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SCHOOL-BASED ASSESSMENT IN UNIVERSAL BASIC EDUCATION: IDENTIFYING THE CONCERNS OF TEACHERS

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It has been planned to expand school-based assessment in Universal Basic Education programme of the country. Empirically, nothing is known about teacher concerns regarding the adoption or implementation of such an educational innovation. This article presents the findings from a cross-validation study of a five-stage model of teacher concerns. A 22-item questionnaire was constructed to measure teacher concerns on five sequential stages: Indifference, Informational-Personal, Management, Consequence-Collaboration, and Refocusing. Using the questionnaire, a survey to study three hundred primary and junior secondary school teachers' concerns about school-based assessment as a component of the Universal Basic Education was conducted. The survey results supported the five-stage model, but information collected through an open-ended questionnaire survey indicated that the five-stage model needed to be extended to include a stage of evaluation concerns.

Keywords: Assessment, Universal, Basic, Education, Teachers.

INTRODUCTION

Policymakers, educators and the general public are looking once again to school-based assessment as a catalyst for education reform because of its reported ability to leverage instructional improvement and to hold school systems accountable for their results. Recent mandates for improved student outcomes have shifted focus away from assessments that test students minimal skills to those that emphasize high standards in skill areas that are considered necessary for success in today's technologically advanced society. Such assessment system does not only aligned and integrated with local curricula, instructional practices, and professional development strategies, but also contribute to the goal of increasing

student achievement based on rigorous content standards.

School-based assessment has a major role to play in the education of children. Children spend best part of their young lives with teachers and it is through the teacher assessments that one can better understand their capabilities. To rely solely or to a large extent on the one time examination as is common practice in most countries is to obscure the vision of teachers and deny them a voice of creativity. The role of school-based assessment in the final grading of students in schools need to be given an uplifted force. Teachers in schools continue to assess students on a day to day basis but the fruits of their hard labour are easily swallowed by the national examinations which are

prepared by an external body. This could be due to lack of confidence in the way teachers assess or that the importance of such assessment is not readily seen. It should be noted that managing, synthesizing, interpreting, and using student assessment obtained from a multifaceted assessment system can be a daunting tasks for teachers particularly when the teachers do not have training or experience and are not concern in the student assessment.

Consequently, many attempts at educational change fail. There are lot of reasons why an innovation fails to be adopted or implemented by schools, but one important reason is that teacher concerns about the advocated innovation are not monitored and addressed throughout the process of the change. The change process may be analysed at two levels: individual and organizational (Zaltman, Duncan, & Holbek, 1973). Hall and Hord (2001) in explaining the significance of the individual level remarked that successful change starts and ends at the individual level. An entire organization does not change until each member has changed. Even when the change is introduced to every member of the organization at the same time, the rate of making the change and of developing skill and competence in using it will vary individually. Hence, the leader of organizational change processes need to devise ways to anticipate and facilitate change at the individual level.

Hall, George and Rutherford's (1977) Stages of Concern Model is a model that focuses on the concerns of teachers in adopting or implementing innovations. They defined concern as the composite representation of the feelings, preoccupation, thought, and consideration given to a particular issue or task. Two assumptions are noteworthy in their model. The first is that teacher concern is a multidimensional construct; seven distinct stages of concern are assumed to exist irrespective of the nature of educational innovations. The stages of concern are Awareness, Informational, Personal, Management, Consequence, Collaboration, and Refocusing. According to them, a teacher can experience several stages of concern about an educational innovation concurrently, but there are differential degrees of intensity. The characteristics of the seven stages of concern are presented below:

Stage I (Awareness) – Little concern about or involvement with the innovation is indicated.

Stage II (Informational) – A general awareness of the innovation and interest in learning more detail about it is indicated. An individual is interested in substantive aspects of the innovation in a selfless manner such as general characteristics, effects and requirements for use.

Stage III (Personal) – Individual is uncertain about the demands of the innovation, his/her inadequacy to meet those demands; and his/her role with the innovation. This includes analysis of his/her role in relation to the reward structure of the organization, decision making, and consideration of potential conflicts with existing structures or personal commitment.

Stage IV (Management) – Attention is focused on the processes and tasks of using the innovation and the best use of information and resources.

Stage V (Consequence) – The focus is on relevance of the innovation for students, evaluation of student outcomes, including performance and competencies, and changes needed to increase student outcomes.

Stage VI (Collaboration) – The focus is on coordination and cooperation with others regarding use of the innovation.

Stage VII (Refocusing) – The focus is on exploration of more universal benefits from the innovation, including the possibility of major changes or replacement with a more powerful alternative.

The seven stage of concern can be categorized into three groups: Self-concerns (Stages 1-3); task concerns about the innovation (stage 4); and impact concerns regarding students (5-7).

The second assumption in the 7-stage model is that teacher concern is a developmental construct. Hall et. al. (1977) conceptualized an educational innovation as a process involving developmental changes in teacher concerns. Initially, a teacher's self-concerns are expected to be the most intense. As the teacher becomes more experienced with the innovation, task concerns predominate. Finally, impact concerns become most intense.

Based on the 7-stage model, Hall et al. (1977), developed a 35-item stages of Concern Questionnaire to measure teacher concerns about educational

innovations. The 35 items comprise seven subscales of five items each, which correspond with the seven stages of concern. With the aid of the questionnaire, change facilitators can monitor individual teacher's peak concerns at various times during the process of educational change and plan appropriate concerns-based interventions.

Many studies have applied the stages of Concern Questionnaire to measure teacher concerns regarding innovations (Cunningham, Hillison & Horne, 1985; Broyles & Tillman, 1985; Marsh, 1988; James, 1991; Aneke & Finch, 1997). There has been little critical analysis or further elaboration of the 7-stage model since its initial development in the 1970s (Anderson 1997). A recent study by Cheung, Hattie and Ng (2001) revealed that Hall *et al.*'s (1977) model did not fit real data. They collected 1,622 teachers' concerns about the Target-Oriented Curriculum in Hong-Kong and examined the construct validity and simplex structure of their Stage of Concern Questionnaire data by confirmatory factor analysis and structural equation modeling respectively. They found that the Stages of Concern Questionnaire items did not load on seven factors in a pattern consistent with the model and the seven stages of concern variables did not form a developmental hierarchy. To improve the model fit, Cheung *et al.* regrouped some of the items and proposed a 22-item 5-stage model. The five modified stages of concern were labeled as follows: (1) Indifference, (2) Informational-personal, (3) Management, (4) Consequence-collaboration and (5) Refocusing.

To give a full picture of students' performance, school-based assessment is viewed as an important component of the Universal Basic Education. Unfortunately, the concerns of teachers about adopting or implementing school-based assessment as a component of the Universal Basic Education has not been systematically identified. Hence the purpose of the present study is to investigate the teachers' concerns about school-based assessment using Cheung *et al.*'s (2001) stages of Concern Model as conceptual framework and to identify those concerns that might exist between the indifference and Informational-Personal Stages.

METHODOLOGY

The twenty-two Stages of Concern items retained by Cheung *et al.* (2001) were used to measure the relative intensities of teacher concerns at five stages: Indifference, Informational-Personal, Management, Consequence-Collaboration, and Refocusing. Items were re-worded so that they were appropriate for school-based assessment in Nigeria. All items were rated along an eight point Likert scale ranging from 0 (not true of me now) to 7 (very true of me now). The five-stage twenty two item model had alpha reliability estimates of 0.79 for Indifference, 0.82 for Informational-Personal, 0.76 for Management, 0.75 for Consequence-Collaboration, and 0.84 for Refocusing. The copies of the modified questionnaires were sent to a convenience sample of three hundred teachers from twenty schools (Ten primary schools and Ten Junior Secondary Schools). A total of Two hundred and ninety teachers (290) returned their completed questionnaire (return rate = 97%).

Teachers' responses to the items were first coded on a scale of 0 to 7. The reliability of teachers' responses to individual items and to the five subscales was then examined on the basis of item-total correlations and co-efficient alphas respectively. Also, stages of concern profiles were plotted for three groups of teachers: non-professional teachers, professional teachers with 0 to 5 years of experience, and professional teachers with more than 5 years of experience. The stage-approach to investigating teacher concerns assumes that if an innovation is appropriate and the change process is facilitated, teachers will shift from self-concerns to task concerns, and ultimately to impact concerns. To test the validity of the 5-stage model, the three stages of concern profiles were analysed to see whether teacher's peak stages of concern were related to the school-based assessment experience in a pattern predicted by the model.

To identify concerns between indifference and Informational-personal stages, open-ended questionnaire was used. As Hall and Hord (1987) pointed out, one strength of the open-ended questionnaire is that the descriptions are in the respondents own word. It was used in the study in order to explore any missing stages of concern

constructs between the first two stages of concern. This questionnaire was also administered to the sample. Each teacher was asked to answer this question on a sheet of paper: "Before you want to find out more information about School-Based Assessment (SBA)", what are you concerned about. Teachers were allowed to list as many concerns as they wished. The researcher independently categorized their concerns. Each statement of concern was coded on the basis of Cheung et al.'s (2001) five-stage model, but particular attention was paid to those statements that could not be categorized according to that model.

RESULT AND DISCUSSION

Table 1 summarizes the results of reliability test of the Stages of Concern Questionnaire (SoCQ) data. The item-total correlations of the 22 items varied between 0.48 and 0.89, giving support for the reliability of teacher data. Furthermore, the alphas of the subscales ranged from 0.82 to 0.94, indicating that the five subscales were of high reliability.

Table 1

Reliability Estimates for the SoCQ Subscales and Items

Subscale/Item	Item-Total Correlation
<i>Stage I – Indifference (= 0.82)</i>	
Not concerned about SBA	0.65
Occupied with other things	0.71
Not interested in learning about SBA	0.62
<i>Stage II – Informational-Personal (= 0.94)</i>	
• What teachers are required to do	0.74
• Time and energy commitment required	0.89
• How SBA marks are moderated	0.75
• How my role will change	0.85
<i>Stage III – Management (= 0.86)</i>	
• Not having enough time	0.81
• Inability to meet all SBA requirement	0.46
• Time spent on non-academic matters related to SBA	0.77
• How to complete SBA tasks efficiently	0.63
<i>Stage IV – Consequence-Collaboration (= 0.88)</i>	
• Develop working relationship with other Teachers	0.63
• Let other teachers know the benefits and operation of SBA	0.52

Contd...

Subscale/Item	Item-Total Correlation
• Concerned about the impact of SBA on students	0.54
• Let students understand their role in SBA	0.78
• Coordinate my teaching with other teachers	0.68
• Know how other teachers are implementing SBA	0.61
<i>Stage V – Refocusing (= 0.83)</i>	
• Revise the current SBA to improve its effectiveness	0.67
• Revise certain design of SBA	0.66
• Modify SBA based on students' learning experiences	0.84
• Find out how to supplement, enhance, or replace SBA	0.63
• Use feedback from students to change SBA	0.78

As Figure 1 shows, teachers peak stages of concern varied with their experience in implementing SBA. The dotted lines indicate the Stage of Concern (SoC) profile of non-professional teachers. As predicted by Cheung et al.'s (2001) five-stage SoC model, these teachers experienced all stages of concern concurrently, but their peak concerns were at stage II (Informational-Personal), indicating that they were interested in learning more about the requirements of SBA.

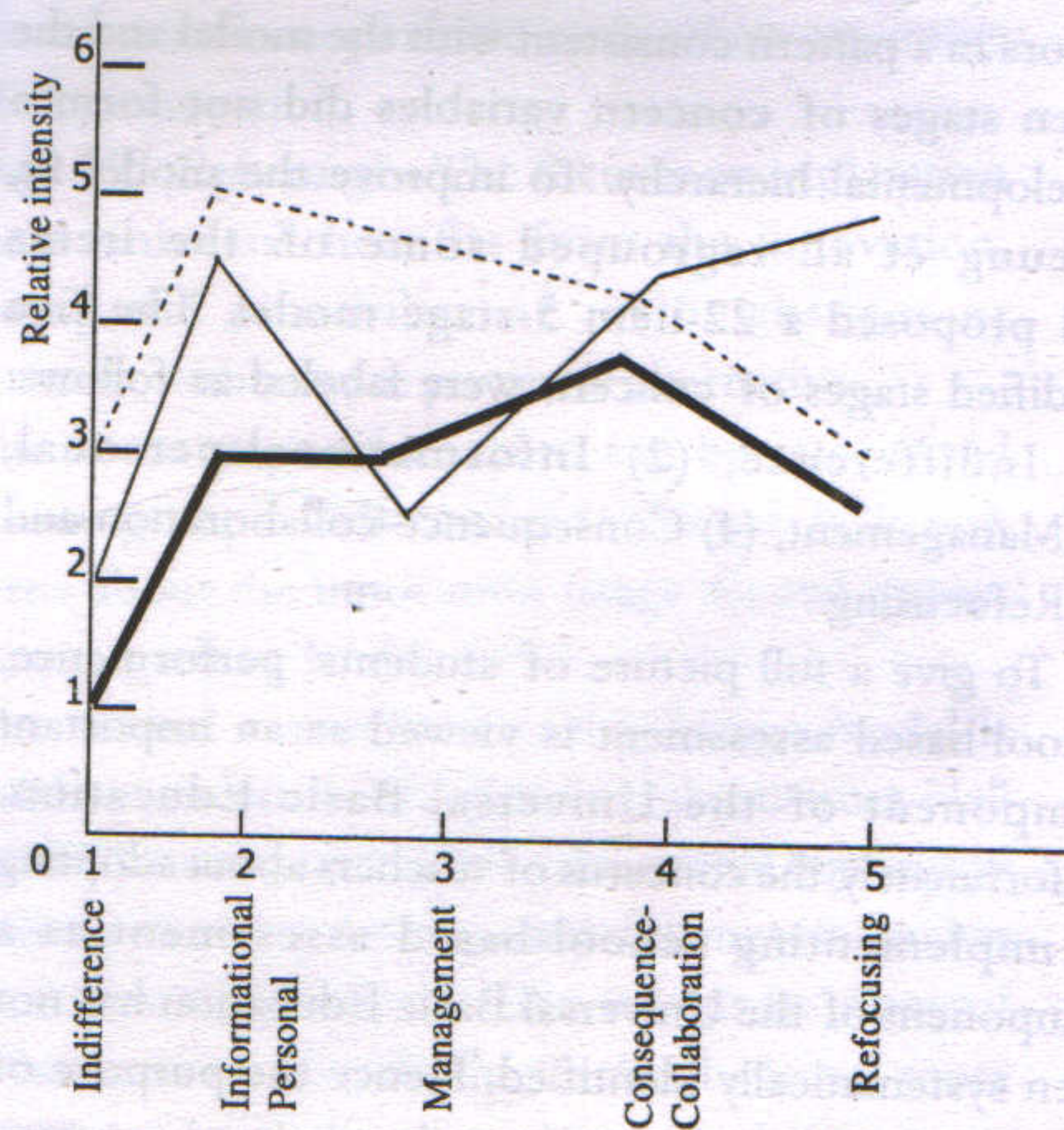


Figure 1: SoC Profiles of Teachers

Key: --- non-professional Teachers (n = 85)
 — Professional Teachers with 0 to 5 years experience (n = 145)
 — Professional Teachers with more than 5 years' experience (n = 60)

They were also quite concerned about the management (Stage III) of SBA. The low, tailing-off stage V intensity suggests that non-professional teachers generally did not have other ideas that would refine or replace the current SBA practices.

The thick solid line in Figure 1 indicates the SoC profile of those professional teachers with 0 to 5 years experience. Again, these teachers experienced all the five stages of concern concurrently, and as hypothesized by the SoC model, teachers' peak concerns shifted to a higher stage when compared with those concerns of non-professional teachers. The low stage I (Indifference) intensity suggests that teachers were very concerned about SBA and were eager to learn more about the practices. The peak concerns were at stage IV (Consequence-Collaboration). This implies that teachers were generally concerned about how cooperation among teachers could be improved in order to enhance the effectiveness of SBA. They were also concerned about how SBA had affected students outcomes such as motivation and problem-solving skills.

The thin-solid line displays the SoC profile of those professional teachers with more than 5 years of experience. Consistent with the five-stage SoC model, teachers had the most intense concerns at Stage V (Refocusing). However, their stage II (Informational-Personal) concerns were almost as intense as stage V concerns. It is important to note that multiple-peak concerns profiles usually imply that there are problems in the implementation process. The multiple-peak profile illustrated by the thin solid line in Figure 1 signals the need for immediate attention, because it signifies that the professional teachers with more than five years experience lacked a good understanding of the characteristics, benefits, requirements and operation of School-Based Assessment (SBA). They were also not sure about the role teachers should play in SBA. Appropriate interventions, such as in-service activities, should be designed to allay these teachers' Informational-Personal concerns and to channel teachers' Refocusing concerns to improve the School-Based Assessment.

Concerning the response of the teachers to the open-ended questionnaires, a wide variation in

concerns was observed. A content analysis of teacher responses found that there were 163 statements of concern, but nine statements were not coded due to ambiguity. Table 2 below show the categorization of the open-ended statements of concern.

Table 2
Categorization of Open-ended Statements of Concern

<i>Category</i>	<i>No. of Statements Coded</i>	<i>Percentage</i>
Indifference	0	0
Evaluation	103	66.9
Informational-Personal	38	24.7
Management	0	0
Consequence-Collaboration	13	8.4
Refocusing	0	0

From the Table 2 above, 38 statements were coded Informational-Personal and 13 statements Consequence-Collaboration. Typical expressions of concern at these two stages are paraphrased in Table 3 below.

Table 3
Teacher Concerns Coded Based on 5-stage Model

<i>Stage of Concern</i>	<i>Contents of Statements of Concern</i>
Informational-personal (38 statements)	- Operational features of SBA - How to Implement SBA - Assessment methods to be used - Subject content to be assessed - Teacher workload - Time to carry out SBA - Whether my promotion will be affected - Any penalty if I make mistakes - Competition among colleagues - Need to modify the current curriculum - Need to modify my teaching process - My ability to design high-quality assessment tasks - Whether SBA will affect teacher-student relationship
Consequence-Collaboration (12 statements)	- My students' workload - My students pressure - Impact on student learning

However, 103 out of the 154 statements of concern could not be satisfactorily coded on the basis of either Hall *et al.*'s (1977) original stages of concern definitions or Cheung *et al.*'s (2001) revised model. These statements were provisionally called Evaluation concerns and they appeared to have five components (Yung, 2001). Samples statements written by teachers who had concerns of this type are paraphrased in Table 4.

Table 4

Five Components of Teacher's Evaluation Concern

Components	Contents of Statement of Concern
Worth (42 statements)	• Benefits to the school subject that I teach • Evidence of effectiveness • Improving the present exam system • Successful experiences from other countries • Improving my teaching • Feasibility • Enhancing the reliability and validity of assessments • A fair assessment system • Ease of use
Needs (38 statements)	• Reasons for implementing SBA in my subject • When to implement SBA • Related to my work in school • A compulsory part of the certificate exam system • The weighting of SBA in my school subject
Support (19 statements)	• Availability of teacher training • the attitudes and stance of ministry of Education • Willingness of colleagues to try SBA • Support from the school's administration • Help from experts • Help from the Ministry of Education • Acceptance by students
Accessibility (2 statements)	• Where to find out information about SBA • Any promotional activities/publicity to attract teacher attention
Popularity (2 statements)	• Used in other school subjects • A popular assessment scheme in public exam

Responses were coded Evaluation if a teacher expressed concerns about the worth, needs, support, accessibility or popularity of SBA. The distribution of statements in Table 4 indicates that the major evaluation concerns expressed by teachers belonged to the worth needs and support components. Typical statements reflective of these types of concerns are as follows:

- Is SBA a fair assessment system?
- Is there any evidence of the effectiveness of SBA?
- Is SBA a compulsory part of the certificate examination in UBE?
- If my school subject implements SBA, what will the weighting be?
- Will there be any help from the Ministry of Education?

Such concerns are realistic, and teachers felt that these concerns must be resolved. A great number of teachers in the sample were concerned about the fairness of SBA. Furthermore, some teachers do not believe that statistical moderation is a fair way to adjust SBA marks across schools. One teacher wrote "Not all teachers are impartial. Some teachers may bias towards their own students and thus give them marks leniently or let them complete easy assessment tasks. I worry about the accuracy of marks submitted by individual teachers". Research by Yung (2001) has also confirmed that teachers are very concerned about the issue of fairness. He discovered that teachers hold three different views of fairness in SBA. Some teachers believe that SBA is fair if assessment of students is conducted on a fair basis – not giving clues to students to solve problems, not answering students' questions, and not allowing students to discuss among themselves. He concluded that SBA is fair as long as students are not deprived of opportunities to learn the subject matter while they are being assessed.

Moreover, a number of teachers in the sample expressed concerns about availability of teacher training. Because assessment of student learning is an integral part of the school curriculum, implementation of SBA in a school subject will inevitably affect other curriculum elements such as the intent (aims, goals and objectives), content, and learning activities. Teachers must be clear about the purposes of SBA and keep

these purposes in mind as they design lessons and continually assess student learning. However, most teacher training institutions in the country do not require students to take courses in instructional assessment. As a result, teachers generally lack an adequate knowledge base for implementing SBA.

The results of the open-ended questionnaire indicate that during the innovation adoption process, teachers probably go through one more stage of concern than the one reported by Cheung *et al.* (2001). This additional stage is important because if a teacher's evaluation concerns about SBA are intense and cannot be allowed, the teacher will not initiate a detailed implementation of SBA and consequently the long-term goal of SBA in UBE cannot be achieved.

In the present study, five components have been identified in teacher's evaluation concerns (Table 4). Perhaps the nature and number of the evaluation components are context-dependent, and this is an important topic for future research.

CONCLUSION

Teachers will not adopt or implement an educational innovation just because it is new. To facilitate the process of educational change, change agents have to monitor and alleviate teachers' concerns about the advocated innovation. Hall *et al.* (1977) made a significant contribution to research on concerns of teachers adopting or implementing educational innovations when they characterized the change process with seven stages at the individual level of analysis. The five-stage model proposed by Cheung *et al.* (2001) which is a slight modification of Hall *et al.*'s original seven-stage model was applied to investigate teachers' concern about SBA in Universal Basic Education programme. The result from the present study have supported the five-stage model; the five-subscales demonstrated high reliability and teachers experienced intense stages of concern in a progressive sequence as predicted by the model. Also,

the five-stage model has been extended to include a stage of evaluation concerns between the Indifference and Informational-Personal Stages. At the evaluation stage, most teachers worried about the worth of SBA, the needs for change, and the support provided by the government. The education authorities must monitor teachers' concerns more closely in expanding SBA and provide support that target toward the peak concerns expressed by professional and non-professional teachers. Without the cooperation of teachers implementing school-based assessment in Universal Basic Education programme will be in jeopardy.

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