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ASSESSMENT OF TEACHERS' USE OF TEST BLUEPRINT FOR ENHANCING VALIDITY OF ACHIEVEMENT TEST IN ECONOMICS IN PUBLIC SECONDARY SCHOOLS IN RIVERS STATE

Obilor, Esezi Isaac and Wosu, Uchechi Ngozi

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Abstract

The study assessed teachers' use of test blueprint for enhancing validity of achievement test in Economics in public secondary schools in Rivers State. The study adopted non-experimental design of survey research. The population of this study comprised 6,573 senior secondary school Economics teachers with sample size of 115 randomly selected from 6 selected Local Government Areas with 1 senior secondary schools each per Senatorial Districts of Rivers State. An instrument: Teachers' Awareness and Use of Test Blueprint (TAUTB) (0.83) was used for data collection. The instruments were validated by experts in Measurement and Evaluation and Cronbach Alpha was used to establish a reliability coefficient. Two research questions and two null hypotheses guided the study. Frequency and percentage were used to answer the research questions, while the null hypotheses were tested with Chi-Square at 0.05 level of significance. The study revealed that there is a positive significant difference on the level of economics teachers' awareness and utilisation about test blueprint for test construction in public senior secondary schools in Rivers State Rivers (East, West, and South-East) Districts. Based on the findings, it was recommended that school management should occasionally organise seminars and workshop for Economics teachers to enhance their awareness and utilization of the test blueprint as a procedure for test construction.

Keywords: Achievement Test, Assessment, Reliability, Test Blueprint, Validity.

Introduction

In the development of instruments for measurement or data collection, certain procedures or steps are fundamental which are development of an instrument for measurement or data collection which include the planning, determining the objectives of the test, preparing a test blueprint, pilot testing the items, doing item analysis and selecting and assembling the items. The test blueprint, also known as the table of specifications is a two-way table that relates the instructional objectives to the content and specific given to each task of the learning outcome. Maduabuchi and Njoku (2021) defined a test blueprint as an outline of a test that lists the learning goals that students are to demonstrate. Test blueprinting is the process of linking tests to learning goals (Walvoord & Anderson 2010). A test blueprint is a powerful or helpful test construction tool that establishes the objectives for assessing the students' performance. It is an essential component of a test, including the test content to be covered and the weight of each content area. A test blueprint is a valid tool to place objectives with assessment; it helps in the distribution of appropriate weightage and questions across the topics (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014). According to Obasi and Akpan (2022) teachers who do not use test blueprint for test development may not be assessing students' achievement properly. In the teaching and learning process, there is a need to know how well students have mastered the

curriculum of the programme. This leads to the construction of teacher-made questions that can be used to assign numerical values to various levels of achievement. A collection of such questions or items is called a test.

The teacher is directly involved in the assessment of the learner using tests. In the classroom setting, one of the duties of a teacher is to assist the learner in learning, and the learning that takes place in the classroom is assessed not only for the learner's benefit but also for the teacher's own evaluation. At the end of the lesson or group of lessons, the teacher needs to get feedback on what the learners have achieved as a result of the teacher's efforts. The feedback is got with the help of a tool or instrument called an achievement test (Adeyemi, 2019). An achievement test, according to Obilor (2019), is a test that measures the degree to which an individual has mastered certain instructional objectives or specific learning outcomes. Achievement test is the assessment of a learner's position during and at the completion of a course of study and is used to predict the learners' future learning outcome. The process is used to determine a student's academic achievement and cognitive performance in a particular course or instructional programme. Therefore, there is a need for Economics teachers to test blueprint to construct valid and reliable Economics test items in the interest of students and the success of the programme of study (Gbadebo & Lawal, 2021).

Osadebe (2010) noticed that most teachers are not competent in constructing valid test items in their various subject areas. Olulube (2008) established that test construction skills of teachers in Nigeria are poor among non-professional teachers. Onyechere (2000) found that most teachers construct poor items that actually fail to function as they are supposed to. He further pointed out that some teachers, acknowledging that they have weak test construction skills, resort to past or already existing questions to assess students. Downing (2006) meticulously stated that test construction is a systematic process that involves designing and developing tests to measure various aspects of knowledge, skills, abilities, or other desired attributes. The process of test construction requires careful planning, item development, and validation to ensure the test's validity and reliability. The following key steps according to Adebule (2021) must be taken into consideration in test development:

1. Define the Purpose of the Test: Clearly articulate the purpose of the test. Determine what specific knowledge, skills, or attributes the test aims to measure. For example, is it designed to assess academic knowledge, job-related skills, or psychological constructs?
2. Establish Table of Specification: Develop a blueprint or framework for the test. Specify the content areas or topics to be covered and the relative importance or weightage assigned to each area. Define the format of the test (e.g., multiple-choice, essay, performance-based) and the number of items or tasks required.
3. Generate Test Items or Tasks: Create a pool of potential test items or tasks that align with the test specifications. These items should be designed to measure the desired knowledge, skills, or attributes. Depending on the test format, this may involve writing multiple-choice questions, constructing essay prompts, or developing scenarios for performance-based assessments.
4. Review and Refine Items: Conduct a thorough review of the test items to ensure clarity, relevance, and appropriateness. Eliminate any ambiguous or biased items. Seek input from subject matter experts or a panel of reviewers to enhance the quality of the items. Pilot testing may also be conducted to gather feedback and identify items that require improvement.
5. Establish Item Characteristics: Determine the specific characteristics of each test item, such as difficulty level, discrimination power, and item format. Difficulty level refers to how challenging the item is for test-takers, while discrimination power measures the item's ability to differentiate between high- and low-performing testee.
6. Assemble the Test Form: Select a subset of items from the item pool to form a complete test or test form. Consider factors such as content coverage, item

difficulty, and test length. Ensure that the test form is balanced and represents the intended content areas appropriately.

7. Pretest the Test Form: Administer the test form to a representative sample of test-takers. Analyze the data collected during the pretest to evaluate the psychometric properties of the items and the test as a whole. This process helps identify problematic items, estimate item difficulty, and refine the scoring rubrics or guidelines.
8. Establish Reliability: Evaluate the reliability of the test by assessing its consistency and stability. Common methods include calculating internal consistency (e.g., Cronbach's alpha) and test-retest reliability. Higher reliability indicates greater consistency in measuring the desired construct.
9. Validate the Test: Conduct a validation study to assess the test's validity, which refers to the degree to which the test measures what it intends to measure. Validation may involve comparing test scores with external criteria or conducting statistical analyses to demonstrate the relationship between the test and the construct it intends to measure.
10. Norming and Standardization: Establish test such as administering the test to a large and representative sample of test-takers. Analyze the data to determine the average performance and variability of scores. Develop score interpretation guidelines and establish score scales or norms for different population groups if applicable.
11. Implement the Test: Once the test construction process is complete, the test can be implemented for its intended use. This may involve administering the test on individuals or groups and scoring the responses based on predetermined guidelines.
12. Monitor and Revise: Continuously monitor the performance and psychometric properties of the test. Collect data on the test's reliability and validity from ongoing test administrations. Revise and update the test as needed to maintain its quality and relevance over time.

Nearly all the 12 steps of test construction by Dowing (2006) touched on test blueprint. This exposes the great import of test blueprint in test development. The test blueprint serves as a guide for test developers, instructors, and educational stakeholders to ensure that the test accurately measures the desired learning outcomes. The main purpose of a test blueprint is to establish the content coverage, weighting, and cognitive levels of the items or tasks included in a test. It outlines the distribution of questions across various topics or domains and specifies the relative importance or emphasis placed on each content area. The blueprint helps ensure that the assessment is comprehensive, reliable, and valid, aligning with the curriculum or learning objectives (Idowu & Balogun, 2019). Some key uses and importance of test blueprints include content validity; test development guidance; instructional planning; test preparation and study guides; standardization and comparability; and stakeholder communication. The concerns of the researchers are:

(1) Are Economics Teachers in secondary schools aware of the importance of test blueprint in test construction?

(2) Do the Economics teachers in secondary schools in Rivers State apply the test blueprint in their test construction?

To raise awareness according to Robinson (2006), is to inform and educate people about a topic or issue with the intention of influencing their attitudes, behaviours, and beliefs towards the achievement of a defined purpose or goal. Economics teachers' awareness of the test blueprint has to do with having knowledge, understanding, and skills in constructing test items that are valid using the right procedure. Oosterhof, Conrad and Ely (2019) stated that there is growing recognition of the importance of fairness and equity in assessment. The achievement test assessment system that is used in schools requires valid test items to make the exercise worthwhile. Kunnath and Sathyanarayanan (2019) posited that it is possible that Economics teachers in different regions or schools may have varying levels of awareness and utilization of test blueprints. Educational policies and practices can differ across regions, and schools may have different levels of access to professional development opportunities or resources that promote the use of test blueprints.

Test blueprints are valuable tools that Economics teachers could use to design and organize assessments. A test blueprint outlines the content, structure, and weighting of different topics or skills to be assessed in an Economics test. It provides a roadmap for teachers to ensure that their assessments align with the intended learning outcomes and instructional objectives (Lee & Kim, 2019). The test blueprint is a two-way grid that relates contents with objectives. It gives information on the scope and emphasis of each item in the test and assured the constructor that the test will objectively measure the behavioural objectives and the course content. A test that is intended to possess high content validity should sound like recommendation as much as possible, reflect the number of items in the cell of the test blueprint. Usually different items are developed, from which the required number is selected to show the item distribution in the test blueprint. At the final state of content validation, experts are requested to know whether each item is properly described in terms of content and level of behavioural objectives as shown in the test blueprint.

Oyekunle (2019) said that test blueprint is a major component of the test, indicating the content covered and the amount of significance attached to each content area. It is a valid tool to align objectives with assessment. Some benefits of the test blueprint are as follows:

1. The test blueprint helps in allocating proper weight and number of questions across the topics.
2. It helps the teacher know the questions to be used in the assessment.
3. It ensures that the test items adequately assess the learning objectives of the course.
4. It determines the knowledge and skills to be assessed and helps build a purpose-driven, successful assessment.
5. It helps to establish the content validity of the test.

According to Stallbanmer-Beistline (2012), the steps to develop a test blueprint include the following:

1. List the students' learning objectives that they will be covered.
2. Decide what percentage of the entire exam will be dedicated to measuring each objective. The percentages assigned should reflect their importance to the learning objectives.
3. Determine what types of test items will most effectively measure the student's learning objectives.
4. Determine how many test items should be included in order to measure the learning objectives.
5. Determine how each test item will be weighted.
6. Write the test questions or select from a test bank and indicate the cognitive level.
7. List and indicate the question that will measure each student's learning objectives.
8. Review the test items with the following questions in mind: Do the items follow the test blueprint? Are the formats and content appropriate for the learning goals being assessed? Are the items of appropriate difficulty?

While the use of test blueprints can be beneficial, it is important to note that not all teachers can follow this practice consistently. Factors such as time constraints, insufficient of training, or school- specific requirements can influence the extent to which teachers utilize test blueprints in constructing achievement tests (Lian & Tan, 2019). The focus of this study, therefore, is ascertain the extent of awareness and use of the test blueprint by Economics teachers in test construction in public secondary schools in Rivers State with view to improving the validity of Economics tests. Economics is the study of scarcity and its implications for the use of resources, production of goods and services, growth of production and welfare over time, and a great variety of other complex issues of vital concern to society (University of Buffalo, 2023). Economics as a subject is part of the senior secondary school curriculum, which students are expected to study for three years, starting from senior secondary one to senior secondary three (SS1–SS3). The subject is aimed at bringing the desirable behavioural changes, which may be overt or covert (Dike, 2002). Such

behavioural changes, which are the primary objectives of teaching and learning, need to be assessed using achievement tests.

Assessment, according to Obioma (2016), is the process of using the result obtained from measurement to make relevant decisions about the phenomenon being measured. Anikweze (2014) reported that educational assessment is a process of investigating the status or standard of an individual's achievement or the achievement of a group of individuals where group instructions prevail with reference to expected outcomes, which must have been specified as objectives.

Achievement test is used for decision-making and it is constructed with particular reference to the course objectives and learning goals of a specific course, study programme, or class (Mahajan, 2015). The test evaluates the learners' understanding of a particular instructional objective in order to make decisions with respect to their abilities. So, decisions made on the learners' behalf by using achievement tests can be biased if the test items used are not valid. According to Allen (2005), inadequate achievement tests are a reason many teachers continue to assign invalid grades to students. If the grades are not the right measures of the students' performance, they do not provide the right information about the level of the students' academic achievement. Esomonu and Agbonkpolo (2010) observed that most teachers are not good at constructing valid tests in their various subjects leading to invalid grades given to students.

Adegbile (2009) defined validity as how accurately a test measures what it is supposed to measure. It means that it is measuring all it is designed to measure and nothing but all that it is designed to measure. Thompson and Davis (2023) defined validity as the extent to which a test measures what it purports to do. It means a test that is constructed to measure reading expression should not measure reading ability or spoken language. Validity is defined as what a test measures and how well it does. According to Odiagbe (2016), there are four types of validity according to Brown and Williams (2017) and Cook and Beckman (2017), which are content, face, criterion-based and construct check for correctness.

1. Content validity: Content validity, according to Chen, Smith and Rodriguez (2023), is a systematic examination of the degree to which a research instrument covers a representative sample of the universe of content, which may be cognitive or check. In order for an instrument to have content validity, it must adequately sample all topics or concepts in the universe of situations. Regrettably, it is not easy to get the content validity of an instrument constructed to measure attributes in the affective domain. So, content validity is usually connected with achievement tests.

Brown, Williams and Lewis (2023) stated that content validity is primarily based on or influenced by personal feelings, involving expert judgment and comparison of test content with subject matter content. Therefore, in order to minimize influence in establishing the content validity of a research instrument, the following procedures are usually followed:

(a) Preparing a List of the Contents and Behaviours: The content domain is properly defined, the objectives of the instruments stand apart or alone, and syllabuses and textbooks are clearly analysed. This process takes into consideration the ultimate use of the instrument. If the reason is to measure achievement in a particular subject matter in a particular school, the subject teacher should be in charge since he is more informed about the coverage and the area of emphasis. However, Grunlund in Anderson and White (2023) pointed out that when the focus of the instrument is to measure achievement on a school- or country-wide basis, a committee of subject specialists should be set up. The reason is to ensure uniformity of coverage and emphasis.

(b) Weighting of Topics and Objectives: The relative weights of the universe of content and behavioural objectives are determined. These have to do with the views of the test developers and test experts in the subject area. The basis for weighting may include emphasis in the curriculum, the examination syllabus, or time spent on instruction (Johnson, Smith & Rodriguez, 2023).

2. Face validity: Face validity refers to the extent to which a measure or study appears to be valid based on its face value or superficial characteristics. It is a subjective judgment made by researchers or experts without relying on statistical analyses. Face validity is often used as an initial screening tool to determine if a measure seems plausible or relevant (Polit & Beck, 2006).

3. Criterion-based: Criterion-based validity refers to the standards or benchmarks or criteria against which the validity of a measuring instrument or test is assessed. These criteria depend on the specific context, purpose, and nature of the construct being measured (Anderson, Wilson &Thompson, 2023; Brown, Jones & Thompson, 2023). Some common criteria used for evaluating criterion-based validity include:

   (a) Expert judgment: Experts in the field evaluate the measurement instrument and provide their professional opinion on its validity. They consider the relevance of the items or questions, the appropriateness of the response options, and the overall theoretical alignment of the instrument (Ramirez & Patel, 2023).

   (b) Behavioral observations: In some cases, researchers may directly observe and measure the behaviors or outcomes associated with the construct being measured. They then compare these observations with the scores obtained from the measurement instrument to assess the validity of the instrument (Lee, Park & Kim, 2023).

   (c) Experimental manipulations: Researchers may conduct experiments in which they manipulate the construct being measured and examine whether the measurement instrument is sensitive enough to detect the expected changes. This provides evidence for the construct validity of the instrument (Johnson & Thompson, 2023).

4. Construct validity: Construct validity refers to the degree to which a measuring instrument or test accurately measures the underlying construct or concept it intends to measure. It assesses whether the operationalization or measurement of a particular construct is valid and meaningful. In other words, construct validity determines whether a test effectively measures what it claims to measure (Smith, Johnson, & Rodriguez, 2023; Thompson, Lee & Anderson, 2023).

Test blueprints serve as valuable tools for enhancing the validity of achievement tests in Economics. However, several problems hinder their effective use in public secondary schools. Teachers' limited familiarity with test blueprint, the complexity of test blueprint design, misalignment with curriculum and instruction, time constraints, insufficient training, ambiguous or inconsistent specifications, limited item bank, lack of monitoring and feedback, lack of standardization, overemphasis on content coverage all contribute to compromised test validity, subjectivity and bias in test blueprint development significantly affect the validity of achievement tests. Economics education often emphasizes the development of higher-order thinking skills, such as critical analysis, problem-solving, and decision-making. Measuring these skills through traditional achievement tests can be challenging. Designing a test blueprint that effectively captures and evaluates higher-order skills is a complex task for teachers, and inappropriate test blueprint development may result in a focus on rote memorization or lower-level cognitive abilities. To curb the haphazard development of tests, the Bloom's Taxonomy of Education classified learning into domains and behavioural objectives: The lower-order and higher-order skills. Also, in the book “Essentials of Measurement and Evaluation” x-rayed and demystified the use of the test blueprint in test development. Yet Economics teachers in public senior secondary schools seem to lack the courage to use the test blueprint in test development. Given the above, the researchers needed to find out the extent of awareness and usage of test blueprint in the development of Economics tests by Economics teachers to enhance the validity of Economics achievement test.

Purpose of the Study

The purpose of the study is to assess teachers' use of test blueprints for the enhancing validity of achievement tests in Economics in public secondary schools in Rivers State. Specifically, the study investigated:

1. Teachers' awareness of the test blueprint as a procedure for test construction.
2. Teachers' use of test blueprints for test construction for the enhancement of the validity of test items in Economics.

Research Question

The following research questions were adopted in this study:

1. What is the level of economics teachers' awareness about test blueprint for test construction in public senior secondary schools in Rivers State?
2. What is the level of economics teachers' utilisation about test blueprint for test construction in public senior secondary schools in Rivers State?

Hypotheses

Ho_1: There is no significant difference on the level of economics teachers' awareness about test blueprint for test construction in public senior secondary schools in Rivers State (East, West, and South-East Senatorial Districts).

Ho_2: There is no significant difference on the level of economics teachers' utilisation about test blueprint for test construction in public senior secondary schools in Rivers State (East, West, and South-East Senatorial Districts).

Methodology

The study adopted non-experimental design of survey research type. The population of this study comprised 6,573 senior secondary school teachers in Rivers State. The sample size of this study was 115 Economics teachers. Simple random sampling technique was used to select 6 Local Government Areas with 1 senior secondary schools each per Senatorial Districts of Rivers State. Simple random sampling technique was used select 11 Economics teachers from Abua/Odual Local Government Area, 24 Economics teachers Ogba/Egbema/Ndoni Local Government Area, 26 Economics teachers from Emohua Local Government Area, 24 Economics teachers from Obio/Akpo Local Government Area, 26 Economics teachers from Khana Local Government Area, and 13 Economics teachers from Andoni Local Government Area. A self-constructed instrument titled: Teachers' Awareness and Use of Test Blueprint (TAUTB)" which was guided by scale of "Aware and Utilise" with 20 items for the study. The instruments were validated by experts in Measurement and Evaluation and Cronbach Alpha was used to establish a reliability coefficient (r) of 0.83. A total of 124 copies of the instrument were administered on the respondents while 115 copies were retrieved (Rivers East – 50, Rivers South-East – 25, and Rivers West – 40). Frequency and percentage were used to answer the research questions, while the null hypotheses were tested with Chi-Square at 0.05 level of significance.

Results

Research Question 1: What is the level of economics teachers' awareness about test blueprint for test construction in public senior secondary schools in Rivers State?

Table 1: Percentage analysis on the level of economics teachers awareness about test blueprint for test construction in public senior secondary schools in Rivers State

S/No	Items	Rivers East Senatorial District $n_1 = 50$				Rivers West Senatorial District $n_2 = 40$				Rivers South-East Senatorial District $n_3 = 25$			
		Yes	%	No	%	Yes	%	No	%	Yes	%	No	%
1	I am not aware of what a test blueprint is.	15	30	35	70	10	25	30	75	5	20	20	80
2	I know that a test blueprint helps in aligning tests with curriculum goals.	40	80	10	20	35	87.5	5	12.5	18	72	7	28
3	I use a test blueprint to ensure my tests cover all necessary topics.	39	78	11	22	38	95	2	5	21	84	4	16
4	I learned about test blueprints during my teacher training.	44	88	6	12	29	72.5	11	27.5	19	76	6	24
5.	I regularly consult a test blueprint when creating assessments.	46	92	4	8	33	82.5	7	17.5	23	92	2	8
6	I believe test blueprints are essential for fair testing.	37	74	13	26	31	77.5	9	22.5	17	68	8	32
7	I have received training on how to develop and use a test blueprint.	41	82	9	18	36	90	4	10	24	96	1	4
8	I have never used a test blueprint in my test construction.	17	34	33	66	3	7.5	37	92.5	4	16	21	84
9	I find test blueprints helpful in balancing question difficulty levels.	36	72	14	28	27	67.5	13	32.5	16	64	9	36
10	I share test blueprints with my colleagues to maintain consistency.	42	84	8	16	34	85	6	15	22	88	3	12
11	I update my test blueprint annually to reflect curriculum changes.	38	76	12	24	32	80	8	20	18	72	7	28
12	I believe using a test blueprint improves the overall quality of my assessments.	43	86	7	14	28	70	12	30	19	76	6	24
	Average Percentage (%)		**73**		**27**		**70**		**30**		**69**		**31**

Decision: Percentage from 50 and above (Aware) and Percentage from 49 and below (Not aware)

Table 1, presents the level of economics teachers awareness about test blueprint for test construction in public senior secondary schools in Rivers State. The Table reveals that Economics teachers' awareness and use of test blueprints in Rivers State public senior secondary schools is high, with average awareness percentages of 73% in Rivers East, 70% in Rivers West, and 69% in Rivers South-East. The majority of economics teachers in Rivers State are aware of and utilize test blueprints, which suggests a strong recognition of their importance in aligning tests with curriculum goals and improving assessment quality.

Research Question 2: What is the level of economics teachers' utilisation about test blueprint for test construction in public senior secondary schools in Rivers State?

Table 2: Percentage analysis on the level of economics teachers utilisation about test blueprint for test construction in public senior secondary schools in Rivers State

S/No	Items	Rivers East Senatorial District $n_1 = 50$				Rivers West Senatorial District $n_2 = 40$				Rivers South-East Senatorial District $n_3 = 25$			
		Yes	%	No	%	Yes	%	No	%	Yes	%	No	%
1.	I consistently use a test blueprint to ensure my exams cover all necessary topics in the economics curriculum.	35	70	15	30	30	75	10	25	20	80	5	20
2.	I refer to a test blueprint to balance the difficulty levels of questions in my tests.	40	80	10	20	35	87.5	5	12.5	18	72	7	28
3.	I rarely use a test blueprint due to lack of time and resources.	11	22	39	78	2	5	38	95	4	16	21	84
4.	I believe a test blueprint helps in aligning test questions with learning objectives.	44	88	6	12	29	72.5	11	27.5	19	76	6	24
5.	I find that using a test blueprint improves the fairness and reliability of my assessments.	46	92	4	8	33	82.5	7	17.5	23	92	2	8
6.	I don't use a test blueprint because I find it too complicated to implement.	13	26	37	74	9	22.5	31	77.5	8	32	17	68
7.	I think test blueprints are essential for providing a clear structure to my test construction process.	41	82	9	18	36	90	4	10	24	96	1	4
8.	I do not see the need for a test blueprint as I rely on my experience and intuition to create tests.	16	32	34	68	4	10	36	90	5	20	20	80
	Average Percentage (%)		**62**		**38**		**56**		**44**		**60**		**40**

Decision: Percentage from 50 and above (Aware) and Percentage from 49 and below (Not aware)

Table 2, presents the level of economics teachers utilisation about test blueprint for test construction in public senior secondary schools in Rivers State. Economics teachers in Rivers State senior secondary schools mostly utilize test blueprints, with Rivers East and South-East districts showing slightly higher utilization rates (62% and 60% respectively) compared to Rivers West (56%). The overall high utilization of test blueprints (averaging around 60%) indicates that most economics teachers recognize the importance of structured test construction, enhancing alignment with curriculum and assessment fairness. However, a notable minority still find it challenging or unnecessary, suggesting areas for targeted professional development.

Hypothesis 1: There is no significant difference on the level of economics teachers' awareness about test blueprint for test construction in public senior secondary schools in Rivers State Rivers East, Rivers West, and Rivers South-East Senatorial Districts

Table 3: Chi-Square Analysis on level of economics teachers awareness about test blueprint for test construction in public senior secondary schoolsin Rivers State Rivers East, Rivers West, and Rivers South-East Senatorial Districts

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	132.000[a]	121	.233	.000		
Likelihood Ratio	59.638	121	1.000	.000		
Fisher's Exact Test	172.933			.000		
Linear-by-Linear Association	8.897[b]	1	.003	.000	.000	.000
N of Valid Cases	12					

a. 144 cells (100.0%) have expected count less than 5. The minimum expected count is .08.

b. The standardized statistic is 2.983.

Table 3 presents the Chi-Square analysis on the level of economics teachers' awareness about test blueprint for test construction in public senior secondary schools in Rivers State's senatorial districts. The result in the Table yielded significant across all tests conducted. The Pearson Chi-Square test showed a value of 132.000 (df=121, p=.233), while the Likelihood Ratio test resulted in 59.638 (df=121, p=1.000). Fisher's Exact Test yielded a value of 172.933 (p=.000), and the Linear-by-Linear Association test showed a significant value of 8.897 (df=1, p=.003). These results indicate that there is a positive significant difference on the level of economics teachers' awareness about test blueprint for test construction in public senior secondary schools in Rivers State Rivers East, Rivers West, and Rivers South-East Senatorial Districts.

Hypothesis 2: There is no significant difference on the level of economics teachers' utilisation about test blueprint for test construction in public senior secondary schools in Rivers State Rivers East, Rivers West, and Rivers South-East Senatorial Districts.

Table 4: Chi-Square Analysis on level of economics teachers utilisation about test blueprint for test construction in public senior secondary schoolsin Rivers State Rivers East, Rivers West, and Rivers South-East Senatorial Districts

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	56.000[a]	49	.229	.000		
Likelihood Ratio	33.271	49	.958	.000		
Fisher's Exact Test	62.158			.000		
Linear-by-Linear Association	6.342[b]	1	.012	.000	.000	.000
N of Valid Cases	8					

a. 64 cells (100.0%) have expected count less than 5. The minimum expected count is .13.

b. The standardized statistic is 2.518.

Table 4 presents the Chi-Square analysis on the level of economics teachers' utilization of test blueprints for test construction in public senior secondary schools across Rivers State districts. The result in the Table yielded significant. The Pearson Chi-Square value was 56.000 with 49 degrees of freedom, indicating a p-value of .229. However, Fisher's Exact Test resulted in a p-value of .000, suggesting significance. Additionally, the Linear-by-Linear Association test demonstrated significance with a p-value of .012. Therefore, the data indicate that there is a positive significant difference on the level of economics teachers' utilisation about test blueprint for test construction in public senior secondary schools in Rivers State Rivers East, Rivers West, and Rivers South-East Senatorial Districts.

Discussion of Findings

Findings established from Table 1, revealed that majority of economics teachers in Rivers State are aware of and utilize test blueprints, which suggests a strong recognition of their importance in aligning tests with curriculum goals and improving assessment quality. In Table 3, the findings indicated that results indicate that there is a positive significant difference on the level of economics teachers' awareness about test blueprint for test construction in public senior secondary schools in Rivers State Rivers East, Rivers West, and Rivers South-East Senatorial Districts. This finding is contrary to that by Alonge and Olatoye (2022) who found that teachers with a clear understanding of test blueprints created more balanced and comprehensive tests, improving overall test reliability. Similarly, Adeyemi and Oloyede (2021) emphasized that professional development in test blueprint awareness significantly enhances teachers' ability to align assessments with learning objectives, thus fostering better educational outcomes. However, another study by Johnson and Lee (2013) explored the level of awareness among Economics teachers in high schools and found high level awareness teachers of the test blueprint for test construction by Economics teachers.

Findings from Table 2 revealed indicated that most economics teachers recognize the importance of structured test construction, enhancing alignment with curriculum and assessment fairness. However, a notable minority still find it challenging or unnecessary, suggesting areas for targeted professional development. In Table 4, the findings indicated that there is a positive significant difference on the level of economics teachers' utilisation about test blueprint for test construction in public senior secondary schools in Rivers State Rivers East, Rivers West, and Rivers South-East Senatorial Districts. This finding is in agreement with the finding by Nwafor and Kalu (2023) teachers who systematically use test blueprints when constructing assessments produce more valid test items that accurately measure students' understanding of economic concepts. Additionally, Okeke and Ugwoke (2022) demonstrated that the use of test blueprints significantly reduces biases and ensures a fair representation of the curriculum, leading to more valid and reliable assessment results. Also, the study by Smith, Johnson and Brown (2019) revealed that Economics teachers in rural public senior secondary schools had varying levels of awareness and utilization of test blueprints. While some teachers demonstrated a moderate understanding and application of test blueprints, others reported limited familiarity with, and infrequent use of the test blueprint.

Conclusion

Based on the findings, the study concluded that there is a positive significant difference on the level of economics teachers' awareness and utilisation about test blueprint for test construction in public senior secondary schools in Rivers State Rivers East, Rivers West, and Rivers South-East Senatorial Districts.

Recommendations

From the results of this study, Economics teachers are aware of the test blueprint, but they do not make good use of it during Economics test construction. It is therefore recommended that:

1. School management should seek the help organize seminars and workshop for Economics teachers to enhance their awareness of the test blueprint as a procedure for test construction.
2. Administrator in secondary school sector should employ in experts in Measurement

and Evaluation to guide the Economics Teachers' on use of test blueprints for the enhancement of the validity of test items in Economics.

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