Development, Validation and use of Principals' Leadership Behaviours Measuring Instrument for Secondary Schools in the South East Nigeria

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Abstract

The study developed, validated and used the instrument for measuring principals' leadership behaviours in the South East Nigeria. Instrumentation research design was used in the study. The study used 474 head principals and secondary schools from 14 education zones in the 5 states of South East selected through proportionate stratified random sampling technique. Two research questions and one null hypothesis were raised in the study. The instrument used for the study was Principals' Leadership Behaviours Measuring Instrument (PLBMI). The PLBMI is a 102-item instrument that emerged after face validation by Measurement and Evaluation and Educational Management and Planning experts; from Michael Okpara University of Agriculture, Umudike. The face validated items were trial tested and the responses were subjected to factor analysis to determine the construct validity in research question one. The instrument reliability was determined by the method of internal consistency using Cronbach Alpha having index of 0.897. Data were analyzed using Normal Varimax Rotation method of factorial analysis, mean, standard deviation and t-test. Mean and S. D. were used for research question 2, t-test statistics employed for the hypothesis at P=0.05 significant level. Findings showed fifty (50) items out of the one hundred and two (102) items met the requirements for acceptance as valid and included in the instrument and fifty two (52) items that were factorially invalid were discarded. The findings also showed effective mean at all the clusters of PLBMI. This is to state that the gender of the principals influenced their mean scores on the PLBMI. The result of the null hypothesis showed no significant difference in the mean scores of the principals based on gender. It was thus recommended among others that since the instrument is proved valid, it should be adopted by Post Primary Schools Management Board and Ministries of Education in the assessment of principals before assigning them to lead schools. This will avert the influence of subjectivity in the selection of principals and also help to ensure that only principals with some degree of leadership behaviours are positioned as leaders.

Key words: Principal, Leadership Behaviours, Measurement and Instrument

Introduction

Leadership is the sinew on which the body of every organisation rests. A good leadership makes an organisation thrive well, thereby influencing both human and material development of the organisation, leading to the attainment of goals and objectives. Adeyemi and Bolarinwa (2013), expressed leadership as "the art or process of influencing people so that they will strive willingly towards the achievement of objectives" (p.187). Mosadeghrad and Yarmohammadian (2006), defined leadership as a series of attitudes, characteristics and skills used by leaders in different situations in accordance with individual and organisational goals. According to Armstrong (2004), leadership is influence, power and the legitimate authority acquired by a leader to be able to effectively transform the organisation through the direction of the human resources that are the most important organisational assets, leading to the achievement of desired purpose. Leadership is a path of succession of states through which a system passes to influence the activities of an organised group for achievement of goals as enshrined in the organisation's objectives.

Therefore, to lead is to engage in an act that initiates a structure- in – interaction as part of the process of solving a mutual problem (Babalola & Ayeni, 2009). Nwangwu (2011), opined that one given the task of directing and coordinating

task-relevant group activities is a leader. The central theme in leadership is getting things accomplished through people. It is influencing people's behaviour so that they will work towards given objectives. Bennie (2012) in defining leadership identifies four aspects of leadership, which are; its substance – what leaders have to do, its process – how they accomplish it, its purpose- the whys, the reasons for leadership and what leaders will have to do.

Apparently, in relation to school, leadership is second to teaching in its impact on student's achievement (Leithwood et al., 2004), and plays main role in initiating internal changes in schools, giving direction and support (Public Impact, 2016). Principals as leaders are unparalleled in school organizations. The principal is a flagpole on the hill of school organisation. This statement was strengthened by Amoloye (2004) who saw them as school managers. The principals' job of managing according to Babalola & Ayeni, (2009), involves among other things, providing leadership for individuals, coordinating both human and material resources to ensure the attainment of organizational goals. The fundamental goal of the school is to enhance the teaching and learning process. Therefore, leader of the school should endeavour to influence behaviours of both teachers and students to achieve the goals of the school.

Imperatively, an effective leader should understand the characteristics of subordinates in collaboration with the environmental situation, thereby match behaviour accordingly. The principal through leadership behaviour supports both teachers and students in areas of personal interest to them that will help in the achievement of school goals, but at the same time will not conflict with schools' interest. Babalola and Ayeni, (2009), asserted that the ways and manners in which the principal carries out these leadership functions reflect his leadership behaviours.

Therefore, behaviour implies the manner in which the principal as a leader of a school acts towards other members in the working environment consisting mainly of the teachers

and students. Marie and Neal (2011), defined leadership behaviour as a pattern of behaviours leaders prefer to use. Principals adopt different situations with different individuals to motivate them to perform at their utmost potential. A principal may adapt leadership behaviours he deemed fit to different situations. Babalola and Ayeni (2009) opined that these principal leadership behaviours are combination of managerial functions and managerial styles.

Obviously, the organisation performance is either hindered or facilitated by the type of leadership behaviours engaged by the principal which determines and set the school environment. This implies that the actions of the principal result to reactions from the subordinates, and conversely, actions of subordinates trigger reactions from the principal. In this research, for the purpose of description, classification, and experimentation, behaviour is essentially treated by identifying and measuring specific acts or responses which are called behavioural events. This research work focuses on principal's leadership behavioural events defined by four core components and four key processes known to influence student learning and achievement.

These principal behavioural events are key processes classified under four headings: planning, implementing, supporting and monitoring to reflect perception, learning, memory and emotional expressions. These behavioural events are showcased under four core components of high standards for student learning, rigorous curriculum, and quality instruction and performance accountability. The core components refer to characteristics of schools that support students learning and enhance the ability of teachers to teach, while the key processes refer to how principals create and manage those core components.

Effective Learning-centred Leadership is at the intersection of the two dimensions; core components created through key processes (Vanderbilt, 2008). These classes of events represent some aspects of environmental forces. These behavioural events are complexly

determined by the interplay of forces from both intrinsic and extrinsic forces. Behavioural events also bring about intrinsic changes in the principal, which, taking together represent experiences (Nwaigwe, 2011). That is, behaviour comprises all those aspects of human activity which people can observe. In effect, it represents the outward life of the principals.

Therefore, to carry out their responsibilities, the principal employs some types of leadership behaviour. A principal who uses direct leadership behaviour expresses the essential nature of the task and responsibility of his group members, set performance and reward norms, classify the rules and regulations as applicable, provide guidance, advice and give instructions as necessary and monitor outcome. On the other hand, a principal in possession of supportive leadership behaviour establishes warm-interpersonal relationships with the individuals, showing understanding and shares their aspirations and feelings, shows concern for their welfare and promotes group cohesiveness.

More so, a principal with participative leadership behaviour keeps the students and teachers intimated on important tasks, goals and situations and carry them along in decision making and seek their ideas always. Achievement-oriented principals develop and utilize the skills and talent of the staff and students. A principal with achievement-oriented behaviour sets challenging goals for the teachers and students, helps them to have understanding about the goals to be achieved, and free hand to participate in their jobs.

Emphatically, in secondary school system, the principal's behaviour is made manifest in four core components and four key processes through which the principal carries out his functions. It is expected that in the discharge of his responsibilities, the principal has to plan, implement, support and monitor human and non – human resources in the organisation which are leadership functions (Wallace Foundations, 2009). These leadership functions as highlighted by Onifade (2004)) are planning which implies making future decisions on activities to be performed, personnel and material involvement. It also involves decisions

on when and how actions are to be taken. In school, the principal plans about the future and makes preparations needed for carrying out his responsibilities. The purpose of this planning is to take rational decisions so that scarce resources will be judiciously used to achieve maximum benefits and educational objectives effectively.

Babalola and Ayeni (2009), opined that the decisions of the principal has to assist in tailoring workers' personal objectives towards those of the educational organisation. The principal uses an effective channel of communication to guide, motivate and direct the workers to realise the educational goals. More so, the principal as a leader should have the behaviour of monitoring educational activities to ensure expected outcome. Through regulating, curbing and checking the excesses of teachers and students, the principal ensures that things are done in accordance with established rules. Therefore, for a principal to lead effectively, s (he) has to create a working environment whereby teachers and students collaborate and identify with the schools' mission and goals to make the school effective.

Effective schools have been defined as those with effective leaders. According to Williams (2008), they are those schools which obtain significant increases in student performance for targeted populations. This author listed strong leadership behaviour from the principal as a characteristic of successful schools. According to this author, these factors impact on schools' teaching and learning process and student achievements. According to Otiato (2009), an effective secondary school is one with safe and positive learning environment, where students are able to achieve their personal goals and develop the skills to make contributions to the society in the future. There is need for exhibition of sound and effective leadership behaviours by the principals at the secondary level of education in order to achieve these stated objectives which is the main objective of the National policy on secondary education.

Obviously, there is no hyperbolical representation in saying that secondary education is unique in the educational

development of a child, as it links the primary and tertiary education. Specifically, the aims of secondary education cited in National Policy on Education are to prepare a child for useful living within the society and for higher education (Federal Republic of Nigeria, 2014). The purpose of secondary education is to ensure that a child is better developed than at the primary level, more so, primary education is insufficient for children to acquire literacy, numeracy, and communication skills (Ige, 2011; Yusuf, 2009). It is a prerequisite for a child to obtain a minimum of five credits including English Language and Mathematics to be able to proceed to the university education in the country. This makes it very imperative that principal leadership of secondary school should be taken very serious.

There abounds evidences regarding poor leadership behaviours of principals at the secondary school level, evident in constant misunderstandings between the principals' behaviours towards the teachers, students, parents and even supervisors. Other evidences also abound in the principals' behaviour of misappropriation of resources in their custody. These evidences are supported by the researcher's observation as a secondary school teacher for many years. Poor leadership behaviour has resulted in a failure to actualize the purpose of secondary school education. In the light of the foregoing, the federal government of Nigeria committed itself to salvaging these situations by ensuring that these issues are given proper attention.

Hence, the Federal Government identified the principal as a leader and importance of leadership in education, it recognized that no educational system surpasses the quality of its teachers (Federal Ministry of Education, 2014). It put some measures in place to improve the welfare of the principals. These efforts of the government to salvage the education sector have not shown much fruition. This is one of the motivations of the researcher to carry out this research work to find out what has constituted a cog in the wheel of secondary education. However, the crux of the matter is on how education authorities will identify principals with good leadership behaviours that will enable them to carry out the organisational

functions effectively and achieve the educational goals, before positioning them to lead schools. The positioning of principals as leaders in schools without first identifying those who have these behaviours may not augur well for the effective leadership of the school. This selection should not be based on mass promotion or year of certification in order to bring about effective leadership.

More so, measurement of these leadership behaviours cannot be measured directly like other objects that can be seen and which involve the use of well stipulated instruments that measure directly these qualities because of their stability. Measuring behaviours also involves the use of instruments that do not have rules to guide its use and ideas and that gives different results on repeated assessments because by nature, they are more changeable. Therefore, a better way of solving these problems is to develop a good valid and reliable instrument for measurement of principals' leadership behaviours to determine the degree at which one possesses these behaviours before being positioned as a leader.

Development is a set of procedures used to produce or create a new thing. Instrument development therefore, is a procedure used to produce or create a new tool for the discovery of new knowledge. Instrument development is one of the essential processes of educational measurement and evaluation. According to Abonyi (2003), instrument is a tool or device used for a scientific work. It is used to measure the present value under observation. This assertion by Abonyi of the same year implies that without a suitable instrument, the value of the quality under investigation cannot be adequately assessed. This also means that without the developed instrument, the principal leadership behaviours may not be properly identified.

In the process of developing instrument, Gall, Gall and Borg (2009), identified various criteria that can be used to judge whether an instrument is of sufficient quality to use in educational research. These include validity, reliability, objectivity, usability and fairness. A valid measure according to Singh, Shama, and Upadhya (2008), is one that measures what it intends to measure. A validated instrument of

this nature should pass through the process of factorial validation. This factorial machine crushes all the factors fed into it, analyses all, and sieves off the irrelevant and ambiguous ones, thus leaving as a filtrate, a set of competent and valid keys of managerial ability (Ajayi, 2000). Reliability of instrument concerns the consistency of measurement, expressed as a correlation coefficient (Ajayi, 2000). As a result, the researcher has subjected the items of this instrument to both validity and reliability testing and the correlation coefficient obtained shows the extent of the reliability of the instrument.

Howbeit, one cannot talk about instrument development without emphasizing on measurement. Measurement is the act of judging or forming an opinion about the nature or quality of an issue. In education, a number of instruments are used to measure behaviour. They include: achievement tests, personality tests, aptitude tests, interest inventories, intelligence tests, attitude inventories, behavioural procedures and neuropsychological tests (Gruijter and Kamp, 2002). The practical relevance of these instruments depends on the level of reliability and validity they possess.

Moreover, developing research instrument in relation to principal behaviour shows differential performance by many factors. One of these factors includes gender. Therefore, to explain why principals act the way they do, one of the goals or focus of this research work is to assess the underlined disposition and establish the relationship or interplay to principals' behaviour. This controversial independent variable in this study, such as the gender of the principals needs to be examined in order to determine how it influences the leadership behaviours of principals in schools. Since Eneremadu, (2004), posited that increasing number of females assumes leadership roles as principals, it becomes imperative to determine whether the gender of a principal influences the leadership behaviours. Okeke (2004), in her study found out that gender does not affect Administrative Communication Skills of Principals in Anambra State. This differential performance effect on principals' behaviours

can be measured through the development of valid and reliable instrument to determine the existence and degree at which this variable is present. However, the researcher sought to resolve this issue and delve into developing and validating principals' leadership behaviours measuring instrument [PLBMI] in measuring secondary school principals' leadership behaviours in the South East Nigeria.

Statement of the Problem
Based on the forgoing, the objective of the study is to develop, validate and use Principals' Leadership Behaviours Measuring Instrument taking into consideration the gender of the principals. Two research questions and one hypothesis were used.

Research questions
1. What is the factor structure of the Principals' Leadership Behaviours Measuring Instrument Scale?
2. How does gender influence leadership behaviour of the principals?

Hypothesis
H_{01}: There is no significant difference between the mean scores of principals' gender in leadership behaviours as measured by Principals' Leadership Behaviours Measuring Instrument (PLBMI).

Methodology
Instrumentation research design method was used. The study was carried out in the South East Nigeria. The population of the study consisted of 1156 head principals and schools in 20 education zones in 5 states of South East. Proportionate stratified random sampling technique was adopted in selecting (2/3) 14 zones, through which 474 head principals and schools were selected. The instrument used for data collection was Principals' Leadership Behaviours Measuring Instrument (PLBMI) developed by the researcher. The instrument validation was done by two Measurement and Evaluation, and one Educational Management and Planning experts from Michael Okpara University of Agriculture, Umudike. PLBMI is 102 – item instrument that emerged after face validation. The PLBMI items were factorially

analysed using Normal Varimax Rotation Method to determine the construct validity in research question 1. The reliability coefficient of the PLBMI was established using Cronbach alpha statistic. The reliability coefficient yielded 0.90. Mean and standard deviation were used in answering research question 2. T-test statistics was used in testing hypothesis at P=0.05 level of significant.

Results

Research Question 1: The research question one was answered using Table 1 below

Table 1: Factor Structure of Principals' Leadership Behaviours Measuring Instrument

Factor	Cluster	Items	Extraction
Planning	1		
planning intensive expansion in learning for all students		1	.716
aims at school performance that actualizes improvement in student learning		2	.861
plans the integration of school's objectives and targeted goals into school programs		3	.939
plans the use of assessment data for instructional services for students with special needs		6	.857
plans time table that enables quality instruction		7	.923
plans activities and programs that promote disci pline and order		8	.935
plans for enabling environment where student learning is the central focus		9	.852
develops a plan for school / community relations that centres around the academic attainment		10	.885
jointly develop both short and long t erm plans to improve on students' performance		15	.948
Involve school staff members to participate in planning and budgeting		16	.808
stipulates and sets high expectations for students and staff		17	.737
Establishes a safe, positive and supportive schoo environment	l	18	.840
plans every school activity to centre on student learning		22	.589
plans rules and regulations that encourage serenity		23	.664
Implementing	2		
creates the enabling environment for required actions to promote high standards of learning		25	.877
synchronize efforts to improve instructions in classes		28	.849
select and implement effective improvement strategies		31	.932
protects instructional time by limiting transactions that can influence time available		32	.929

focuses school resources on teaching	33	.947
applies equity and consistency in dealing with students and staff	34	.929
builds a culture that honours academic achievement	36	.888
anticipates problems and adjust behaviours to avoid conflict	41	.902
motivates students and staff to higher level of performance	42	.850
adheres to all applicable rules, regulations, policies and laws	43	.890
consistently implement rigorous evaluation of school staff members	45	.878
holds teachers responsible for performan ce goal for all students	46	.901
ensures teachers uses best teaching methods	50	.902
creates more difficult sequences of learning experiences to challenge the student's ability	51	.912
motivates students by recognizing academic achievement	52	.940
Supporting	3	
supports teachers achieving school goals	55	.900
secures teaching materials needed for a rigorous curriculum	56	.823
supports teachers to teach stipulated curriculum by state and national content standards	57	.770
supports and gives teachers opportunities to improve their instructional practices	59	.865
obtains additional resources through partnering with PTA to enhance teaching and learning	62	.932
maps out time to evaluate student learning	64	.715
maps time to evaluate depart ments performance for student learning	65	.817
provides needs based professional development	67	.809
supports teachers efforts to engage in data -bases decision making	68	.801
gives staff opportunities to assume leadership roles in the school	71	.777
supports and encourages teachers to improve their instructional practices by in-service training	76	.857
Monitoring	4	

Normal Varimax Rotation of factor analysis
Table 1 shows that the responses of principals on the one hundred and two (102) items were scored and subjected to data reduction procedure using, Normal Varimax Rotation Method of factor analysis. There was extraction of fifty (50) items considered to be factorially pure, while the remaining fifty-two (52) items were unacceptable. The unacceptable fifty two items discarded include: 4, 5, 11, 12, 13, 14, 19, 20, 21, 24, 26, 27, 29, 30, 35, 37, 38, 39, 40, 44, 47, 48, 49, 53, 54, 58, 60, 61, 63, 66, 70, 72, 73, 74, 75, 78, 79, 80, 82, 83, 84, 85, 86, 88, 90, 91, 92, 94, 96, 98, 102. This groups of items are referred to as factorially impure and complex items (FI and FC) respectively.

Research Question 2: The research question was answered using Table 2 below.
Table 2: Mean (X) and Standard Deviation (S.D.) Scores of Clusters of Principals' Leadership Behaviours Measuring Instrument (PLBMI) by Gender

Factor	Gender	Mean	Std	Decision
		2.88	.510	
	Male			Effective
Planning	Female	2.91	.431	Effective
	Male	2.75	.829	Effective
Implementing	Female	2.76	.780	Effective
	Male	2.74	.862	Effective
Supporting	Female	2.60	.838	Effective
	Male	2.75	.914	Effective
		2.73	.992	Effective
Monitoring	Female			

Key: Scale   0.50-2.49   2.50-4.00

Interpretation: Ineffective   Effective

Table 2 shows that the male principals representing 36.4% of the sample recorded effective mean (x) of 2.88, 2.75, 2.74 and 2.75 with S.D. of 0.510, 0.829, 0.862 and 0.914 scores respectively. While their female counterparts representing 63.6% of the sample size also obtained effective mean (x) of 2.91, 2.76, 2.60 and 2.73 with S. D. of 0.431, 0.780, 0.838 and 0.992 respectively in all the clusters of PLBMI. The result shows that both gender of principals obtained effective mean (x) above 2.50 criterion point indicating a moderately high level of gender influence.

Research Hypothesis 1: The research hypothesis one was answered using Table 3 below:
Table 3: Independent t-test for Equality of Means (X) Scores of Clusters of PLBMI by

Factor	t-test					
	t-calculated	Df	t-critical	Mean Difference	Std. Error Difference	Decision
Planning	Male .967	455	.334	.044	.045	Not Sign.
	Female .947	326.885	.344	.044	.046	
Implementing	Male .021	455	.983	.002	.078	Not Sign.
	Female .021	339.192	.984	.002	.079	
Supporting	Male 1.166	455	.244	.096	.083	Not Sign.
	Female 1.174	356.677	.241	.096	.082	
Monitoring	Male -.154	455	.878	-.014	.093	Not Sign.
	Female -.155	357.547	.877	-.014	.092	

Key: .05 level of significance= Significant, .05 level of significance=Not significant, df 455.

Table 3 shows that male principals t- calculated values of 0.967, 0.021, 1.166, -0.154 are less than the t-critical values of 0.334, 0.983, 0.244 and 0.878 when tested at 0.05 significant level, with 455 degree of freedom. The result shows female principals't- calculated values of 0.947, 0.021, 1.174 and -0.155 are less than t- critical values of 0.344, 0.984, 0.241 and 0.877 tested at 0.05 significant level with 455 degree of freedom. The null hypothesis that there is no significant difference between the mean scores of male and female principals as measured by PLBMI is upheld.

Findings

Based on the analysis of data in the study, the major findings were:

1. The study shows that out of one hundred and two (102) items of PLBMI subjected to factor validity exercise, that 50 items of the instrument were valid. Factor validation was determined on the 50 items after fieldwork, and all the items were found to be factorially pure. Fifty two (52) impure and complex items were discarded. The 50 items formed the items of PLBMI.
2. The result shows mean (x) and standard deviation scores of clusters of PLBMI by gender with effective mean (x) between 2.60 and 2.91 in all the clusters for both sexes of principals. This implies that the instrument is stable with respect to gender.
3. The study revealed no significant difference between the mean scores of male and female principals' leadership behaviours as measured by PLBMI.

Discussion

Based on the findings, it was obvious PLBMI is a valid instrument for measuring principals' leadership behaviours. It was revealed that the 102 items of PLBMI that were subjected to factorial validation exercise using the rotated component matrix had 50 items that were found to be properly loaded. The 50 pure items were sampled on the actual subjects at the fieldwork. A total of 52 items (4, 5, 11, 12, 13, 14, 19, 20, 21, 24, 26, 27, 29, 30, 35, 37, 38, 39, 40, 44, 47, 48, 49, 53, 54, 58, 60, 61, 63, 66, 70, 72, 73, 74, 75, 78, 79, 80, 82, 83, 84, 85, 86, 88, 90, 91, 92, 94, 96, 98, 102) were dropped for being invalid. The result revealed that cluster 1 (planning) of PLBMI had 14 items representing 28% of the 50 items that survived the factorial validation process. While cluster 2 (implementing) had 15 items representing 30% of the 50 items that survived the factorial procedure. The result further showed that cluster 3 (supporting) and 4 (monitoring) had 22% and 20% representing 11 and 10 items respectively of the 50 items that made up PLBMI.

The finding of this study is in consonance with the recommendation made by Meredith as cited in Madu (2012), that a loading of 0.35 should be the minimum for accepting any item. The reduction of items from One hundred and two (102) to fifty (50), agrees with the opinion of Edikpa (2004), that the most distinctive characteristic of factor analysis is its data reduction capability and condensation of many items into a few underlying constructs. The factor analysis pulled the like items of PLBMI closer. The findings of this study also relates to Nwangwu (2011) study, where 30 items were found to be valid and included in the instrument while 15 invalid items were dropped.

However, findings in this study revealed that in the respective four clusters of the instrument, 168 male principals representing 36.4% of the sampled principals obtained effective mean responses of 2.88, 2.75, 2.74 and 2.75, while 294 female principals representing 63.6% obtained effective mean responses of 2.91, 2.76, 2.60 and 2.73. This indicated that principals' mean responses to the items of the instrument in the various clusters did not differ in terms of their sex.

The results of the corresponding hypothesis indicated that male principals t- calculated values of 0.967, 0.021, 1.166, -0.154 were less than the t-critical values of 0.334, 0.983, 0.244 and 0.878, when tested at 0.05 significant level with 455 degree of freedom. The result revealed female principals't- calculated values of 0.947, 0.021, 1.174 and -0.155 are less than t- critical values of 0.344, 0.984, 0.241 and 0.877 when tested at 0.05 significant level at 455 degree of freedom.

This finding contradicts Nwangwu (2006), who posited that in schools headed by female head-teachers, students perform better in external examinations than those headed by male head-teachers. The findings, on the other hand, disagrees with the findings of Eneremadu (2004), who opined that gender of the principal affects the Usefulness of Punishment in secondary schools in Imo State.

Conclusion

The findings of this study have clearly shown that the 50 items that survived factor analysis exercises formed the items of PLBMI; therefore this confirmed the validity of the instrument. This implies that PLBMI can be used by interested institutions and individuals to assess the leadership behaviour capabilities possessed by principals before assigning them schools to lead.

The male and female principals obtained effective mean in all the clusters of the instrument, based on acceptance criterion mean of 2.50.

The hypothesis was accepted or rather given the interpretation of "not significant because t-critical and Significance of F calculated at 455, 3, and 2 degrees of freedom are $P > 0.05$ level of significant. Thus, indicating acceptance of the null hypothesis. By implication, gender of the principals does not exert significant influence on principals' mean (x) scores on the PLBMI. Therefore, the instrument could be used for all principals irrespective of their sex.

Recommendations

The following recommendations were made:
1. Ministries of Education, Teaching Service Board and any other educational institution that might wish to determine the leadership skills of heads of their institutions should adopt PLBMI.
2. This instrument could be used during conferences, seminars and workshops in training of principals by the higher authorities.
3. Principals could use it as self-evaluation tool because PLBMI has the capability of helping the principals identify and improve their leadership behaviours.
4. This instrument should be used for all categories of principals, not minding their gender.

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