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Validity and Reliability of the Affective Test Battery in Educational Assessments in Public Secondary Schools in Delta South Senatorial District

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Abstract

This study examined the validity and reliability of the Affective Test Battery in educational assessments in public secondary schools in Delta South Senatorial District. The purpose was to determine whether the test battery accurately measures students' affective learning outcomes and maintains internal consistency. The study adopted an instrumentation research design, focusing on the development and validation of the Affective Test Battery. The population consisted of all junior secondary school students in Delta South Senatorial District, totaling 39,356 students across 102 schools. A sample of 394 Junior Secondary School 2 (JSS2) students was selected using a proportionate stratified sampling technique, ensuring representation across the eight local government areas. The Affective Test Battery was developed comprised three sub-scales: Attitude Towards Education Rating Scale, Academic Self-Efficacy Rating Scale, and Assessment Anxiety Rating Scale. A four-point Likert scale was used for measurement.

To assess validity, factor analysis using Principal Component Analysis (PCA) was conducted, while Cronbach's alpha coefficient was used to determine reliability. Findings revealed that the Affective Test Battery demonstrated high content and construct validity, with a cumulative content validity measure of 74.34%. Additionally, the reliability analysis produced a Cronbach's alpha coefficient of 0.88, indicating strong internal consistency. These results suggest that the test battery is a reliable and valid tool for assessing students' affective learning outcomes in secondary schools. Based on these findings, the study concludes that the Affective Test Battery is suitable for evaluating students' affective characteristics in educational assessments. It is recommended that educators and policymakers integrate this instrument into school assessments to enhance comprehensive student evaluation in public secondary schools.

Keywords: Validity, Reliability, Affective Test Battery, Educational Assessments, Public Secondary Schools

Introduction

Educational assessments play a crucial role in evaluating students' learning outcomes, guiding instructional strategies, and informing policy decisions. While cognitive assessments have traditionally been the focus of educational evaluation, affective assessments—measuring students' attitudes, interests, values, and emotions—are increasingly recognized as essential for a holistic understanding of learning. The affective domain, as conceptualized by Bloom's taxonomy, encompasses critical aspects of students' socio-emotional development, motivation, and engagement, which significantly influence academic achievement. In public secondary schools in Delta South Senatorial District, educators utilize various tools to measure students' affective characteristics. One of the tool that has being in use over the years is Affective Test Battery.

An affective test battery is a collection of standardized tools used to assess students' attitudes, motivation, self-perception, and emotional responses toward learning and the school environment (McCoach *et al.*, 2013)^[4]. These assessments may include Likert-scale surveys, self-report questionnaires, and observational checklists designed to measure non-cognitive skills and emotional dispositions in educational settings.

The affective test battery serves as a critical tool in assessing these non-cognitive aspects of education, providing valuable insights for educators, school administrators, and policymakers. The affective test battery contributes to a more comprehensive assessment of students by measuring their emotional and social development alongside academic performance (McCoach *et*

al., 2013) [4]. Since education extends beyond cognitive skills, assessing students' values, attitudes, and motivations helps educators understand factors that influence learning engagement, classroom behavior, and long-term success.

Students' attitudes toward learning significantly impact their academic performance (Pintrich, 2003) [7]. The affective test battery helps educators assess students' motivation levels, identifying whether they have a positive or negative disposition toward school subjects, teachers, and learning environments. This information enables teachers to implement strategies that enhance student motivation and foster a more engaging classroom atmosphere. Affective assessments can help detect emotional and behavioral challenges that may hinder learning, such as anxiety, low self-esteem, and lack of interest in school (Zimmerman, 2002) [11]. By identifying these issues early, schools can design appropriate interventions, such as counseling, mentorship programs, and emotional support strategies, to improve students' well-being and academic performance.

Education is not solely about academic achievement; it also plays a fundamental role in shaping students' character and values. Affective assessments help schools evaluate students' moral reasoning, ethical beliefs, and interpersonal skills (Nucci, 2001) [5]. This insight allows educators to integrate character education programs that promote integrity, responsibility, and social cohesion. The affective test battery provides teachers with feedback on students' learning attitudes, helping them adjust instructional methods to suit students' emotional and motivational needs (Stiggins, 2005) [10]. By understanding students' preferences and emotional responses to different teaching strategies, educators can create more inclusive and engaging learning experiences. Affective assessment data can guide policymakers in designing curricula and school programs that address students' emotional and social needs (OECD, 2013) [6]. Schools that prioritize affective assessment are more likely to implement student-centered policies that promote a supportive and conducive learning environment. Research suggests that students with positive affective traits, such as perseverance, self-regulation, and intrinsic motivation, are more likely to succeed academically and professionally (Duckworth *et al.*, 2007) [3]. Affective assessments help schools identify and nurture these traits, preparing students for lifelong learning and career success. Despite its usefulness, a good number of affective test batteries these educators produce cannot be said to be free of errors and the validity and reliability of these assessments remain a concern.

Validity refers to the extent to which a test accurately measures what it is intended to measure (American Educational Research Association [AERA], 2014) [11]. In this study, validity pertains to whether the affective test battery effectively captures students' attitudes, interests, values, and emotions in educational settings. There are different types of validity, including content validity (ensuring the test covers all relevant aspects of the affective domain), construct validity (assessing whether the test truly measures the underlying affective constructs), and criterion-related validity (determining how well the test correlates with external measures of affective learning). Without rigorous validation, affective assessments may fail to capture students' true attitudes and dispositions, leading to flawed interpretations and ineffective interventions.

Reliability refers to the consistency and stability of an

assessment tool in measuring a construct over time (Crocker & Algina, 2008) [2]. A reliable affective test battery should yield consistent results when administered multiple times under similar conditions. Key forms of reliability include test-retest reliability (stability over time), inter-rater reliability (agreement between different evaluators), and internal consistency (coherence among test items). A highly reliable assessment ensures that students' affective characteristics are measured accurately and consistently.

The accuracy of affective assessments is crucial for informing educational practices, identifying students' socio-emotional needs, and designing interventions to enhance learning outcomes. However, if these tests lack validity, they may fail to measure the intended affective traits, leading to misinterpretation of students' attitudes and engagement levels. Similarly, an unreliable test may produce inconsistent results, undermining its effectiveness in assessing student motivation and emotional well-being (Brown, 2015). Given the limited research on the validity and reliability of affective assessments in Nigerian secondary schools particularly in Delta South Senatorial District, this study seeks to fill a critical gap in the literature. This study aims to evaluate the validity and reliability of the affective test battery used in public secondary schools in Delta South Senatorial District.

Research Questions

The following research questions guided the study:

1. What is the validity of the affective test battery?
2. What is the reliability estimate of the affective test battery?

Research Method

This study adopted an instrumentation research design. The aim is to develop an affective test battery for the assessment of secondary school students. The population of this study comprised all junior secondary school students in Delta South Senatorial District. The total comprised all Junior Secondary School students in their second year (JSS 2) in Delta South Senatorial District. There are 102 Junior Secondary Schools and 39,356 students in the senatorial district, as obtained from the Ministry of Basic and Secondary Education, Asaba (2017). The sample of the study comprised 394 junior secondary school students in Delta South Senatorial District. They were selected from all the schools across the eight local government areas of Delta South Senatorial District. The choice of the sample size was based on the recommendation of Krejcie and Morgan (1970) that when a population is between 30,000 and 39,999 the sample size should be 394.

The students were selected from secondary schools in all the local government areas of Delta South Senatorial District. This was done using proportionate stratified sampling technique such that the local government area with the lowest number of students produced the smallest sample size. In order to achieve this, one percent of students in each local government area was obtained making a total of 394 students that formed the sample size Research Instrument

The researcher developed the affective test battery according to the components that make up the test battery. That is, the instrument comprised three sub-scales; Attitude Towards Education Rating Scale; Academic Self-Efficacy Rating Scale; and Assessment Anxiety Rating Scale. The instrument was structured on a four-point rating scale,

ranging from 1 for strongly disagree to 4 for strongly agree. The development of the affective test battery followed the recommendations of McCoach *et al.* (2013)^[4]. The process began with specifying the purpose of the instrument to ensure clarity in its intended application. Next, the researcher verified that no existing instruments adequately served the intended purpose, thereby justifying the need for a new measure.

Following this, the constructs were described, and preliminary conceptual definitions were established to provide a theoretical foundation. These constructs were then translated into operational definitions, ensuring measurable components. A suitable scaling technique was selected to facilitate appropriate data collection and interpretation.

To maintain content validity, the test items were carefully matched to the identified constructs, ensuring adequate representation across all dimensions. A judgmental review of the items was conducted to refine their clarity and relevance. Subsequently, clear directions for responding were developed, and the final version of the survey, including formatting and demographic questions, was created. A pilot study was then carried out using a sample that closely represented the target population. The collected data were analyzed to assess the instrument's effectiveness.

Based on the initial pilot data analysis, necessary revisions were made to improve the instrument's reliability and validity. Finally, a test manual or manuscript was prepared to document the entire process and provide guidance on the instrument's use.

In order to ascertain the validity and reliability of the test, the researcher analysed the items to determine the psychometric properties of each components of the test battery. Factor analysis of the Principal component analysis was used to ascertain the content and construct validity of the test. The total cumulative variance was used to determine the content validity of each of the components of the test battery while the rotated factor loading matrix was used to determine the construct validity of each of the components of the test battery. The Cronbach reliability coefficient was used to estimate the reliability coefficient of each components of the affective test battery. The analysis was carried out with the use of Statistical Package for Social Sciences (SPSS), version 23.

Result and Discussion

Research Question 1: What is the validity of the affective test battery?

Table 1: Content validity estimates of the Affective Test Battery

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.837	10.178	10.178	7.837	10.178	10.178
2	3.528	4.582	14.759	3.528	4.582	14.759
3	2.825	3.669	18.428	2.825	3.669	18.428
4	2.735	3.552	21.981	2.735	3.552	21.981
5	2.548	3.309	25.290	2.548	3.309	25.290
6	2.332	3.029	28.319	2.332	3.029	28.319
7	2.209	2.869	31.188	2.209	2.869	31.188
8	2.079	2.699	33.887	2.079	2.699	33.887
9	1.901	2.468	36.355	1.901	2.468	36.355
10	1.865	2.422	38.777	1.865	2.422	38.777
11	1.823	2.368	41.145	1.823	2.368	41.145
12	1.751	2.275	43.420	1.751	2.275	43.420
13	1.690	2.195	45.615	1.690	2.195	45.615
14	1.660	2.156	47.771	1.660	2.156	47.771
15	1.626	2.111	49.882	1.626	2.111	49.882
16	1.547	2.009	51.891	1.547	2.009	51.891
17	1.503	1.952	53.843	1.503	1.952	53.843
18	1.452	1.885	55.728	1.452	1.885	55.728
19	1.443	1.874	57.602	1.443	1.874	57.602
20	1.379	1.791	59.393	1.379	1.791	59.393
21	1.344	1.746	61.139	1.344	1.746	61.139
22	1.272	1.651	62.790	1.272	1.651	62.790
23	1.213	1.576	64.366	1.213	1.576	64.366
24	1.189	1.544	65.910	1.189	1.544	65.910
25	1.134	1.472	67.382	1.134	1.472	67.382
26	1.120	1.454	68.836	1.120	1.454	68.836
27	1.083	1.407	70.243	1.083	1.407	70.243
28	1.055	1.370	71.613	1.055	1.370	71.613
29	1.016	1.319	72.933	1.016	1.319	72.933
30	1.001	1.300	74.233	1.001	1.300	74.233

Table 1 shows the result of a Confirmatory Factor Analysis (CFA). The Principal Component Analysis (PCA) extraction method was used to estimate the content validity of the Affective Test Battery. The total cumulative value shows

74.34%, which indicate the weight of the total items that make up the Affective Test Battery. The result therefore, indicate the percentage or amount of contribution made to the Affective Test Battery.

Research Question 2: What is the reliability estimate of the affective test battery?**Table 2:** Reliability estimate of the affective test battery

Reliability Statistics			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items		No of Items
.876	.876		77
Items	Mean	Std. Deviation	N
Education is important	3.43	.540	394
Parents should be encouraged to send their children to school	3.10	.677	394
Educated people have a higher quality of life	3.19	.616	394
I am always excited when going to school	3.22	.577	394
It is in the school that we acquire most of the knowledge that is needed in life.	3.16	.625	394
I am fond of my teachers	3.25	.559	394
Education has contributed to the development of the country	3.30	.591	394
I always participate in school activities	3.24	.585	394
I will attend holiday lesson if I am asked to attend	3.17	.672	394
I am very fond of school	3.27	.626	394
I look forward to going to school everyday	3.19	.590	394
I like education	3.23	.618	394
School is one of my favourite place to be	3.19	.616	394
People who are educated can never be poor	3.28	.606	394
I will love to further my education	3.17	.635	394
Education is the gateway to good life	3.33	.541	394
Education should be made compulsory	3.05	.654	394
I will encourage every child of my age to take school seriously	3.03	.572	394
Education exposes individuals to the world	3.24	.619	394
I can use the library available for my study.	3.20	.557	394
I am sure I have some friends who would be helpful in my study.	3.09	.628	394
I can usually handle troubling situations in my study.	3.16	.564	394
I can reach my learning goals.	3.09	.556	394
I can be calm at the time of the exam because I am aware of my ability to learn.	3.12	.589	394
I am competent in learning any subject	3.07	.582	394
I can develop the reading skills needed to learn school subjects.	2.91	.596	394
I cannot find the time to learn in the middle of various household chores.	2.96	.732	394
I cannot read and understand my textbooks.	2.95	.733	394
I have problem managing my time for learning.	3.17	.645	394
I am capable of finding materials needed for my learning	3.19	.590	394
If I try, I can become one of the best students.	3.28	.708	394
I find it difficult answering questions when asked to do so by my teachers in class	3.21	.565	394
I cannot answer the questions that my teachers ask me.	3.17	.624	394
If a sudden test is done for us without notice, I can answer it.	3.24	.600	394
I can answer objectives questions very well	3.27	.608	394
Whatever the question, I can answer it.	3.13	.612	394
I can approach my teacher for his or her assistance in learning	3.23	.639	394
During the exams, I can remember what I learned.	3.24	.560	394
I can ask for the help of my friends during learning	3.30	.608	394
However twisted the question is I can answer them.	3.21	.606	394
I often fail to understand the real meaning of what I'm studying.	3.18	.594	394
I find it difficult to prepare my assignments on time.	3.29	.659	394
I can prepare my class notes properly if taught	3.26	.624	394
I can do my assignments well.	3.21	.616	394
I am not capable of setting goals during study	3.09	.594	394
I can make my parents pay for my school materials	3.22	.591	394
I feel that I have the ability to remember things	3.13	.606	394
I am capable of providing solutions to my learning problems	3.08	.563	394
I am convinced that I can perform well in competitions.	3.12	.594	394
I can use the library available for my study.	3.02	.581	394
I began to feel very uncomfortable just before receiving a exam question paper.	3.16	.585	394
The school should recognize that some students are more nervous than others about exams and this affects their performance.	3.21	.592	394
If exams could be removed, I think I could learn more.	3.22	.585	394
I dread the subjects where the teacher is used to giving surprise test	3.21	.544	394
The more I work hard to take a test, the more confused I become.	3.12	.560	394
I often panic when I have to take a surprise test.	3.27	.607	394
During the exams, I sometimes wonder if I will ever complete my school.	3.21	.500	394
I rarely feel the need to memorise before an exam.	3.06	.523	394
Negative thoughts affect my performance during exams.	2.99	.603	394
I feel uncomfortable before taking exams.	3.17	.652	394

Thinking about the grade I can get is a hindrance to my exams performance.	2.92	.685	394
Getting good grades on one test does not seem to increase my confidence in other tests.	3.22	.604	394
During a test, I think about the consequences of failure.	3.23	.633	394
I sometimes feel my heart beating very fast during exams.	3.17	.568	394
I do not study harder for final exams than for the rest of my classes.	3.21	.626	394
During exams, I think about things that are not related to subject	3.08	.565	394
If I were to take a test, I would worry a lot before taking it.	3.35	.578	394
I wish the exams do not bother me so much.	3.16	.597	394
While taking an important exam, I think of how much better the other students are than I am.	3.30	.671	394
I am usually depressed after taking a test.	3.24	.629	394
During exams, I am often so nervous that I forget facts I really know.	3.18	.646	394
I do not like eating before an important test.	3.22	.641	394
After a test, I always feel that I could have done better than what I did.	3.32	.571	394
I would rather do assignment than take an exam.	3.19	.593	394
While taking an important exam, I sweat a lot	3.19	.611	394
Before an important examination, I find my hands or my arms shaking.	3.02	.603	394
Even when I am well prepared for a test, I am very worried about it.	3.17	.684	394

Table 2 shows the reliability estimate of the Affective Test Battery. From the result, the computed Cronbach alpha coefficient of 0.88, N = 394 and the total number of items are 77. The inter-item analysis was computed as shown in

Table 11 revealing the quality of each item with corrected item total correlation that ranged between 0.056 and 0.477. Meanwhile the Cronbach alpha if item deleted had for each item alpha coefficient that ranged between 0.871 and 0.876.

Table 3: Item-Total Statistics of the Affective Test Battery

Items	Statements	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
1.	Education is important	241.19	205.183	.262	.	.874
2.	Parents should be encouraged to send their children to school	241.52	205.507	.184	.	.875
3.	Educated people have a higher quality of life	241.43	203.834	.302	.	.874
4.	I am always excited when going to school	241.41	204.242	.301	.	.874
5.	It is in the school that we acquire most of the knowledge that is needed in life.	241.46	204.621	.253	.	.874
6.	I am fond of my teachers	241.37	206.030	.199	.	.875
7.	Education has contributed to the development of the country	241.32	205.400	.223	.	.875
8.	I always participate in school activities	241.38	203.972	.312	.	.874
9.	I will attend holiday lesson if I am asked to attend	241.45	203.037	.315	.	.874
10.	I am very fond of school	241.35	203.679	.305	.	.874
11.	I look forward to going to school everyday	241.43	205.748	.203	.	.875
12.	I like education	241.39	205.527	.204	.	.875
13.	School is one of my favourite place to be	241.43	203.824	.302	.	.874
14.	People who are educated can never be poor	241.34	206.067	.178	.	.875
15.	I will love to further my education	241.45	204.671	.245	.	.874
16.	Education is the gateway to good life	241.29	203.771	.354	.	.873
17.	Education should be made compulsory	241.58	201.889	.388	.	.873
18.	I will encourage every child of my age to take school seriously	241.59	204.405	.293	.	.874
19.	Education exposes individuals to the world	241.38	205.025	.232	.	.875
20.	I can use the library available for my study.	241.43	201.671	.477	.	.872
21.	I am sure I have some friends who would be helpful in my study.	241.54	203.562	.311	.	.874
22.	I can usually handle troubling situations in my study.	241.46	204.631	.284	.	.874
23.	I can reach my learning goals.	241.53	205.888	.209	.	.875
24.	I can be calm at the time of the exam because I am aware of my ability to learn.	241.50	203.864	.316	.	.874
25.	I am competent in learning any subject	241.56	202.960	.376	.	.873
26.	I can develop the reading skills needed to learn school subjects.	241.72	204.574	.270	.	.874
27.	I cannot find the time to learn in the middle of various household chores.	241.66	199.262	.471	.	.871
28.	I cannot read and understand my textbooks.	241.68	200.734	.398	.	.872
29.	I have problem managing my time for learning.	241.45	206.279	.153	.	.876
30.	I am capable of finding materials needed for my learning	241.43	206.262	.172	.	.875
31.	If I try, I can become one of the best students.	241.35	205.337	.182	.	.875

32.	I find it difficult answering questions when asked to do so by my teachers in class	241.41	204.864	.269	.	.874
33.	I cannot answer the questions that my teachers ask me.	241.46	204.956	.234	.	.875
34.	If a sudden test is done for us without notice, I can answer it.	241.39	205.983	.185	.	.875
35.	I can answer objectives questions very well	241.36	206.255	.166	.	.875
36.	Whatever the question, I can answer it.	241.49	203.706	.312	.	.874
37.	I can approach my teacher for his or her assistance in learning	241.39	205.491	.198	.	.875
38.	During the exams, I can remember what I learned.	241.39	203.220	.376	.	.873
39.	I can ask for the help of my friends during learning	241.32	204.667	.258	.	.874
40.	However twisted the question is I can answer them.	241.41	204.614	.262	.	.874
41.	I often fail to understand the real meaning of what I'm studying.	241.44	205.352	.224	.	.875
42.	I find it difficult to prepare my assignments on time.	241.34	201.949	.382	.	.873
43.	I can prepare my class notes properly if taught	241.37	202.294	.385	.	.873
44.	I can do my assignments well.	241.42	203.918	.298	.	.874
45.	I am not capable of setting goals during study	241.53	203.903	.311	.	.874
46.	I can make my parents pay for my school materials	241.41	203.407	.342	.	.873
47.	I feel that I have the ability to remember things	241.49	204.271	.282	.	.874
48.	I am capable of providing solutions to my learning problems	241.55	204.544	.290	.	.874
49.	I am convinced that I can perform well in competitions.	241.51	205.350	.225	.	.875
50.	I can use the library available for my study.	241.61	205.639	.213	.	.875
51.	I began to feel very uncomfortable just before receiving a exam question paper.	241.46	203.643	.332	.	.873
52.	The school should recognize that some students are more nervous than others about exams and this affects their performance.	241.41	203.251	.351	.	.873
53.	If exams could be removed, I think I could learn more.	241.41	205.057	.246	.	.874
54.	I dread the subjects where the teacher is used to giving surprise test	241.42	204.916	.277	.	.874
55.	The more I work hard to take a test, the more confused I become.	241.51	203.706	.344	.	.873
56.	I often panic when I have to take a surprise test.	241.36	205.152	.230	.	.875
57.	During the exams, I sometimes wonder if I will ever complete my school.	241.42	205.409	.270	.	.874
58.	I rarely feel the need to memorise before an exam.	241.56	208.405	.056	.	.876
59.	Negative thoughts affect my performance during exams.	241.63	204.427	.275	.	.874
60.	I feel uncomfortable before taking exams.	241.46	204.732	.234	.	.875
61.	Thinking about the grade I can get is a hindrance to my exams performance.	241.71	204.416	.237	.	.875
62.	Getting good grades on one test does not seem to increase my confidence in other tests.	241.41	206.227	.169	.	.875
63.	During a test, I think about the consequences of failure.	241.40	204.627	.249	.	.874
64.	I sometimes feel my heart beating very fast during exams.	241.46	204.452	.292	.	.874
65.	I do not study harder for final exams than for the rest of my classes.	241.41	204.029	.285	.	.874
66.	During exams, I think about things that are not related to subject	241.54	204.396	.298	.	.874
67.	If I were to take a test, I would worry a lot before taking it.	241.28	205.600	.217	.	.875
68.	I wish the exams do not bother me so much.	241.46	203.898	.309	.	.874
69.	While taking an important exam, I think of how much better the other students are than I am.	241.32	204.825	.221	.	.875
70.	I am usually depressed after taking a test.	241.39	205.617	.195	.	.875

71.	During exams, I am often so nervous that I forget facts I really know.	241.44	204.716	.238	.	.875
72.	I do not like eating before an important test.	241.41	205.626	.190	.	.875
73.	After a test, I always feel that I could have done better than what I did.	241.30	204.181	.308	.	.874
74.	I would rather do assignment than take an exam.	241.44	205.046	.243	.	.874
75.	While taking an important exam, I sweat a lot	241.43	203.666	.315	.	.874
76.	Before an important examination, I find my hands or my arms shaking.	241.60	202.057	.415	.	.872
77.	Even when I am well prepared for a test, I am very worried about it.	241.45	205.134	.201	.	.875

Discussion of Findings

The first finding shows that the Affective Test Battery is valid. The test was showed to possess high content and construct validity. The finding further revealed that the total cumulative value shows 74.34% as a measure of content validity of the test, which indicate the percentage or amount of contribution made to the Affective Test Battery. This finding implies that the Test Battery can be used to assess junior secondary school students in the affective domain. This finding agrees with Rabiudin and Mursalin (2018) ^[8], who developed an authentic instrument of affective domain in high school physics, to produce an effective, practical and feasible authentic assessment instrument in High School Physics. Their finding showed that the instrument is valid and reliable, having obtained an average coefficient of 0.75 validity with reliability of 0.99. The finding is also in line with the finding of Saptono, *et al.* (2018) ^[9], who constructed an assessment instruments to measure the affective domain of entrepreneurial learning in high school students and found that found that the resulting instrument can be used to assess the affective domain of entrepreneurship learning in high school students.

The second finding showed that the Affective Test Battery is reliable having produced a Cronbach alpha coefficient of 0.88. This finding indicate that items on the test battery have internal consistency and can therefore be used to assess junior secondary school students in affective domain. This finding agrees with Rabiudin and Mursalin (2018) ^[8], who developed an authentic instrument of affective domain in high school physics, to produce an effective, practical and feasible authentic assessment instrument in High School Physics. Their finding showed that the instrument is valid and reliable, having obtained an average coefficient of 0.75 validity with reliability of 0.99.

Conclusion

The study examined the validity and reliability of the Affective Test Battery in educational assessments in public secondary schools in Delta South Senatorial District. The findings indicate that the Affective Test Battery possesses high content and construct validity, with a cumulative content validity measure of 74.34%, confirming its effectiveness in assessing students' affective characteristics. The findings also indicate that the test battery is reliable, with a Cronbach's alpha coefficient of 0.88, demonstrating strong internal consistency among the test items. The conclusion, therefore, is that since the Affective Test Battery is both valid and reliable, it can be effectively used to assess junior secondary school students in the affective domain. It is evident that the Affective Test Battery is a suitable tool for evaluating students' affective learning outcomes in public secondary schools in Delta South Senatorial District.

Recommendations

Based on the study's findings, the following recommendations are made:

1. The Affective Test Battery should be adopted as a standardized tool for assessing the affective domain of junior secondary school students in public secondary schools. Its validity and reliability make it a suitable instrument for evaluating students' attitudes, values, and emotional responses.
2. Educators and school assessors should be trained on the proper administration and interpretation of the Affective Test Battery. This will ensure that the instrument is used effectively to measure students' affective competencies.
3. The test should be incorporated into the regular assessment framework in secondary schools to complement cognitive and psychomotor domain evaluations, thereby providing a holistic assessment of student development.
4. The Affective Test Battery should undergo periodic review and refinement to ensure it remains relevant and continues to measure the affective domain effectively in response to evolving educational needs.

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