve their outcomes.
3. Conference and workshops to update teachers' assessment informed instruction should be regularly organized to improve teachers' assessment efficacy.
4. Stating clear learning objectives are paramount in every assessment to make them learners centered.

References

1. Afemikhe, O.A., Yakubu, S.I. & Lguodola, W.A. (2016). Using assessment for teaching and learning: the situation in Nigeria. *A paper presented at the 42 annual conference of international association for educational assessment held at Cape Town, South Africa*, 21-26.
2. Asuk, U.W. (2017). School-based assessment: practice and implementation in Nigeria educational system. *International journal of multi-disciplinary studies*, 10(8), 57-69.
3. Asuk, U.W. (2022). Assessment of principals' leadership styles and teachers' effective productivity. *European journal of academic research*, 10(2), 807-822.
4. Asuquo, P.N., Uwe, E.A. & Asim, A.E. (2005). Ethics and use of assessment results in Nigeria schools: issues, challenges and suggestions to the counsellors. *The 31st annual conference of internal association for educational assessment*, Abuja., September.
5. Asuru, V.A. (2011). Repositioning public examination in Africa, a regional integration option. *International journal of education* 4(3), 43-122.
6. Darling-Hammond, L. (1977). *The right to learn: A blue print for creating schools that work*. Jossey-Base.
7. Goldhaber, D.D. & Brewer, D.J. (2000). Does teacher certificate matter? High school certificate status and students achievement. *Journal of educational evaluation and policy analysis*, 22(2), 129-145.
8. Shulman, L.S. (1986). Those who understand: knowledge growth in teaching. *Journal of educational research*, 15(2), 4-14.
9. Stiggins, R.J. (2005). *Assessment for learning: An essential foundation of productive instruction*. ETS assessment institute.