Cakrawala Pendidikan
Jurnal Ilmiah Pendidikan
Vol. 41 No. 1, February 2022, pp.259-270
https://journal.uny.ac.id/index.php/cp/issue/view/2208
DOI: https://doi.org/10.21831/cp.v41i1.45883

Factors influencing students' motivation towards learning

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ABSTRACT

Students' motivation towards learning comes from inside of themselves, which seems to be an important factor in determining success. The material and personal needs (input dimension), the teachers' knowledge and attitude, and challenges faced by the teachers regarding school-based assessment (the process dimension) are considered to influence students' motivation towards learning. This study was conducted to explore the degree of influence of factors regarding school-based assessment implementation on students' motivation towards learning. There were 879 teachers selected using a stratified sampling method. The instrument was developed by the researcher following the CIPP evaluation model by Daniel Stufflebeam. The analysis used a two-step approach involving measurement and structural model using structural equation modeling (SEM) analysis. Results of the study indicated that the proposed model was supported. Five inter-correlated constructs had good psychometric properties. Out of four constructs, two constructs loaded positively on motivation towards learning. In conclusion, good teachers will engage in improving their knowledge and skills and combat the challenges and hence, improving their practices to continually improve their students' performance. The findings will give rise to further hypotheses.

Keywords: motivation towards learning, school-based assessment, knowledge on SBA, material and personal needs

Article history

Received:	*Revised:*	*Accepted:*	*Published:*
16 July 2021	*22 December 2021*	*12 February 2022*	*25 February 2022*

Citation (APA Style): Ghazali, N. H. C. M., Suppian, Z., & Zaini, S. H. (2022). Factors influencing students' motivation towards learning. *Cakrawala Pendidikan: Jurnal Ilmiah Pendidikan*, *41*(1), 259–270.. https://doi.org/10.21831/cp.v41i1.45883

INTRODUCTION

School-based assessment (SBA) is an assessment system in the form of a continuous assessment conducted during the teaching and learning process. The purpose of the assessments is to gain information about the development, progress, ability, and achievement of students. It could be used for formative and summative purposes. In Malaysia, the system was introduced formally and vigorously in the year 2011. The implementation of SBA is important as it could assist teachers in determining the overall progress of students, identifying strengths and weaknesses in learning, knowing the effectiveness of teaching, designing teaching methods, and finally deciding on follow-up actions. Research has shown that SBA does contribute a lot to improving the performance of students (Wiliam, 2011). In this study, we will be focusing on the four main constructs, which are the input dimension and the process dimension, which influence the motivational state of students towards learning. Material and personal needs, which are the input dimension of the SBA system in this study, include assessment documents such as the "Curriculum and Assessment Standards Document" for each subject, training provided for teachers concerning SBA, and skills in assessing students. Examples of questions for the input dimension are: "to what extent do you agree that the standard document is needed to help teachers in assessment?" or "to what extent do you agree that training should be properly planned and implemented?"

There are four types of knowledge related to assessment, which are domain knowledge, pedagogical content knowledge, knowledge of previous learning, and knowledge of assessment

(Heritage, 2007). Teachers need to master all four components if they are to assess students effectively. To assess students, teachers must know and fully understand the concepts, knowledge, and skills of learning progressions and success criteria and how to guide students in assessment. The second is pedagogical content knowledge. This type of knowledge includes self-assessment skills and knowledge of multiple models of teaching metacognitive processes. Teachers should be able to use at least some practical techniques in assessing, such as the use of questioning, the use of traffic lights, the use of peer feedback (two stars and a wish), the use of three coloured paper or plastic cups, and so on. Furthermore, teachers must understand the gap between the studies, where their students are at and how they are going to improve, the students' attitudes, and language proficiency. These are important as they are going to influence the students' performance. Last but not least, is the knowledge of assessment itself. Teachers must know how to conduct a formative assessment in a classroom, how to align the assessment with the pedagogical strategy and curriculum given to them, and how to interpret evidence.

Previous research has shown that some teachers do not understand how to assess effectively, especially when it comes to formative assessment. They are aware of the day-by-day and minute-by-minute assessments, but they are not aware of the fact that formative assessment is a matter of assessing for improvement, not grading them like summative assessment (Md & Hasnida, 2016). Some teachers are still not clear on the concept of formative assessment, but they do realize the benefits of it (Xuefeng, 2008).They still do not practice this new form of assessment but stick to the old ones—the pencil-and-paper test. In a study conducted by Mohid (2012), it was found that only 9006 primary school teachers (10 per cent) teaching Year 1, 2, and 3 (lower level) and 7979 secondary school teachers (17 percent) teaching Year 7 understand the concept of school assessment, which is one component of school-based assessment practiced in Malaysia. This is somewhat surprising. However, those teachers still do not know how to integrate assessment into the teaching and learning process, and they also do not understand how to develop the assessment instruments.

For this study, the researcher developed a few items based on previous instruments and documents from the ministry to assess teachers' knowledge of SBA. Examples of the items are: "Educational assessment transformation through SBA leads to changes from examination-oriented assessment to an assessment which is more integrated" and "For centre assessment in SBA, assignments are prepared by the Examination Board." Centre assessment is one part of SBA implemented in the Malaysian education system. Another three elements are school assessment, physical activities, sports, co-curricular assessment, and psychometric assessment.

In SBA implementation, there are a few challenges that teachers have to face. Some of the challenges are: headteachers are not supportive enough, lack of knowledge, the school's climate is not suitable, extra workload, teachers' integrity, etcetera. The extra workload seems to be the most challenging. All these while teachers are burdened with administrative work, so there is less time to focus on the teaching and learning process. When teachers were to implement formative assessment, they prepared the instruction before the class started for each student (Hunt & Pellegrino, 2002). Teachers prepare suitable tools to assess However, there is a contradiction in this issue. If teachers could professionally organize the tasks, then it would be easier for teachers. Teachers could ask students spontaneous questions, which could be used as constructive comments, allowing students to improve their misunderstandings. On the other hand, teachers could use pre-set materials to assess their students to reduce their burden. Examples of the items in the questionnaire of this study are, "School climate seems to hinder SBA implementation," "insufficient financial resources," "extra workload," or "no special recognition for teachers' performance for conducting SBA."

Students' motivation to learn is determined by their effort, self-regulation, self-esteem, and the benefits of academic tasks for them (Shabait, 2010). This motivational thing must come from inside oneself and not from some outer factor, and it is important in determining one's success(Assessment Reform Group, 2002). However, outer factors such as peer pressure, pedagogy technique, curriculum, school ethos, or home support could influence this motivational state (Assessment Reform Group, 2002). Research has found that one of the techniques used to strengthen students' motivation to learn is by using SBA(Liqiu, 2010; Tan, 2004). When teachers

assess students effectively, there are more chances for students to gain confidence. Furthermore, when students oversee their learning, they can reflect on their thinking and relate feedback and success criteria. Formative assessment also allows the students to improve their active engagement in class, hence improving their motivation to learn (Carrillo-de-la-Peña et al., 2009).

Research has found that teachers' attitudes do influence students' motivation to learn. Teachers' attitudes towards school-based assessment were linked positively to students' motivation to learn (Dorman et al., 2006). How students react very much depends on the type of feedback implemented by teachers during teaching (Heritage, 2007). In the Malaysian context, teachers' attitudes towards conducting various formative assessment techniques in Bahasa Melayu subjects do affect students' learning (Mutalib & Ahmad, 2012). Teachers have to go through training if we were to improve their positive vibes towards this new form of assessment. It is not an easy task, but it is not impossible. Furthermore, a study in the United Kingdom also found that teachers and students do have a positive attitude towards their involvement in self and peer assessment (Iverson, 2012).

The framework of the study

This study uses the CIPP Model by Daniel Stufflebeam (2003) as a framework for the study. According to the model, the input and process dimensions could influence the product dimension of any system. This model is very exclusive and has been used for a very long time in various fields (Stufflebeam & Shinkfield, 1985). In this study, the input dimension refers to material and personal needs, and the process dimension refers to the knowledge and attitude of teachers in SBA and the challenges that teachers are facing in implementing SBA. The product dimension refers to the motivation towards learning among students. All the dimensions are interrelated (Stufflebeam, 2001).

METHOD

This study was a survey research design with quantitative data. A survey is a research method whereby a researcher collects data from samples to describe the attitudes or opinions of the population (Creswell, 2002). The survey research method is the best method for this study. A qualitative approach is also not suitable for referring to the objective of the study. The population of this study includes primary and secondary school teachers in Kelantan, one of the states in Malaysia. Samples of the schools were chosen using stratified random sampling for urban and rural schools and primary and secondary schools. Table 1 shows the number of schools chosen from each district in Kelantan.

Table 1. The number of secondary and primary schools chosen

District	Number of Secondary Schools	Number of Secondary Schools Samples	Number of Primary Schools	Number of Primary Schools Samples	Total number of schools
Kota Bharu	48	2	96	2	144
Pasir Mas	25	2	56	2	81
Tumpat	13	2	35	2	48
Bachok	18	2	34	2	52
Pasir Puteh	16	2	39	2	55
Tanah Merah	16	2	34	2	50
Kuala Kerai	13	2	41	2	54
Machang	10	2	29	2	39
Gua Musang	8	2	39	2	47
Jeli	5	2	15	2	17
Total	172	20	418	20	590

Teacher samples are chosen randomly from the chosen schools. All the schools have similar characteristics, using the same curriculum and educational materials. The researcher went to some

schools to collect the data, but for some schools, the teachers were just asked to leave the questionnaire. So, the researcher left the questionnaire and gave the addressed envelope as well. Some questionnaires were posted to schools, especially those in rural areas. The population has nearly 30 000 teachers, and the targeted samples total 1000 altogether. The number of schools, teachers, and students in Kelantan is given in Table 2 (Zainuddin, 2012).

Table 2. Number of schools, teachers, and students in Kelantan

	Secondary School	Primary School	Total
Number of Schools	173 (29.3%)	418 (70.7%)	591
Number of Teachers	12, 946 (43.5%)	16, 802 (56.5%)	29, 748
Number of Students	143, 945 (42.5%)	194, 826 (57.5%)	338, 771

The researcher developed the instrument following the definitions by Daniel Stufflebeam (2003) for each dimension, followed by the objectives of the study. The researcher then generates the constructs from the objectives of the study and the instruments from past research. The main sections of the questionnaire are material and personal needs – 3 items, knowledge on SBA – 3 items, attitude on SBA – 11 items, challenges – 12 items, and motivation towards learning – 3 items. There are 32 items altogether. The scales used are a 5-point Likert scale, ranging from strongly disagree to strongly agree. The data is analysed using Analysis of Moment Structure (AMOS) software. The fit indices used in the analysis are shown in Table 3.

Table 3. Goodness-of-fit indices

Goodness-of-fit Index	Acceptable value	Comments
Chi-square (X^2)	$p > 0.05$ (non-significant)	Indicates exact fit of the model. Value is sensitive to large sample size
Normed chi-square (X^2/df)	[2.00, 5.00]	This is to reduce the sensitivity of X^2 to sample size X^2/df < 3.0: good fit
The Goodness-of-Fit Index (GFI)	[0.00, 1.00]	GFI = 1.00: perfect fit GFI > 0.9: good fit
Comparative Fit Index (CFI)	CFI ≥ 0.90	0.00 > CFI > 1.00 for acceptance
Root Mean Square Error of Approximation (RMSEA)	RMSEA ≤ 0.08	RMSEA < 0.05: good fit RMSEA 0.05 - 0.08: adequate fit Values up to 0.10: poor fit

Theoretical models and hypothesis

The research conceptual framework of this study is shown in Figure 1. The hypotheses in this study are as follows: i) Material and personal needs are positively associated with knowledge on SBA; ii) Material and personal needs are positively associated with attitudes on SBA; iii) Material and personal needs are negatively associated with challenges on SBA; iv) knowledge on SBA is positively associated with motivation towards learning; v) attitudes on SBA is positively associated with motivation towards learning; vi) challenges is negatively associated with motivation towards learning, and vii) material and personal needs are positively associated with motivation towards learning.

Figure 1. Research Conceptual Framework

Preliminary data analysis

Before going through the analysis of the measurement models, the data goes through a screening and cleaning process, checking for missing data and outliers, and then assessing the normality of the data (Mokshein et al., 2019). If the data were not normally distributed, then the analysis could not be conducted. Cleaning data is the process whereby errors made during data entry can be removed. According to Pallat (2007), errors in data files should be checked and corrected during the screening process. This could be done by looking at the frequency distribution table. Outliers should be deleted or changed. In this study, some errors are changed, like a value of 555 or 55 being changed to 5, and 111 or 11 being changed to 1. The researcher tries to think somewhat logically to make changes.

Table 4. Range of values of Skewness and Kurtosis

Type of Distribution	Skewness Value	Kurtosis Value	
Normally distributed	[-2.00, 2.00]	[-2.00, 2.00]	Tabachnick and Fidell (2001)
Normal distributed	<2.00	<7.00	Curran, West, and
Moderately non-normal	[-2.00, 3.00]	[7.00, 21.00]	Finch (2000)
Extremely non-normal	>3.00	>21.00	
Extremely skewed or kurtosis	>3.00	>8.00	Kline (2005)

Table 5. Skewness and Kurtosis values of variables

Variable	Item	Mean	SD	Skewness	Kurtosis	Min	Max
Input dimension							
Material and personal needs	a14	4.25	0.81	-1.16	1.60	1	5
in SBA	a15	4.22	0.90	-1.10	0.83	1	5
	a16	4.41	0.74	-1.43	2.56	1	5
Process dimension							
Teacher's attitude: belief	a1	3.27	1.02	-0.61	-0.37	1	5
	a2	3.30	0.98	-0.55	-0.40	1	5
	a3	3.56	0.93	-0.76	0.19	1	5
	a4	3.60	0.88	-0.84	0.57	1	5
Teacher's attitude: feeling	a5	2.56	1.17	0.25	-0.98	1	5
	a6	3.25	0.99	-0.58	-0.27	1	5
	a7	3.44	1.06	-0.58	-0.24	1	5
Teacher's attitude: readiness	a8	3.82	0.89	-0.91	0.90	1	5
	a9	3.38	0.99	-0.42	-0.41	1	5
	a10	3.74	0.85	-0.59	0.36	1	5
Teacher's understanding of	a11	3.54	0.99	-0.66	0.01	1	5
SBA	a12	3.82	0.82	-0.97	1.29	1	5
	a13	3.86	0.87	-0.56	0.23	1	5
Challenges	c1	2.53	1.05	0.40	-0.47	1	5
	c2	2.55	1.05	0.54	-0.39	1	5
	c3	3.43	1.10	-0.57	-0.37	1	5
	c4	3.15	1.05	-0.19	-0.65	1	5
	c5	3.46	1.13	-0.48	-0.62	1	5
	c6	2.96	1.13	0.11	-0.80	1	5
	c7	3.39	1.18	-0.34	-0.82	1	5
	c8	3.89	1.11	-0.90	0.09	1	5
	c9	3.65	1.04	-0.61	-0.14	1	5
	c10	3.45	1.09	-0.39	-0.51	1	5
	c11	3.48	1.08	-0.43	-0.55	1	5
	c12	3.50	1.13	-0.36	-0.74	1	5
Product dimension							
Students motivate towards	e34i	2.88	1.03	-0.16	-0.84	1	5
learning	e34ii	3.10	0.99	-0.32	-0.44	1	5
	e34iii	3.10	1.06	-0.36	-0.76	1	5
Total	31						

The next step is to check for missing data and outliers. In this study, the maximum percentage of missing data was 1.10 percent. Missing data could account for up to 10% of total data and have an impact on data interpretation (Cohen & Cohen, 1983). So, there is no problem with the missing data and outliers for this study. Next are the outliers, which were identified using the histogram and normal Q-Q plot for each variable in the study. The researcher decided that since there was no single data point sitting on its own, there were no potential univariate outliers. Thus, they proceeded with assessing the normality of the data (Ghazali et al., 2020). The normality of data is determined by referring to the skewness and kurtosis values for each item (Table 5). For this data, the values of skewness and kurtosis for each item are still within the range referred to in Table 4. The values of skewness and kurtosis for all items of the study are within the range of -2.00 to +2.00, and all the kurtosis values are less than 3.00. In conclusion, all the variables are univariate normally distributed.

FINDING AND DISCUSSION

Finding

Profile of respondents

Looking at the profiles of the respondents, there are 77% female (n=677) and 23% male (n=202) involved. Most of them are Malays (95%) and the others are Chinese and Indians. All teachers are following the centralized education system in Malaysia, whereby the same syllabus and the same documents are provided to teachers. All Teachers were practicing school-based assessment systems in their teaching and learning process when the government started to implement school-based assessment vigorously in 2011, starting with Year One students.

The measurement models

According to Anderson and Gerbing (1988), if we were to test the hypothesis, it would be better to use a two-stage approach involving a measurement model and a structural model. The measurement model is formed and then goes through a validation process. If all the measurement models are valid and reliable, then a structural model is formed, and then we check the fitness of the model. The two-stage approach is conducted to avoid interaction between all the models (Hair et al., 2010). After that, the correlation between all the constructs is checked, and they have to be less than 0.85 (Kline, 2005) to avoid multicollinearity problems.

Structural equation model

A structural model is formed from all the constructs following the theoretical interrelationships between the constructs (Byrne, 2010). For this study, it was hypothesized that the input dimension and the process dimension of the SBA implementation were positively related to the product dimension. The input dimension was positively related to the process dimension. A structural model was assembled from the measurement models which are valid and reliable. Due to factor loadings, a few items were deleted from the measurement models. In this study, the maximum likelihood method is used to test whether the model has reached a significant level. The hypothesized structural model 1 is shown in Figure 2.

Figure 2. The Hypothesized Structural Model 1

The hypothesized structural Model 1 is tested. Initially, there are seven hypothesized causal paths altogether, with three observed variables for material and personal needs constructs, 26 observed variables for process dimensions, and three observed variables for motivation towards learning. After checking for confirmatory factor analysis, three items are deleted from the attitude construct and three items are deleted from the challenges construct. First, the evaluation of Model 1 was conducted to assess how well the structural model explained the data in this study. It is found that the overall X^2 value was 2882.418 and the degree of freedom was 627. The indices of fit showed $X^2/df = 4.519$; GFI = 0.822; CFI = 0.899; and RMSEA = 0.051. The model was found to not fit. So, the MIs are reviewed. A few items are deleted due to low estimated parameter values and the overlap of item content. Four (4) items are deleted from Model 1 (Figure 2).

Finally, the analysis is completed. One item is deleted from the model, and it makes the final model (Model 3) have 26 items altogether. The model is fit, and the outputs are as follows: The overall X^2 value was 2881.418 and the degree of freedom was 611. The indices of fit showed $X^2/df = 3.585$; GFI = 0.910; CFI = 0.942; and RMSEA = 0.049. It is found that the unstandardized estimates of five structural paths are statistically significant from the p-values and critical values. Referring to the standardized estimate in Table 7, all values are sound and are less than 1.00. According to (Chin et al., 1988), for the value to be meaningful, it should be above 0.2. Furthermore, all error variances and co-variances are statistically significant. The value of squared multiple correlations (R^2) as shown in Table 6 shows the values for the main constructs. This represents the variance proportion explained by the predictors of the construct (Byrne, 2010). Material and personal needs, for example, account for 70.6 percent of the variance associated with SBA knowledge. The final model (Model 3) consists of 26 items altogether.

Table 6. Squared multiple correlations

Construct	Estimate
Material and personal needs	0.000
Knowledge of SBA	0.706
Challenge	0.190
Attitudes on SBA	0.220
Motivation towards learning	0.582

Table 7. AMOS output for model 3 for standardized estimates

	Standardized Estimate
Knowledge on SBA ←-------- Material and personal needs	0.811
The attitude of SBA ←--------Material and personal needs	0.398
Challenges ←-------Material and personal needs	-0.431
Motivation towards learning ←-------Knowledge on SBA	0.689
Motivation towards learning ←-------Attitude of SBA	x
Motivation towards learning ←-------Challenges	-0.288
Motivation towards learning ←-------Material and Personal needs	x

All three models are compared in Table 8. The changes in the value of fit indices are improving from Model 1 to Model 2 and Model 3. Improvement of the model is conducted following the deletion of non-significant paths and items.

Figure 2 shows the final causal path with the value of the standardized estimate. Five paths were statistically significant. The paths reflected the impact of the input dimension on the process and product dimension. Two paths were not statistically significant and were deleted from the final model. Table 9 shows the result.

Table 8. Values of fit statistics of all the three hypothesized models

	Model 1	Model 2	Model 3
X^2/df	4.519	3.798	3.585
CFI	0.899	0.923	0.942
RMSEA	0.051	0.052	0.049
GFI	0.822	0.866	0.910
Number of items	31	27	26
Multivariate Kurtosis	380.200	288.472	167.773

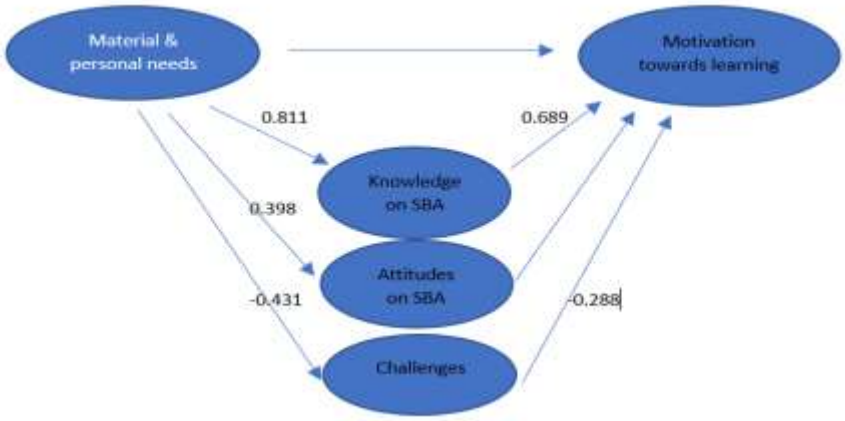

Figure 2. The Final Causal Path with the Standardized Estimates

Table 9. Hypothesis and results

Hypothesis	Result	Content
H_{1a}	Support	The material and personal needs are positively associated with knowledge of SBA
H1b	Support	The material and personal needs are positively associated with an attitude of SBA
H1c	Support	The material and personal needs are negatively associated with challenges
H1d	Support	Knowledge of SBA is positively associated with Motivation towards learning
H1e	Not Supported	The attitude of SBA is positively associated with Motivation towards learning
H1f	Support	Challenges are negatively associated with motivation towards learning
H1g	Not Supported	The material and personal needs are positively associated with Motivation towards learning

Discussion

Teachers' knowledge of SBA was associated with students' motivation towards learning and a strong positive relationship as perceived by the teachers. This relationship was supported because it expands the framework developed previously concerning the SBA implementation in the context of the Malaysian education system. This significant, positive, and strong relationship between teachers' knowledge of SBA and students' motivation towards learning indicates that teachers who have good knowledge and skills in classroom assessment are more likely to enhance students' motivation towards learning. This is in concordance with research conducted by (Assessment Reform Group, 2002). SBA knowledge includes understanding how to explain the purpose of the test to students, how to provide constructive feedback to students, how to develop self-and peer-assessment skills in students, and how to use learning intentions and success criteria. All this knowledge and skills are important if teachers were to assess effectively. However, this would be so challenging if teachers had never had any exposure before. Here comes the use of

teacher training, which seems to be an effective way of improving the knowledge and skills of teachers in general.

Findings by Mutalib & Ahmad (2012) conducted a case study looking at how various formative assessment techniques in the Bahasa Melayu subject were implemented, influencing students' learning. It shows that those techniques, such as good questioning techniques, loud pronunciation techniques, matching techniques, discussions, and singing techniques, could improve students' knowledge on assessment, student's attitude, and their motivation towards learning. This, of course, shows us how knowledge of assessment is very important in improving students' performance.

Challenges in implementing SBA seem to have a negative relationship with students' motivation towards learning. This indicates that the more challenges teachers face, the less motivated students could be varied. Some of the challenges are extra workload, insufficient financial resources, no special recognition, the integrity of teachers, and the act of memorizing by students. A study conducted by Reyneke *et al.* (2010) states that if teachers were to implement formative assessment effectively, they needed enough physical resources like desks, chairs, photocopy machines, books, or printed media. A lack of resources can make teachers and students demotivated, thereby affecting their performance.

From the literature, there is a strong suggestion that the input dimension is related to the process dimension of any system. Therefore, it was expected that these two evaluation dimensions in this study would have a significant positive relationship. In this study, the relationship between the input dimension (material and personal needs in SBA) and the process dimension (knowledge of SBA, attitude, and challenges) was statistically significant, indicating that input was not positively associated with the process. The positive relationship indicated that i) material and personal needs in SBA facilitate teachers' knowledge of SBA; ii) material and personal needs in SBA facilitate teachers' positive attitudes towards SBA and improved assessment skills from the courses that they have attended, and iii) material and personal needs were found to influence teachers' perceptions of SBA as being less challenging. The formative assessment itself is a process (Wiliam, 2011). In practice, formative assessment is seen more frequently as an instrument than a process, which is not good. So, theoretically, from the findings, it can be concluded that any personnel, resources, or procedures implemented in achieving SBA objectives would probably have an impact on formative assessment. The findings by Wiliam (2011) seem to be consistent with the idea proposed by Daniel Stufflebeam in his CIPP Model (2003). The findings are also aligned with the learning theories such as behaviourism and constructivism and also the assessment models such as the formative model, the SCAP Model, and the Logic Model. Specific materials and resources are very important for teachers to successfully implement school-based assessments in schools. This would improve teachers' knowledge of school-based assessment as well as their attitudes toward school-based assessment. These findings were found to be consistent with the relationships proposed by Stufflebeam in the CIPP model. Furthermore, they were also in line with the learning theories, formative models, logic models, and the SCAP Model. Teachers who undergo training programmes to improve their knowledge and skills would need more materials and resources provided to them.

There is an intervention study conducted in Singapore (Koh & Velayutham, 2009). This intervention involves a quasi-experimental study for teachers for two years. It was found that when teachers were given various materials and personal needs related to authentic assessment task design and also rubric development, the knowledge and attitude of teachers towards school-based assessment improved. A program called "Embedding Formative Assessment" has been conducted in Cannington, United Kingdom for seven months (Leahy & Wiliam, 2012). Teachers were given a short (30-page) booklet on formative assessment and its application regarding the five key strategies and 30 different techniques in formative assessment. At the end of the program, teachers were assessed, and they found that teachers had improved in terms of knowledge and attitudes towards school-based assessment.

Practical implication

Research suggests that motivation towards learning is more achievable when teachers focus more on formative assessment than summative (Assessment Reform Group, 2002). So, the school's administrative administration will follow the policy from the government regarding SBA. A positive school climate is also greatly needed. However, these policies instructed by the government must be communicated to the headteachers, senior managers, and officers. Challenges should also be dealt with positively. Challenges seem to reduce public satisfaction and confidence in teachers. Everybody must work hand in hand to ensure that a positive school climate is achieved, hence improving the effectiveness of SBA implementation.

Methodological implication

The use of SEM as statistical analysis in this study to determine the interrelationship between constructs is quite promising. First, the measurement model was developed based on theories and a literature review. Then, the confirmation of the hypothesized model was conducted using confirmatory factor analysis. According to Byrne (2010), the CFA technique is suitable if the researcher has some knowledge about the constructs that form the model. Next is the use of structural equation modelling. When SEM is used, it means that data is analysed for inferential purposes to infer from the sample data what the population might think. The good thing about SEM is that it provides explicit estimates of the error variance parameters. Byrne (2010) and Zainuddin (2012) suggest that this could improve the accuracy of the relationships between factors (Byrne, 2010).

Recommendation and limitation

It is recommended that future research include views from other respondents, such as policymakers, headteachers, parents, or students, to provide more rigorous results. The study also needs to include qualitative data as well as provide further insights into the implementation. Data should also be collected from other countries in Malaysia or different types of schools, such as cluster schools, boarding schools, or private schools. This study is using a survey research design using a questionnaire as its instrument, so we cannot conclude that all the input and process dimensions affect the students' motivation towards learning as an experimental research design does. In addition, the researcher could not conduct an experimental research design as it is not allowed by the government to set up a control and experimental group to run SBA. Another issue is the samples. This study uses primary and secondary school teachers as samples without considering views from the administration staff or the people from the ministry. They surveyed only teachers' perceptions without having interviewed or observed them. This would limit the model developed from the findings.

CONCLUSION

A significant contribution of this study is the identification of the material and personal needs, knowledge, and attitudes of teachers and the challenges faced by them, which could influence students' motivation to learn. The result revealed that material and personal needs were associated with knowledge of SBA, attitude towards SBA, and challenges in SBA implementation. Knowledge in SBA and challenges in SBA were also associated with students' motivation towards learning.

These findings present possible opportunities for administrators and teachers in primary and secondary schools to plan and put into practice effective materials and effective intervention strategies aimed at increasing teachers' knowledge and skills in SBA. These intervention strategies would be targeted at not only the teachers but also the administrators and parents as well, to improve the performance of students. Although the challenges are there to hinder the success of the effective implementation of SBA, it is almost illogical to wipe it out altogether. A robust understanding of the system altogether is greatly needed. Currently, there is an urgent need for teachers to upgrade their knowledge and skills in assessment to keep updated with the latest information on alternative assessment. The government should also give increased attention to training and workshops regarding assessment. Good teachers are those who will engage in

improving their knowledge and skills and combat the challenges, hence, improving their practices to continually improve their students' motivation towards learning.

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