Items Coverage of the Theories of Demand and Supply: A Content Analytical Study of Selected Public Examining Bodies' Past Questions

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Abstract

The issue of validity has to do with a test covering entire domain at an adequate proportion. It is worrisome that many tests used for various purposes such as selection, placement and research, do not possess this quality. This research was conducted to investigate the extent to which selected past questions covered 'Demand and Supply'. Two major nationally and internationally recognized examining bodies 'past questions were used in the study, and they include: the WAEC and the JAMB. Newly postulated Item Content Analysis (ICA) was employed as the principal research tool. T-test and descriptive statistics were used to analyze the data collected. The study revealed that the selected past questions placed items covering 'the theories of demand and supply' at the beginning of the items, but there was small joint effect of the placement on the two examining bodies. It was also discovered that there was no even distribution of items covering the mentioned subtopics between 2006 and 2015. This further shows that there is a very small effect on the level of prominence given to subtopics by both the WAEC and the JAMB. It was further discovered that the two examining bodies assessed their examinees more under the understanding level of cognition. This implies that the understanding o/a particular concept is of more value than other things as this will help in attaining other levels of cognitive domain. Then there is a large effect of cognitive state in the setting of items by the two examining bodies. Finally, there is small effect of the number of items addressing the topics by the two examining bodies. Based on the findings, it was recommended that the examination bodies should be proactive in spreading items focusing on a particular topic across the entire instrument; also examining bodies ensure that more reasonable higher-order items are set to raise the knowledge and skill in their multiple-choice items; constant review of previously set items should be done; government agencies and other regulatory bodies given a closer look at the modality of setting items and finally, researcher should explore this postulation in other areas relating to items.

Keywords: Demand and Supply, Items, Content analysis, Item content analysis, WAEC and JAMB

Introduction

Economics is a way of life. The knowledge of economics helps individual members of the community to understand the rationale behind human behaviour especially how to choose and what to buy. The study of economics also informs learners various economical challenges such as scarcity, wants and means to meet them. That was why Professor Lionel Robinson defined Economics as the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses (Ande, 2008).

In Economics, various topics are treated for the understanding of learners. The content of the subject ranges from ordinary concepts to problem-solving ones. Among many topics that are being taught in the subject are the theories of demand and supply. In the national curriculum on Economics, the teaching and learning of the theories of demand and supply is done in senior secondary school two and three (S.S. 2 and 3), and the performance objectives cover the understanding level of cognitive domain (NERDC, 1985). The performance objectives even say that the student should be able to: (i.) explain the meaning of demand and supply, and market equilibrium; (ii.) explain the factors affecting demand and supply and distinguish between factors causing shift in demand and supply curves, and those causing movements along demand supply curves; and (iii.) explain the concepts of total average and marginal revenue and draw relevant curves. In the meantime, demand is quite different from want or need. It is the ability and willingness of a consumer to buy a specific quantity of goods and services at a given price over a particular period of time. This shows the effectiveness of demand. Supply, on the other hand, is the ability and willingness of the producer to offer for sale a specific quantity of goods or services at a given price over a particular period of time.

Furthermore, the knowledge of demand and supply needs to be assessed so as to ascertain the extent of learners' assimilation and proficiency when the need arise. The students' cognitive level is therefore examined either via teacher made test or through statutory examining bodies such as the West African Examinations Council (WAEC), the National Examinations Council (NECO), the Joint Admission and Matriculation Board (JAMB) to mention a few.

These public examining bodies are saddled with the responsibility of conducting terminal examinations for willing candidates. Meanwhile, these examining bodies follow examination rubrics in assembling test items. Among these rubrics is the use of subjects' experts in setting test items; adoption of test blue-prints; and trial testing of items. All these rubrics make test items to be standardized. Test items should contain discrimination and difficulty indexes which form item analysis. Item analysis should therefore be a method of reviewing items on a test statistically and qualitatively so as to ensure that they all meet minimum quality-control criteria. Hence, item analysis should go beyond the two known indexes. In this paper, the researcher is trying to bring in content analysis in the analysis of items. Item content analysis (ICA) is being used on the past questions of two examining bodies of the WAEC and the JAMB in the last ten (10) years that is 2006 to 2015.

In the meantime, after the 'enemy propaganda' project, sponsored by the U.S. government to evaluate the extent of enemy propaganda during the World War Il, the development of content analysis became a full-fledged scientific method which spread to other disciplines (Prasad, 2008). Content analysis, according to Prasad (2008), is the study of the content with reference to the meanings, contexts and intentions contained in messages. It is a research tool used to determine the presence of certain words or concepts within texts or sets of texts (ColoState University (CSU), 2004).

According to CSU (2004), texts can be defined broadly as books, book chapters, essays, interviews, discussions, newspaper headlines and articles, historical documents, speeches, conversations, advertising, theater, informal conversation, or really any occurrence of communicative language. In other words, content analysis is a means of reviewing with the aim of providing deeper meaning to contexts and intentions contained in the material. Issues relating to content analysis have been majorly raised in communication, books review and newspaper reportage spheres. Little or no literature has been on Item Content Analysis (ICA). Topics loading in the set of items can therefore be verified via this analytical tool. It is therefore important to explore the use of content analysis in relations to items (both dichotomous and polytomous items).

Item, according to Queensland Curriculum & Assessment Authority (QCAA, 2015) is an assessment instrument which must meet the requirements of the relevant syllabus and of the assessment program described in the school's work program or study plan. It is a means of assessing the cognitive level of learners based on the set curriculum and taxonomy, thereby differentiating and discriminating between higher and lower learners. An item is a communication means of extracting information about the cognitive state of the learner or examinee with respect to the concepts and processes contained in the question. Thus, an item is a question which could be in form of multiple choice (dichotomous) items, fill-in-the gap items or practical (polytomous) item. As an instrument of assessing the cognitive state of learners, the loading of contents in the taxonomy therefore needs to be evaluated with a view to ascertaining the systematic, objectivity and quantitative analysis of topics covered in the set questions. The application of content analysis to test items also examines the extent to which specified topics are covered in a given set of questions over a period of time.

Item content analysis (ICA), also refers to close examination of item with the purpose of evaluating the strength, weakness, ability to discriminate and differentiate, the number of occurrence and other measures of such type of an item in an instrument. It is an interface of observation and item analysis. Item content analysis is a method of observation that takes items that authorized bodies (examination bodies) have produced and asks questions that bother on them. It is also considered as an unobtrusive or non-reactive method of researching into settings of items. ICA is a careful examination of the item content about the examiner, the item and the examinee of the question. ICA is both conceptual and relational in nature. It is conceptual because it can dwell on the number of occurrences of a particular focus, and it can be relational when it attempts to relate issue under focus among various circumstances.

Item content analysis can then be used to understand a wide range of themes; to study item phenomenon such as differentiation or discrimination in the item content; to understand the changing trends in the theoretical and methodological approaches by content analyzing the items of the examining bodies; to study items in line with the drawn taxonomy; to ascertain trends in the items content of past questions; and to make a comparative study of the coverage of different examining bodies' past questions. It can then be said that item content analysis is a scientific research technique that critically assesses each item objectively, systematically and quantitatively with the aim of making valid inferences from data to their context.

Summarily, ICA can set: to describe cognitive characteristics of item content; to describe substance characteristics of item content; to examine the trend in item content; to make inferences to examining bodies of item content; and to make inferences to the general public of item content.

It is on this note that this study was focused on the coverage of the theories of demand and supply by the different examining bodies. Hence, this study investigated the nature of examining bodies' coverage of the theories of demand and supply in the last ten (10) years (2006t02015).

Research Questions

With a view to finding solution to the problems of topics loading in set of items, the following questions were formulated.

i. What is the location of items covering the theories of demand and supply by the different examining bodies?
ii. Is there any difference in the level of prominence given to the coverage of demand and supply?
iii. What are the cognitive levels measured/covered by the items?
iv. How many items covered the theories of demand and supply?

Methodology

This study used quantitative content analysis as a method of assessing the coverage of the theories of Demand and Supply in the past questions. T-test and descriptive statistics were used to analyze the data collected. The choice of this method was informed so as to explore the use of content analysis in item instrument, and to evaluate in systematic, objective and quantitative manner for the purpose of measuring variables.

Population of the Study

The population of this study was made up of all dichotomous items set in the WAEC and the JAMB past question series between 2006 and 2015, and this covered 1000 items.

Sampling technique and sample

Purposive sampling technique was used to select the examining bodies that met the following criteria, they should:

a. have been conducting examination in the last thirty years;
b. be conducting their examination within or/and outside Nigeria;
c. have documented past question series;
d. have local and international reputation and recognition; and

fourteen (114) items that focus on the theories of

e. have higher participating candidates.

Sample for this study comprise one hundred and demand and supply in the past question series of
the WAEC the JAMB.

Research Instrument

The research instrument used for this study was a coding sheet- Demand and Supply Items Coding Instrument (DSI Coding Instrument). The coding sheet was used to measure different variables peculiar to the study. The instrument was used to determine the number of Demand and Supply items in each of the two examining bodies' past questions.

Subsequently, these content categories were developed in order to determine and analyze the nature of coverage given to the topic.

l . Public Examining Identity
   a. The West African Examinations Council (WAEC)
   b. The Joint Admissions and Matriculation Board (JAMB)
2. Placement of Items
   a. At the beginning (Between item I to 15)
   b. At the middle (Between item 16 to 30)
   c. At the close (Between item 3 1 to 50)
3. Level of Prominence of Sub-topics Items
   a. Meaning of Demand and Supply

b. Demand and Supply curves and schedules
c. Laws of Demand and Supply and factors affecting demand and supply
d. Changes in quantity demanded and supplied and changes in Demand and Supply
e. Effects of changes in price on demand and cost on supply
f. Mathematical approach

4. Cognitive Domain of Items
   a. Knowledge
   b. Understanding
   c. Thinking

5. Number of Items covering the theories

Data analysis and Presentation of Findings

Table la shows that there were 82 (71.93%) items that focused on the theories of demand and supply at the beginning (between item I to 15), 25 (21.93%) items at the middle and 7 (6.14%) items at the close of the test instruments in the focused years (2006-2015).

The analysis of results and findings are presented and discussed with a view of making inferences and drawing conclusion from the study. Frequency counts were used, alongside with the mean scores and standard deviations were compared using paired-sample t-test (two tailed) at p<O.001. As an additional check, the power of the differences in mean score was tested using Cohen's d (1988) viz: no effect at d< 0.2; small effect at 0.2 < d < 0.5; moderate effect at 0.5 d < 0.8 and large effect at d 0.8. Cohen's d measures the effect size for the difference in mean scores between items in the WAEC and items in the JAMB.

Table la: The placement of items covering the theories of demand and supply

Placement of Items	frequency	Percentage	Valid Percent	Cumulative Percent
At the beginning (between item I to 15)	82	71.93	71.93	71.93
At the middle (between item 16 to 30)	25	21.93	21.93	93.86
At the close (between item 31 to 50)	7	6.14	6.14	100.0
Total	114	100.0	100.0	

Research question 1: What is the placement of items covering the theories of demand and supply by the different examining bodies?

Table 1b: The placement of items covering the theories of demand and supply across the two examining bodies

Placement of Items		Name of Examining bodies		Total
		WAEC	JAMB	
At the beginning (between item I to 15)	Count	40	42	82
	% within placement of items	48.78	51 22	100.0%
At the middle (between item 16 to 30)	Count	3	12	25
	% within placement of items	52	48	100 0%
At the close (between item 31 to 50)	Count	3	4	7
	% within placement of items	42.86	57.14	100 0%
Total	Count	56	58	
	% within placement of items	49.12	50 88	100.0%

Table I c: Comparison of Statistics stages of placement of items by the WAEC and the JAMB

Group	N	Mean	Standard Deviation	Df	T	D
The placement of items covering the theories of demand and supply across the WAEC	3	18.67	13.65	2	-.25	.06
The placement of items covering the theories of demand and supply across the JAMB	3	19.33	15.04			

Of 82 items that were placed at the beginning of the instrument, 40 (48.78%) items were garnered from the WAEC while 42 (51.72%) items were collected from JAMB past questions series. As for items at the middle of the instrument, 13 (52%) items were counted for WAEC and 12 (48%) were located in JAMB series, out of the total of 25 (100.0%). Items in WAEC series were counted to be 3 (42.86%) items while 4 (57.14%) were found in JAMB series in the focused years (between years 2006 and 2015).

From the analysis, the JAMB had the highest items placed at the beginning and at the close of the instrument with 42 (5 1.22%) and 4

Table 2a:The level of prominence given to coverage of the theories of Demand and Supply

Subtopics	frequency	Percentage	Valid Percent	Cumulative Percent
Meaning of Demand and Su I	11	9 65	9.65	9.65
Demand and Supply curves and schedules	27	23.68	23.68	33.33
Laws of demand and supply, and factors affectin demand and su I	15	13.16	13.16	46.49
Changes in quantity demanded and supplied and changes in Demand and su 1	24	21.05	21.05	67.54
Effects of changes in price on demand and cost on su I	21	18.42	18.42	85.96
Mathematical a Roach	16	14.04	14.04	100.0
Total	114	100.0	100.0	

(57.14%) items. The WAEC also had the highest frequency of items at the middle of the From table I c, there is evidence to suggest that items experienced statistically significantly lesser placed (p = 0.826) when set by the WAEC (mean = 18.7, SD = 7.9) than those set by the JAMB (mean = 19.3, SD = 8.7). Then there was no significant difference in the placement of items between the WAEC and the JAMB. The 95% confidence interval for the difference is (-
12.1, 10.8). There was no effect size of placement of items in Economics with Cohen's d value ofO.06 (eta squared statistics).

Research question 2: Is there any difference in the level ofprominence given to the coverage of demand and supply?

test instrument with 13 (52%) items with just trivial difference from JAMB 12 (48%) items.

From table 2a, out of 114 items set by WAEC and JAMB, Il (9.65%) items covered meaning of demand and supply, 27 (23.68%) items covered demand and supply curves and schedules, 15 (13.16%) items treated laws of demand and supply, and factors affecting demand and supply; 24 (21.05%) items examined changes in quantity demanded and supplied and changes in demand and supply; 21 (18.42%) items looked at the effects of changes in price on demand and cost on supply; while 16 (14.04%) items tested mathematical approaches. From these, the highest covered subtopics were demand and supply curves and schedules with 27 (23.68%) items, this was followed by items covering changes in quantity demanded and supplied and changes in demand and supply with 24 (21.05%) items while the meaning of demand and supply had the lowest prominence with I I (9.65 items.

Table 2b: The level of prominence given to coverage of the theories of Demand and Supply by the two examining bodies

Subtopics		Name of Examining bodies		Total
		WAEC	JAMB	
Meaning of Demand and Supply	Count	5	6	11
	% within placement of items		54.55	100.0%
Demand and Supply curves and schedules	Count	15	12	27
	% within placement of items	55.56	44.44	100.0%
Laws of demand and supply, and factors affecting demand and supply	Count	10	5	15
	% within placement of items	66.67	33.33	100.0%
Changes in q uantity demand ed and supplied and changes in Demand and Supply	Count	12	12	24
	% within placement of items	50	50	100.0%
Effects of changes in price on demand and cost on supply	Count	10	11	21
	% within placement of items	47.62	52.38	100.0%
Mathematical approach	Count	4	12	16
	% within placement of items	25	75	100.0%
Total	Count	56	58	14
	% within placement of items	49.12	50.88	100.0%

Table 3a: Table showing the cognitive domain being measured under the theories of demand and supply

Cognitive Level	Frequency	Percentage	Valid Percent	Cumulative Percent
Knowledge	6	5.26	5.26	5.26
Understanding	60	52.63	52.63	57.89
Thinking	48	42.11	42.11	100.0
Total	114	100.0	100.0	

Table 2c: Comparison of Statistics of the level of prominence given to coverage of the theories of Demand and Supply by the two examining bodies

Group	N	Mean	Standard Deviation	Df	T	D
The level of prominence given to coverage of the theories of Demand and Suppl of the WAEC	6	9.33	4.18	5	-.18	.01
The level of prominence given to coverage of the theories of Demand and Supply of the JAMB	6	9.67	3.27			

It is evident from table 2b the number of subtopics covered by each examining bodies. The JAMB set more items covering the meaning of demand and supply; the effects of changes in price on demand and cost on supply; and the mathematical approach with 6 (54.55%), I l (52.38%) and 12 (75%) items respectively. On the other hand, the WAEC had highest number of items under the demand and supply curves and schedules; and the laws of demand and supply, and factors affecting demand and supply with 15 (55.56%) and 10 (66.67%) respectively. Both the WAEC and the JAMB had equal number of set items under changes in quantity demanded and supplied and changes in demand and supply.

From table 2c, a paired sample t-test was conducted to evaluate the level of prominence given to coverage of the theories of demand and supply by the WAEC and the JAMB. The calculated t-value of -0.18 is statistically not significant at the specified level of 0.001. There was a significant decrease in the level of prominence scores from the WAEC (mean = 9.33, SD = 4.18) to the JAMB (mean = 9.67, SD = 3.27), t (5) — -.18, p > .001 (two-tailed). The mean decrease in the level of prominence scores was -0.34 with a 95% confidence interval ranging from -5.01 to 4.34. The Cohen's d of 0.01 (eta squared statistic) shows that there was effect size of level of prominence of subtopics of the theories of demand and supply on items in the · WAEC and the JAMB

Table 3a revealed the cognitive levels measured and covered by the two examining bodies. Out of 114 items, 60 (52.63%) items measured understanding and this accounted for the highest level of cognition covered by the two examining bodies, 48 (42.11%) items measured thinking while 6 (5.26%) items measured knowledge which was the least level of cognition measured.

Table 3b: Table showing the cognitive domain being measured under the theories of demand and supply by the two examining bodies

Cognitive level		Name of Examining bodies		Total
		WAEC	JAMB	
Knowledge	Count	4	2	6
	% within placement of items	66.67	33.33	100.0%
Understanding	Count	31	29	60
	[0] 0 within placement of items	51.67	48.33	100.0%
Thinking	Count	21	27	48
	% within placement of items	43.75	56.25	100.0%
Total	Count	56	58	114
	[0] 0 within placement of items		50.88	100.0%

Table 3b revealed that the WAEC had the highest items respectively while JAMB topped the coverage of level of cognition in knowledge and thinking level with27 (56.25%) items. understanding with 4 (66.67%) and 31 (5 1.67%)

Table 3c: Comparison of Statistics of the cognitive domain being measured under the theories of demand and supply by the two examining bodies

Group	N	Mean	Standard Deviation	Df	T	D
The cognitive domain being measured under the theories of demand and su I b the WAEC	3	18.6667	19.13984	2	-.756	.36
The cognitive domain being measured under the theories of demand and supply by the JAMB	3	19.3333	20.03331			

From table 3c, a paired sample t-test was conducted to appraise the cognitive domain being measured under the theories of demand and supply by the WAEC and the JAMB. There was a significant decrease in the cognitive domain scores from the WAEC (mean 18.67, SD = 19.14) to JAMB (mean = 19.33, SD= 20.03), t (2)=-.756, p > .001 (two-tailed). The mean decrease in the cognitive domain scores was -0.66 with a 95% confidence interval ranging from -4.46 to 3.13. The eta squared statistic (.36) indicated a small effect size.

Research question 4: How many times did the theories of demand and supply occur yearly?

Table 4a: The number of items addressing the theories of demand and supply

Year		Name of Examining bodies		Total
		WAEC	JAMB	
2006	No of items covering the theories	4	6	10
	% of items covering the theories	8%	12%	20%
	Total number of items	50	50	100.0%
2007	No of items covering the theories	4	4	8
	% of items covering the theories	8%	8%	8%
	Total number of items	50	50	100.0%
2008	No of items covering the theories	6	6	12
	% of items covering the theories	12%	12%	12%
	Total number of items	50	50	100.0%
2009	No of items covering the theories	8	5	13
	% of items covering the theories	16%		26%
	Total number of items	50	50	100.0%
2010	No of items covering the theories	5	7	12
	% of items covering the theories		14%	12%
	Total number of items	50	50	100.0%
2011	No of items covering the theories	5	4	9
	% of items covering the theories	10%	8%	9%
	Total number of items	50	50	100.0%
2012	No of items covering the theories	6	6	12
	% of items covering the theories	12%	12%	12%
	Total number of items	50	50	100.0%
2013	No of items covering the theories	4	9	13
	% of items covering the theories	8%	18%	28%
	Total number of items	50	50	100.0%
2014	No of items covering the theories	8	6	14
	% of items covering the theories	16%	12%	14 %
	Total number of items	50	50	100.0%
2015	No of items covering the theories	6	5	11
	% of items covering the theories	12%		
	Total number of items	50	50	100.0%

Table 4a shows the number of items that focused on the theories of demand and supply by each selected examining bodies. In the 2013, the JAMB past question series revealed that 9 items out of 50 items which accounted for 18% covered the said theories. In the years 2009 and 2014, it was revealed that the WAEC past question series had 8 items for the mentioned years. While in the years 2007, 2008 and 2012, there were equal numbers of items (4, 6 and 6 items) set by the two examining bodies.

Table 4b: Comparison of Statistics of the number of items addressing the theories of demand and supply by the two examining bodies between 2006 and 2015

Group	N	Mean	Standard Deviation	Df	T	D
The number of items addressing the theories of demand and supply by the WAEC	10	5.60	1.51	9	-.28	.01
The number of items addressing the theories of demand and supply by the JAMB	10	5.80	1.48			

From table 4b, a paired sample t-test was conducted to appraise the cognitive domain being measured under the theories of demand and supply by the WAEC and the JAMB. There was a significant decrease in the cognitive domain scores from the WAEC (mean = 5.6, SD = 1.51) to the JAMB (mean = 5.8, SD = 1.48), $t^{(9)} =$-.28, p > .001 (two-tailed). The mean decrease in the cognitive domain scores was 0.2 with a 95% confidence interval ranging from -1.85 to 1.45. The eta squared statistic (0.01) indicated no effect size. Therefore, items in the JAMB are more than those in the WAEC.

Findings, Discussion and Conclusion

A number of revelations that came out of the study would provide baseline knowledge on the subject of item content analysis. Contrary to the general impression that the use of content analysis is limited to Arts and humanities and some part of social sciences, this study has opened ground for the study of items setting with a view of enhancing the quality of items that is being set by the examining bodies in line with the performance objectives in the senior secondary school curriculum of the Federal Republic of Nigeria.

The study also provides a minimal comparison between the focused examining bodies. Although the compared examining bodies have different objectives, yet the manner of setting such questions was examined. The study therefore revealed that the placement of items whether at the beginning, at the middle or at the end of the instrument, there is small effect of it if we compare with the placement in the newspaper reportage which shows the weight such story carry in the news. Another important revelation is that the levels of prominence given to each subtopic in the theories of demand and supply have a very small effect on the set items. This implies that the two examining bodies set items without giving much attention to a particular subtopic. This further reveals that each subtopic could enjoy equal number of items in any instrument. However, the Demand and Supply curves and schedules' subtopic enjoy highest level of prominence among others from the WAEC and the JAMB.

On the contrary, the items measuring and covering the cognitive levels under knowledge, understanding and thinking levels have a large effect. This reveals that the two examining

bodies placed high premium in measuring the cognitive states of the examinees. It is also revealed that there is no significant difference in the cognitive levels measured by the WAEC and the JAMB. Finally, since there is no significant difference in the number of items addressing the topic in focus, there is small effect of it by the two examining bodies. This means that the WAEC and the JAMB have almost equal numbers of items addressing the topic for each year of consideration. Moreover, the two focused examining bodies have different missions in the course of their duties; this study only examined set items and not objectives of each body. The findings gathered from the study should guide the WAEC and the JAMB and other examining bodies, and all other stakeholders to improve the state of psychometric for better assessment.

Recommendations

The examining bodies can contribute to the knowledge possession by facilitating and sustaining broad spectrum that could aid the examinee to prepare well with the aim of succeeding in the examination.

Some specific recommendations are:

l. The examination bodies should be proactive in spreading the items focusing on a particular topic across the whole instrument. Lopsidedness in items placement should be removed.

2. Although there are performance objectives in the National curriculum being followed while setting items, yet items should be evenly loaded on all the cognitive levels by the examination bodies. Examining bodies like the WAEC and the JAMB should ensure that more reasonable higher-order items are set to raise the knowledge and skill state of testees for higher challenges in their multiple-choice items.

3. Review of previously set items should be constantly done so as to reassess and re-organize future items.

4. Other examining bodies like the National Examination Council (NECO) and the National Board for Technical and Business Education (NABTEB) should make effort to produce past question series. This will help in utilizing them for this kind of study. It will also provide a basis for comparison among examining bodies of equal missions.

5, Federal ministry of education and other regulatory bodies should give close look at the modality of item setting in order to improve the quality of education via item gathering and

items setting in other subjects. Critical setting.

6. Researchers should try to explore this postulation to other documents relating study should be further carried out in this new postulation of analysis in the psychometric world.

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