Evaluation of student satisfaction using a mission-oriented approach

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Abstract

This conceptual paper proposes measurement of student satisfaction using a mission-oriented approach and presents an evaluation questionnaire to assess academic services using this approach. The underpinning idea is that satisfaction on university services should be measured against university's mission and vision rather than a generic set of measurements on teaching and learning to provide meaningful information on and for internal processes. Every university has a unique vision and mission; some are more research-focused than others. Therefore, it is necessary that evaluation of student satisfaction is matched with university's specific vision and mission. To this end, the paper presents development of a mission-oriented student evaluation questionnaire from a Singapore university and explains how data obtained could be presented to the various internal stakeholders. An advantage of the mission-oriented approach is the generalizability within the university since the underpinning tenet is universal and not school-specific or discipline-specific. Overall, the mission-oriented approach presents an internal and integral process of self-assessment to progress towards university's educational goals.

Key words: Student evaluation, Student satisfaction, Mission-oriented approach

Evaluation of student satisfaction

Providing quality education is certainly the top most priority for higher educational institutions across the globe (e.g., Bologna process). Higher education institutions have responded to this by implementing various measures that involve internal self-audits and external audits (Becket & Brookes, 2005). This paper proposes a mission-oriented approach in developing student evaluation questionnaires. The purpose is to collate meaningful information on the quality of educational services towards achieving the institutional educational goals. The mission-oriented approach presents an internal and integral process of self-assessment to meet a university's vision and mission.

Generally, student evaluation instruments are used to obtain student feedback on various aspects of educational services such as learning services (e.g., teaching, courses), learning resources (e.g., library, study guide) and student support (e.g., computer, technical support). The data collected allow us to identify areas of strengths and areas that need improvement so as to enhance the overall quality of

educational services. Various stakeholders such as students, instructors, course coordinators, and management use the information differently, as per their needs. For instance, instructors may use their evaluation scores to reflect and improve their teaching quality. On the other hand, management might use the data for audit purposes. Overall, student evaluations are used for two main purposes: (1) to improve the quality of teaching and learning, and (2) to account to internal and external stake-holders (Anna-Maija Liuhanen, 2005; Richardson, 2005; Williams, Ruth, & Brennan; 2003).

Student evaluations have gained popularity since the 1960s. They are now widespread in North America, United Kingdom, and Australasia (Brennan et al, 2003; Harvey, 2001; Marsh & Dunkin, 1992; Richardson, 2005). Many of these student evaluations tend to be standardized instruments to allow comparison across universities [e.g., National Survey of Student Engagement (NSSE)]. While this sort of comparisons may have their uses (e.g., to provide data on effective educational practices to external stakeholders and accrediting bodies), we have to be cautious about extending the interpretation to improving the quality of teaching and learning in an institution-specific manner.

In general, university contexts are diverse. Every university attempts to differentiate themself from other universities to cater to varying needs of students and demands of society (Clarke, Thomas, & Wallace; 2001). While some universities may be research oriented (e.g., National University of Singapore, Singapore), others may aim to provide students with distance learning opportunities to upgrade their knowledge and skills (e.g., Open University, United Kingdom). Such educational goals would have an impact on the teaching and learning model used. For instance, a research-oriented university is likely to place greater emphasis on research projects to enhance creative and critical thinking skills. On the other hand, a university dedicated to distance learning may emphasize effective communication, and collaboration skills to engage students in self-directed and collaborative online learning. While students from both the universities will have to develop content knowledge, technical skills and 21st century study skills such as self-directed learning, collaborative learning, creative thinking, and critical thinking, teaching materials, methods, and assessments in the two universities are likely to be different. As such, the students' learning experiences are also likely to be different in the two universities. Hence it is important to measure the students' learning experience in a context-specific manner.

This mismatch has been recognized by universities and to address this, they utilize (additional) university-specific questionnaires to gather information that is context-specific so that it is useful for internal self-assessment and improvement. For instance, Curtin University in Australia has developed an evaluation instrument called eVALUate to measure their students' perceptions of engagement and learning outcomes in an institution specific manner (Oliver, Tucker, Gupta, & Yeo, 2008). Oliver et al (2008) state that:

> "The most compelling need was to adopt an instrument which allowed Curtin to measure its achievement of its stated goals in Teaching and Learning".
> (Oliver et al, 2008)

Similarly, the Joint Committee on Students Evaluation, a coalition of major professional associations concerned with the quality of evaluation also recognizes the need for the evaluation to be mission-oriented. It has set the following as one of the evaluation standards for student evaluations:

"Evaluations of students should promote sound education principles, fulfilment of institutional missions, and effective student work, so that educational needs of students are served". (Joint Committee on Students Evaluation, 2008)

To develop evaluation questionnaires that measures the quality of teaching (and learning), universities typically use generic teaching principles such as that by Chickering and Gamson (1987). For instance, the NSSE questionnaire uses these principles as well (Kuh, 2001). While such teaching principles are useful, the original intent of these principles is to provide guidelines on effective teaching (Chickering & Gamson, 1987) and not to evaluate teaching and learning. Even though such teaching practices should be encouraged to improve teaching and learning, argument here is that the practices and the measure of practices should be tied to institutional mission. What needs to be evaluated is whether the outcome is as expected. It is often assumed that all the measures on teaching would be valid and reflective of student learning, and therefore useful. However, if these measures are not consciously related with the university's educational goals, then the validity of the measures are questionable.

It should be noted that even within a single university's context, there is an innate diversity. This could be differences across disciplines. For example, Norton et al. (2005) found in a study that teachers from different disciplines have markedly different conceptions of teaching which seemed to be discipline-specific. Pike and Kuh (2005) found seven different types of student engagement in American universities. To add to this diversity, the educational landscape in universities are progressively transforming with the introduction of new ways of teaching and learning such as blended learning, online learning, and distance learning (Mishra, 2006). This leads to a mind-boggling array of variances to deal with even within a university. Therefore, finding a universal measurement or indicator for internal self-assessment on teaching and learning may not be that simple. This may explain why many student satisfaction evaluation questionnaires on teaching and learning are based on generic teaching principles. In addition, these principles may be founded on the traditional transmissive mode of teaching and hence may not be applicable to all contexts (Coates, 2005). To overcome this, some may choose to develop multiple questionnaires to suit the specific needs of individual courses/modules (e.g., questionnaire on project supervision, blended learning etc). But the disadvantage in this approach is that this may lead to numerous, specific questionnaires that are not comparable even within the same discipline in a university.

To address this gap, it is proposed that institution-specific student evaluation questionnaires are designed based on the university's mission (e.g., Oliver et al, 2008), rather than being solely based on generic teaching principles. Since a university's mission guides the educational goals and therefore the inputs and processes, it is proposed that measurement of student satisfaction needs to be aligned with university's mission. This will allow a common questionnaire to be used across the various courses, and disciplines.

This concept of mission-oriented evaluation is not entirely new and aligns well with the "Balance Scorecard" method of measuring performance and the "Program Logic Model" of evaluation. The balanced scorecard translates an organization's mission and strategy to measureable performance indicators (Kaplan & Norton, 1996). The program logic model of evaluation measures a system in the following five different aspects; inputs, activities, outputs, outcome and impact. The term "input" refers to the resources used, "activities" to the actions that were carried out in translating the strategy, "outputs" refer to the result of the successful

implementation, "outcomes" are the changes brought about, and "impact" refers to the long-terms effect (Grayson, 2012).

In translating this program logic model to evaluating teaching and learning at a university which is catered towards providing students with real-world knowledge and skills, measure of "inputs" could be measuring the work or industry experience of deployed instructors, measure of "activities" could be the use of project-based or case-based teaching or such apt instructional methods, measure of "output" could be the number of courses that has required presentations by students, measure of "outcome" could be the extent to which the students felt that they gained useful knowledge and skills (that are applicable to real-world), and measure of "impact" could be how many of the graduates were employed in relevant fields. As evident from the above example, a single educational objective of providing students with real-world knowledge can be measured in multiple ways. Therefore, in using the mission-oriented approach in student evaluation, one needs to also consider which aspects of the system (e.g., input, output) to measure.

This paper presents such a mission-oriented student evaluation questionnaire from SIM University as an example. To this end, the next section of the paper provides an introduction to SIM University, and the various tools used in the university to evaluate teaching and learning (with particular reference to the end-of course, electronic student evaluation questionnaire). The subsequent section demonstrates the application of a mission-oriented approach in designing a student evaluation questionnaire. In addition, possible data presentation to the various internal stakeholders is provided to illustrate the potential use of the approach. The paper sums up with a discussion on the implications, limitations and conclusion of the mission-oriented approach.

Introduction to SIM University

SIM University is one of the five local universities in Singapore and it was set up in 2005 for working professionals and adult learners. SIM University has grown since then and has now established a reputation for providing quality and relevant education. It serves the educational needs of 11,000 working professionals and adult learners in Singapore by providing over 50 academic programmes from four different Schools: Arts and Social Sciences (SASS), Business (SBIZ), Science and Technology (SST) and Human Development and Social Sciences (HDSS) (SIM University Annual Report, 2011).

Singapore places high value in providing quality education and its Ministry of Education has set up the Quality Assurance Framework for Universities (QAFU) to assure and improve the quality of higher education in Singapore. In line with this, SIM University also places high emphasis on quality education and has taken various measures (SIM University Annual Report, 2011) such as collating feedback from current students and graduates. The current students' satisfaction on their learning experiences at SIM university is measured by means of the end-of-course, electronic course evaluations (eCE) while the graduate students' satisfaction on their learning experience at SIM University is measured through the graduate survey. The graduate survey measures satisfaction at programme level and focuses primarily on learning experience at SIM University, impact of SIM University's education, career progression, future intentions and alumni activities.

End-of-course, electronic course evaluation (eCE) questionnaire

To self assess and continually improve the quality of teaching and learning at SIM University, feedback from the current students is collated at the course level by means of an end-of-course, electronic evaluation (eCE). This eCE questionnaire consists of two sections: (1) academic and (2) learning resources. The academic section encompasses questions on course content, assessment, handbook, design, and instructor or 'Ask the expert' feature. The learning resources section queries about various support systems such as learning management system, student portal, technical support, administrative support, computer facilities, and library.

While students are required to respond on the academic section for every one of the courses they have completed, they need to complete the learning resources section only once per semester. In addition, there are many variants of the academic section questionnaire. In 2011, there were as many as 10 variants to the academic section, depending on whether the course was (1) core or non-core, (2) conventional, blended learning, full e-learning, (3) practicum or non-practicum, (4) English or Chinese medium (Figure 1). In general the academic section had 16 quantitative questions and 9 qualitative questions. Two of the variant forms are presented in the appendix. This paper focuses on the academic section of the eCE questionnaire.
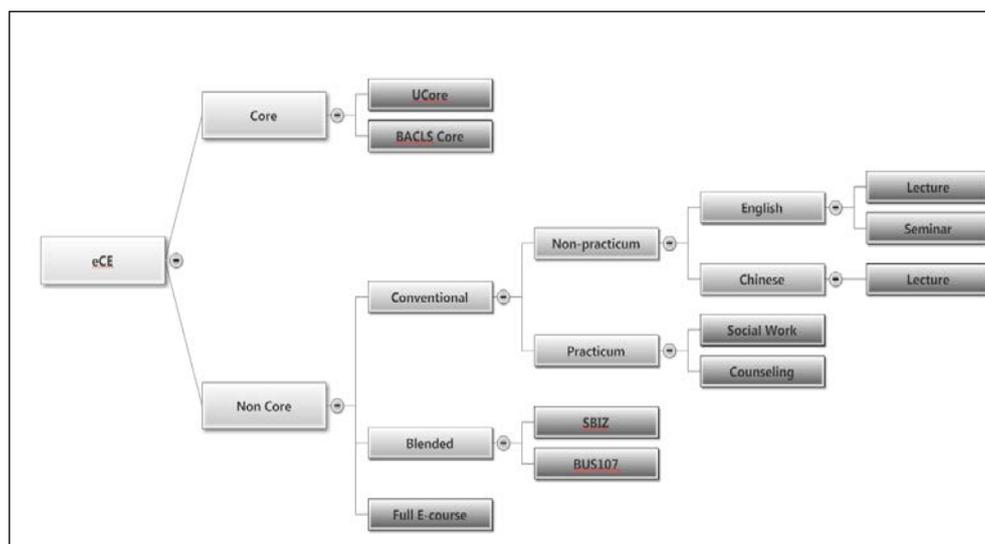
Figure 1: *Variants of the academic section of eCE questionnaire*

Over the years, with the introduction of niche courses and different forms of learning such as blended learning and e-learning, the eCE forms had to be modified to suit the changes. Although most of the questions across the forms were similar, there was a need to include specific questions. For instance, all the forms except the form for full e-course included the question "The instructor was well-prepared". Instead of querying on the instructor, the full e-course form queried about "Ask the expert" feature (see appendix).

Although variants of the questionnaire such as that for blended learning has been tested for validity and found to be valid and reliable (Sockalingam; 2011, 2012), the expanding number of variants is concerning. In addition, some questions across the various eCE questionnaires are unique. While this is a useful feature in the

sense that it provides detailed information, the disadvantage is that this does not allow us to compare the various courses on the same grounds. For instance, the conventional courses, blended courses and full e-courses cannot be compared on instruction using the data from the eCE evaluation. The third issue was that the eCE forms had numerous questions and students were required to complete the academic section for all the courses they have completed in that semester. As this may lead to survey fatigue, parsimony of questions was thought to be necessary. Overall, the issues with the eCE questionnaires are that:

1. There were too many variants of the eCE forms

2. Courses across schools, teaching mode (conventional, blended, full e-course), teaching style (lecture, seminar), teaching method (practicum, non-practicum) cannot be compared on some indicators (even though there are considerable overlap on some indicators)

3. There were also too many questions.

To address this (as part of a larger operation), SIM University's Provost's office commissioned Centre for Applied Research to review the eCE questionnaires. The objectives of the review were:

1. To develop an integrated student evaluation questionnaire for the academic section

2. Which would allow comparison across schools, teaching mode (conventional, blended, full e-course), teaching style (lecture, seminar), teaching method (practicum, non-practicum)

3. With fewer questions but still giving meaningful information

To this end, Centre for Applied Research had reviewed and proposed an Integrated Student Feedback form (Academic Section) of 6 questions. Three of the questions focused on Courses (Q1, 2, and 3) and two of the questions focused on Instructors (Q4, 5). And the last question (comments) was a qualitative question (Table 1).

The Integrated Student Feedback Form (academic section) is meant to gather feedback and improve the quality of course materials and instruction, and inform practices, policies, and administrative decision-making pertaining to course materials and instruction. These objectives are in-line with other universities across the globe (US, UK and Australia) (Marsh and Dunkin, 1992; Nair, Adams, & Mertova, 2008; Richardson, 2005). This newly devised form was circulated to the various departments (e.g., Teaching and Learning Centre) and schools for inputs.

Table 1: *Integrated Student Feedback Form (Academic Section)*

Academic	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The **learning materials** provided for this course are helpful in supporting **my understanding of the subject matter.**					
2. The **design of the course and its supporting resources** enable me to learn the **subject matter anytime and anywhere** if I choose to.					
3. I would recommend this **course** to other students.					
4. The **instructor** is effective in **helping me to understand the subject matter.**					
5. I would recommend the **instructor** to other students.					
6. Comments (if any):					

To review the form and provide inputs, a mission-oriented approach was undertaken and the 5 quantitative questions were mapped to SIM University's vision and mission (Table 2). SIM University's mission is "To serve society through excellence in flexible learning" and the mission is to "To provide opportunities for professionals and adult learners to upgrade their qualifications, knowledge and skills through a wide range of relevant programmes." This vision and mission can be translated as providing quality, relevant, industry specific knowledge and skills in a flexible manner such that students have an overall positive learning experience. Quality learning refers to meaningful and deep learning whereby students are able to understand important concepts. Flexible learning refers to learning anytime, anyplace. Relevant learning refers to authentic learning such that knowledge and skills gained can be applied in the real-world or industrial context. Positive experience refers to overall satisfaction (SIM University, 2012).

Table 2: *Mapping of Integrated Student Feedback Form to SIM University's mission*

Factor	Questions	Related to
Course Materials	1. The learning materials provided for this course are helpful in supporting my <u>understanding of the subject matter</u>	Quality learning
	2. The design of the course and its supporting resources enable me to <u>learn the subject matter anytime and anywhere if</u> I choose to	Flexible learning
		Relevant learning
	3. I would <u>recommend</u> this course to the other students	Positive experience
Instruction	4. The instructor is effective in helping me to <u>understand the subject matter</u>	Quality Learning
		Flexible learning
		Relevant learning
	5. I would <u>recommend</u> the instructor to other students	Positive experience

This mapping exercise revealed that the 5 quantitative questions corresponded to certain aspects of SIM university's overall educational goals (quality, flexible, relevant learning and positive experiences). However, there were still missing gaps; the relevance of course materials and instruction were not included. In addition, the effectiveness of instructors in supporting flexible learning was not considered. As a result, 3 additional quantitative questions were proposed to be included to the Integrated Student Feedback Form to provide more detailed and holistic measures of students' learning experience with reference to SIM University's mission (See Table 3).

Table 3: *Proposed additions to Integrated Student Feedback Form*

Factor	Questions	Related to
Course Materials	1. The learning materials provided for this course are helpful in supporting my <u>understanding of the subject matter</u>	Quality learning
	2. The design of the course and its supporting resources enable me to <u>learn the subject matter anytime and anywhere if</u> I choose to	Flexible learning
	3. The course has equipped me with relevant <u>knowledge/skills that can be applied in real-world contexts</u>	Relevant learning
	4. I would <u>recommend</u> this course to the other students	Positive experience
Instruction	5. The instructor is effective in helping me to <u>understand the subject matter</u>	Quality Learning
	6. The instructor supported me with <u>appropriate guidance to learn anytime, anywhere</u>	Flexible learning
	7. The instructor <u>used relevant examples/cases</u> to teach	Relevant learning
	8. I would <u>recommend</u> the instructor to other students	Positive experience

While one argument could be that student will not be able to judge the relevancy of course and teaching, and that faculty or external assessors will be more suitable to judge the relevancy of course and instruction, it should be noted that the students in our contexts are actually working adults. If students are expected to be capable enough to select a course/program based on expected relevancy to real-world, then it is reasonable to assume that they would also be able to provide feedback on whether their expectation has been met or whether the course has equipped them with knowledge and skills that can be applied in real-world.

Given that the Integrated Student Feedback Form aligned well with the university's mission, addition of 3 more mission-oriented questions to the feedback form is likely to be beneficial as it will provide even more comprehensive information. In addition, this will enable validity and reliability testing, which are necessary steps in developing questionnaires (Kember, & Leung, 2009; Williams, Ruth and Brennan 2003). Since it is statistically better to start with more questions per latent factor than too few, the addition of three questions will be beneficial. Addition of the 3 questions would mean that there are 4 questions for courses and 4 questions for instruction instead of 3 on courses and 2 on teaching (Table 4). An alternative model that could be tested is shown in Table 5 and refers to the various indicators of learning associated with SIM University's mission.

Table 4: *Possible latent factor and questions in the modified Integrated Student Feedback Form*

LATENT FACTOR	QUESTION
COURSE MATERIALS	• The learning materials provided for this course are helpful in supporting my understanding of the subject matter • The design of the course and its supporting resources enable me to learn the subject matter anytime and anywhere if I choose to • The course has equipped me with relevant knowledge/skills that can be applied in real-world contexts • I would recommend this course to the other students
INSTRUCTION	• The instructor is effective in helping me to understand the subject matter • The instructor supported me with appropriate guidance to learn anytime, anywhere • The instructor used relevant examples/cases to teach • I would recommend the instructor to other students.

Table 5: *Possible latent factor in relation to the university's mission*

LATENT FACTOR	QUESTION
QUALITY	• The learning materials provided for this course are helpful in supporting my understanding of the subject matter • The instructor is effective in helping me to understand the subject matter
FLEXIBILITY	• The design of the course and its supporting resources enable me to learn the subject matter anytime and anywhere if I choose to • The instructor supported me with appropriate guidance to learn anytime, anywhere

| RELEVANCE | • The course has equipped me with relevant knowledge/skills that can be applied in real-world contexts |
| | • The instructor used relevant examples/cases to teach |

| POSITIVE EXPERIENCE | • I would recommend this course to the other students |
| | • I would recommend the instructor to other students |

Overall, the underpinning tenets of the Integrated Student Feedback Form and the proposed changes to the form are SIM University's mission, and are therefore well-grounded. We can also expect the mission-oriented approach to motivate and energize stakeholders such as instructors, course designers to align with the university's mission through the various systems and processes (such as instruction, assessment and development of course materials).This is in-line with the university's existing balanced score card management strategy and it can be weaved into university-wide quality assurance strategy. The mission-oriented approach would also reveal if the university has delivered what it had set out to.

Possible data presentation

The scores from the mission-oriented eCE questionnaire can be presented differently to the various stake-holders (e.g., Deans of schools, Head of programmes, Individual course developers/instructors) depending on their needs. For instance, the Deans of schools can be given data at course level, school level, and university level. The head of programmes can get to see the data at course level, programme level, and school level. The individual course developer can get the data on the course level and programme level. The idea is that the stakeholders will be able to draw conclusion based on a bigger picture.

The aggregated mean scores can be presented in a colour-coded dashboard format for easy visualization and decision-making. For instance, with red for "need immediate attention" (e.g., Mean score of 3.49 and below), yellow for "border-line" (e.g., Mean score of 3.50 - 3.79), and green for "good" (e.g., Mean score of 3.80 and above). Table 6 shows an illustration of how the data can be presented at a school level whereby the data is sent to the Dean of a School. Table 7 shows the representation meant for an individual instructor. The data can also be represented as percentage agreement whereby 60% and below is considered as "need immediate attention" (red colour), 60%-79% as "border-line" (yellow colour) and 80% and above as "good" (green colour).

Table 6: *Summary of eCE scores on course material and instruction: Dean's view*

	Course 101		School ABC		University level	
	Course materials	Instruction	Course materials	Instruction	Course materials	Instruction
Quality	1) 3.82	5) 3.95	1) 3.95	5) 3.97	1) 3.82	5) 3.90
Flexible	2) 3.48	6) 3.90	2) 3.52	6) 3.67	2) 3.67	6) 3.80
Relevant	3) 3.81	7) 3.88	3) 3.85	7) 3.87	3) 3.67	7) 3.86
Positive Experience	4) 3.78	8) 3.89	4) 3.85	8) 3.85	4) 3.76	8) 3.87

Table 7: *Summary of eCE scores on instruction: Individual instructor's view*

	Course 101 Class A	Course 101 Class B	Course 101 Average = (A+B)/2	Course 101 Course level
	Instruction	Instruction	Instruction	Instruction
Quality	5) 3.95	5)3.83	5)3.89	5) 3.97
Flexible	6) 3.90	6) 3.45	6) 3.68	6) 3.67
Relevant	7) 3.88	7) 3.82	7) 3.85	7) 3.87
Positive Experience	8) 3.89	8)3.73	8) 3.81	8) 3.85

Necessary actions can be taken based on the evaluation scores. Instructors and courses can be identified from the scores and generic areas of concerns for intervention/necessary actions can be determined from the quantitative responses. Specific issues can be delineated from the qualitative responses and appropriate measures can be tailored. For instance, from the illustration above in Table 6, we can infer the following:

- In general, instruction seems to be good at course, school and university level. However, some instructors in the school may need help in supporting flexible learning.

- Course materials seem to have some prevalent issues at course, school and university level, especially in providing relevant knowledge/skills and allowing for flexible learning.

- Overall, it will be worth considering how to effectively implement flexible learning in terms of both course materials and instruction.

From Table 7, we can infer that

- In general, the instructor is good at teaching relevant materials for understanding. However, the instructor may have some difficulty in supporting student learning anytime, anywhere.
- Overall, the instructor seems to be doing well in teaching although more could be done to improve teaching students in a flexible manner and this may need to be addressed at the course-level.

Implications

One of the key purposes of the student evaluation is to ensure that the quality of teaching and learning is improved. Interestingly, other studies show that implementation of student evaluation does not automatically result in improvement in student evaluation. Kember et al (2002) found that the evaluation measures in their institution did not increase significantly over time, suggesting no evidence of the use of questionnaire to be contributing to the overall improvement of quality in teaching and learning. They proposed that this could be because evaluation is appraisal oriented rather than being teaching oriented. They also thought that the feedback questionnaire could have been based upon models of instruction that may not be well aligned with the practice and alerted that other universities should also examine the data to check if the evaluation contributes to overall teaching and learning. Hence it is important to ensure that the evaluation questionnaires are focused on improving teaching and learning in a mission-oriented approach. As teaching (teaching beliefs, style) and learning (conceptions of learning and learning style) can be multi-dimensional, the concept of measuring teaching and learning is a complicated matrix. To make things simpler, it is proposed that the measure of teaching and learning needs to be determined by what the institution has set out to deliver.

There is another reason for ensuring that the measure is mission-oriented. Just as exams (what is measured) drive student behaviour, it is logical to expect that student evaluation questionnaires would drive teacher behaviour/perceptions of teaching. Roche and Marsh (2002) found that teachers' perceptions of their own teaching became more consistent with their students' perceptions of their teaching. Hence, it is important to recognize that the tool that is meant to assess or evaluate may also be utilized by the teachers to regulate what they believe in or do. Therefore, ensuring valid and appropriate indicators aligned with the university mission is crucial to be purposeful.

Limitations

It should also be noted that this paper has only considered the academic section of the evaluation questionnaire. It would be useful to also consider other evaluation questionnaires (e.g., learning resources) and map out these instruments with the university's mission to get a good overview to triangulate. Another point to keep in mind is that the 8 questions of the modified Integrated Student Feedback Form focuses mostly on the outcome factor of the programme logic model and it may be useful to consider other indicators such as input and impact. However, in this case, there was a constraint on the number of questions and measuring the outcome measure was deemed to be the most suitable.

Conclusion

Overall, the mission-oriented approach suggested for the context of SIM University will meet its intended purpose of developing an integrated form that is parsimonious in seeking meaningful information. This questionnaire or form will also be applicable across schools, and useful for the changing educational landscape at SIM University. At present, the university runs mostly face-to-face lessons, in addition to blended and full e-courses. However, it will be increasing the number of blended and full e-courses progressively over the subsequent years to meets its target of 50% e-courses by the year 2015. Hence, in the given context, it is essential to consider the longitudinal use of the student evaluation instrument in addition to the current use. The proposed eight questions can be used to access information on 6 factors (course materials, instruction, quality learning, flexible learning, relevant learning and positive experience) and this is likely to be useful even with the changing educational landscape. In addition, this approach helps to orientate and guide the various functions, processes such as course development, teaching and people (full time and part time instructors) with the university mission. Hence, it will be useful to undertake the mission-oriented approach rather than just generic principles of good teaching practices. In addition, a mission-oriented approach in designing the eCE questionnaire allows a more systematic and detailed measurement of student feedback on course materials and instruction, which could be presented in a user-friendly manner. Future studies would include implementation and validity testing. While the questionnaire presented in this paper might be institution specific, the concept of mission-oriented approach for internal self-assessment in universities is likely to be more widely applicable and therefore useful.

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Appendix

STUDENT FEEDBACK FORM
(APPLICABLE FOR CONVENTIONAL LEARNING)

COURSE CODE : _____Tutorial Group : _____

To help the University serve you better, we would appreciate it if you could take a few minutes to complete this Student Feedback Form. Thank you.

(A)   COURSE

A1) Content The study materials	SA	A	N	D	SD
a) Were well-written and easy to follow					
b) Provided sufficient examples to give me a deeper understanding of the course					
c) Were able to meet my learning needs					
Comments (if any):					
What did you like best about the study materials?					
In what ways could the study materials be improved?					

A2) Assessment The assignments either in the form of TMA, CMA, Online Quiz, or Group Project	SA	A	N	D	SD
a) Reinforced my understanding of the course materials					
b) Provided insights into my strengths and the areas I need to improve in this course					
c) Were well written and easily understood					
Comments (if any):					
What did you like best about the assignments?					

In what ways could the assignments be improved?

A3) Presentation The study materials were	SA	A	N	D	SD
a) Presented professionally in way of look and feel					
b) Well-formatted in way of spacing, font size and alignment					
c) Well-edited in way of spelling, punctuation and grammar					
Comments (if any):					
What did you like best about the presentation of the study materials?					
In what ways could the presentation of the study materials be improved?					

A4) Overall Satisfaction	SA	A	N	D	SD
a) Overall I am satisfied with the course					
Final Comments (if any):					

(Ba) TEACHING [Lecture-Tutorial-style]

Ba1) Lecturer's Name : _____ The Lecturer was	SA	A	N	D	SD
a) Well-prepared					
b) Able to stimulate learning and thinking					
c) Able to motivate students and encourage their interest					
Comments (if any):					

What did you like best about the Lecturer?

In what ways could the Lecturer improve?

Ba2) Tutor's Name : _____ **The Tutor was**	**SA**	**A**	**N**	**D**	**SD**
a) Well-prepared					
b) Able to stimulate learning and thinking					
c) Able to mentor students and encourage their interest					

Comments (if any):

What did you like best about the Tutor?

In what ways could the Tutor improve?

(Bb)   TEACHING [Seminar-style]

Bb1) Instructor's Name : _____ **The Instructor was**	**SA**	**A**	**N**	**D**	**SD**
d) Well-prepared					
e) Able to stimulate learning and thinking					
f) Able to motivate students and encourage their interest					

Comments (if any):

What did you like best about the Instructor?

In what ways could the Instructor improve?

STUDENT FEEDBACK FORM
(APPLICABLE FOR VENDOR FULL E-COURSES)

COURSE CODE : _____ Tutorial Group : _____

To help the University serve you better, we would appreciate it if you could take a few minutes to complete this Student Feedback Form. Thank you.

(A)   VENDOR FULL e-COURSE

A1) e-Learning Content I) The online study materials	SA	A	N	D	SD
a) Were well-written and easy to follow					
b) Provided sufficient examples to give me a deeper understanding of the course					
c) Were able to meet my learning needs					
Comments (if any):					
What did you like best about the online study materials?					
In what ways could the online study materials be improved?					

A2) e-Learning Design The design of the e-learning course	SA	A	N	D	SD
a) Empowered independent learning without the need for face-to-face teaching					
b) Made it easy for me to navigate through the online study materials					
c) Used appropriate multimedia to engage and sustain my learning interest					
Comments (if any):					
What did you like best about the design of the course?					
In what ways could the design of the course be improved?					

A3) Participant Handbook	SA	A	N	D	SD
a) The information prepared me well for taking on this full e-Course					
b) The course description and aims were clearly written					
c) The course calendar was effective in guiding me through the online materials and activities					

Comments (if any):

What did you like best about the Participant Handbook?

In what ways could the Participant Handbook be improved?

A4) SAP LMS and Training Server	SA	A	N	D	SD
a) The 'Ask the Expert' feature was effective in addressing my queries					
b) The response time from 'Ask the Expert' was good					
c) The availability and uptime of the Training Server was good					

Comments (if any):

What did you like best about the LMS and Training Server?

In what ways could the LMS and Training Server be improved?

A5) Overall Satisfaction	SA	A	N	D	SD
b) Overall I am satisfied with the course					

Final Comments (if any):