Journal of Research, Policy & Practice of Teachers &
Teacher Education (ISSN 2232-0458/ e-ISSN 2550-1771)
Vol. 11, No. 1, June 2021, 1-12

An evaluation of the Course Experience Questionnaire in a Malaysian context for quality improvement in teaching and learning

Eko Saputra[1], Ciptro Handrianto[2], Piki Setri Pernantah[3], Ismaniar[4] and Galih Albarra Shidiq[5]
[1]*University of Bengkulu, Indonesia*
[2]*Sultan Idris Education University, Malaysia*
[3]*Riau University, Indonesia*
[4]*Padang State University, Indonesia*
[5]*Kasetsart University, Thailand*
Corresponding author: handriantociptro@gmail.com

To cite this article (APA): Saputra, E., Handrianto, C., Pernantah, P. S., Ismaniar, I., & Shidiq, G. A. (2021). An evaluation of the Course Experience Questionnaire in a Malaysian context for quality improvement in teaching and learning. *Journal of Research, Policy & Practice of Teachers and Teacher Education, 11*(1), 1-12. https://doi.org/10.37134/jrpptte.vol11.1.1.2021

To link to this article: https://doi.org/10.37134/jrpptte.vol11.1.1.2021

Received: 10 February 2021; **Accepted:** 3 May 2021; **Published:** 4 May 2021

Abstract

This study revealed the results of the validation of the Course Experience Questionnaire (CEQ) within the Bachelor degree students who undertook their undergraduate from a Western university with 50% of the classes conducted in Malaysia. The specific instrument has been used extensively in other contexts to investigate the teaching-learning environment in Higher Education Institutions (HEIs). A sample of 368 students from the HEIs participated in this study. The validity and reliability of the CEQ were investigated through exploratory factor analysis and Cronbach alpha coefficient. The overall course satisfaction was used as an external criterion in order to strengthen the instrument's validity. The exploratory factor analysis identified four constructs reflecting good teaching, generic skills, appropriate assessment and clear goals and standards. The population of the research was limited and data was collected only from students of HEIs so the generalization of findings needs attention from more institutions.

Keywords: Course Experience Questionnaire, Higher Education Institutions, Exploratory Factor Analysis, Twinning programs

Introduction

Many of those who are interested in the study and improvement of tertiary teaching believe that there is a need for more extensive studies which will provide a database for programmes of improvement. Different groups have a different set of perceptions and reasons for their concerns about the improvement of teaching quality. Academics often are interested to better understand and improve university teaching for purposes of diagnosis and self-development whereas students' interests are more clear-cut - they benefit (or not) from the performance of their lecturers (Goh & Wong, 2015). It has become increasingly common for institutions of higher learning to seek to monitor their students' experiences for both

curriculum development and quality assurance purposes. According to Biggs (1999), quality learning among students is facilitated by quality teaching. Students' opinions and perceptions about their teaching and learning may be used by themselves and others to make better choice of programmes and academics (Akareem & Hossain, 2016; McKeachie, 1979). The use of questionnaires in monitoring student evaluation of teaching quality has been greatly reviewed and found to be valid and reliable (Marsh, 1984). One such tool to measure student perceptions of the teaching quality of their courses is the Course Experience Questionnaire (CEQ).

The use of the CEQ as a performance indicator has been extensively reported in Australia and Britain. The applicability of the CEQ to a wide variety of educational contexts in western universities such as in medical education (Broomfield & Bligh, 1998; Graham D. Hendry et al, 2001; Lyon & Hendry, 2002), accounting (Mathews et al, 1990), distance education (Richardson & Woodley, 2003; Richardson, 1994), and nurse education (Byrne & Flood, 2008) has been demonstrated. However, there is little research examining the appropriateness of the CEQ to be used in a Malaysian context and specifically in a western degree programme done locally (better known as "twinning degree programmes").

Twinning degree programmes are overseas western curriculum taught in Malaysia. With twinning arrangements, students spend different study periods in Malaysia and in overseas partner universities. For example, for a three-year degree programme, a student may spend the first year or first two years in the Malaysian local institutions and complete the remainder at the overseas universities. Alternatively, a student is able to complete the foreign degree locally at the institution. There is always a concern that any *a priori* set of statements to which individuals from a western environment respond to using a specified format is not necessary understood by another group of students in another culture. Second, while the CEQ has been demonstrated to be a useful evaluation tool, it is argued that some items within the instrument which is developed in a country with a curriculum that practices a more open educational philosophy and instructional processes may be incompatible to Malaysian students who come from more traditional didactic teaching programme (Thien & Ong, 2016). Therefore, the main intention of this study was to acquire information on the validity and reliability of the CEQ in a Malaysian twinning programme setting.

Development of the CEQ

The Course Experience Questionnaire (CEQ) began as the Course Perceptions Questionnaire (CPQ) designed by Ramsden and Entwistle (1981) in the United Kingdom. The CPQ was developed from an analysis of open-ended student feedback about their learning environments as presented in Table 1. It was found that students were likely to learn more effectively if those eight characteristics were present positively in their learning environment.

Table 1. Subscales contained in the Course Perceptions Questionnaire.

Scale	Meaning
Formal teaching methods	Lectures and classes more important than individual study.
Clear goals and standards	Assessment standards and ends of studying clearly defined.
Workload	Heavy pressures to fulfil task requirements.

Vocational relevance	Perceived relevance of course to careers.
Good teaching	Well-prepared, helpful, committed teachers.
Freedom in learning	Discretion of students to choose and organise own work.
Openness to students	Quality of academic and social relationships between students.
Good social climate	Quality of academic and social relationships between students.

Source: Ramdsen and Entwistle (1981, p.371)

Using both the theoretical and empirical basis of the CPQ, a variation to the CPQ was developed by Ramsden (1991) who renamed it the Course Experience Questionnaire (CEQ). The questionnaire was developed in Australia at a time when quality and accountability in higher education became increasingly important. Further, there were a limited number of robust instruments that could evaluate higher education students' learning environments at a course level. Course level refers to a full course of study (for example, a degree programme), rather than student ratings of a particular subject or teacher (Byrne & Flood, 2008). Evaluating at a course level was seen as less threatening to academics who might fear that ratings at the individual level may lack objectivity.

The CEQ, offered reliable and useful feedback on students' learning environments, and it can also be used to evaluate teaching effectiveness at a course level (Byrne & Flood, 2008). It was developed to be used by students in higher education to report perceptions of their learning environment and contained 30 questions divided into five scales: Good Teaching (8 items), Clear Goals and Standards (5 items), Appropriate Workload (5 items), Appropriate Assessment (6 items), and Emphasis on Independence (6 items). Preliminary investigations of the CEQ confirmed the internal consistency of the scales and demonstrated its ability to discriminate between courses (Ramsden, 1991). Based on the strength of preliminary studies, the Australian Higher Education Performance Indicators Research Group (PIRG) recommended that the CEQ be trialled nationally.

In 1990, the CEQ was distributed to final year students of different academic disciplines across a range of higher education institutions in Australia. A total of 3,372 valid responses were collected (Ramsden, 1991). The internal consistency of the five scales was examined using Cronbach alpha coefficients and was found to be satisfactory. Validation was conducted through factor analysis, which confirmed the five-scale structure (Ramsden, 1991; Matthews, Brown, & Jackson, 1990).

Replication of the original study (Ramsden, 1991) was conducted by Trigwell and Prosser (1991) using a sample of 55 final year Australian nursing students, and they reported a scale structure broadly similar to Ramsden (1991). Richardson (1994) validated the use of the CEQ with a sample of 95 undergraduate students in a variety of social science courses in a university in the United Kingdom, while another British study by Broomfield and Bligh (1998) validated the use of the CEQ for medical students, and further confirmed the basic scale structure of the instrument.

The 23-item CEQ

While the CEQ in its original form was well accepted and endorsed for use by the Graduate Careers Council of Australia (GCCA), it was proposed that a revised form was needed that

took into account an awareness that higher education needed to produce graduates who were not only competent academically, but who also possessed process skills relevant to employability (Wilson, Lizzio, & Ramsden, 1997). Most of the original items and scales from Ramsden's (1991) CEQ were retained with the exception of Emphasis on Independence. The Emphasis on Independence subscale was omitted due to its weaker scale structure, and in its place a new Generic Skills scale was introduced. The factor structure of the revised version was highly satisfactory and Wilson et al. (1997, p.41) conclude that it 'offers a stable factor structure equal to the… full form, with the advantage of cleaner relationsips between items and scales'. This revised CEQ, which has 23 items, became the most commonly used version of the instrument.

The coefficient alpha values for the revised form demonstrated acceptable levels of internal consistency (Wilson et al., 1997), although they were lower when compared to the original CEQ. Byrne and Flood (2003) reported that the alpha values for three scales (Good Teaching, Appropriate Assessment, and Generic Skills) of the revised CEQ were lower than those identified by Wilson et al. (1997), however, they were nevertheless satisfactory with moderate to high levels of internal consistency (refer to Table 2). Eley (1998) used the revised CEQ with 352 business and engineering students in Australia, and noted that the reliability and validity of the revised CEQ was acceptable and in line with those reported in the studies described above.

Table 2. Cronbach Alpha Values from Ramsden (1991), Wilson et al. (1997), and Byrne and Flood (2003).

CEQ scale	Ramsden (1991) 30-item CEQ n = 3372	Wilson et al. (1997) revised CEQ n = 1362	Byrne and Flood (2003) revised CEQ n = 204
Good Teaching	0.87	0.88	0.76
Clear Goals and Standards	0.80	0.76	0.78
Appropriate Workload	0.77	0.69	0.73
Appropriate Assessment	0.71	0.70	0.69
Emphasis on Independence	0.72	-	-
Generic Skills	-	0.77	0.66

Adapted from: Wilson et al. (1997); Byrne and Flood (2003).

The study

Aim

The primary aim of this study is to establish the reliability and validity of the CEQ for use with Malaysian tertiary students, in particular from the twinning programmes.

Sample

The population for the study consisted of second and third year undergraduate students (n = 368) from six private higher educational institutions offering the twinning programmes from either Australian or British universities. Out of the 368 participants, 166 were doing Engineering and Computer Science programmes, while the other 202 were in business, commerce, accounting, finance or management programmes. They were made up of equal numbers of 184 males and 184 females. Some 168 students were 21 years of age and younger. The ethnic divide of the total sample included 82% Chinese, 10% Indian, 5 % Malay, with the remaining coming from other indigenous races.

The instrument

The revised CEQ was the instrument used in this study. As previously outlined, the revised form has 23 items made up of a Good Teaching Scale (6 items), Clear Goals and Standards Scale (4 items), Appropriate Workload Scale (4 items), Appropriate Assessment Scale (3 items), and Generic Skills Scale (6 items). Table 3 presents the meanings of the five scales.

Table 3. The scales of the revised CEQ.

Scale	Meaning
Good Teaching	Addresses teaching practice such as providing useful and timely feedback, providing clear explanations, able to motivate students, effort in making the course interesting, and able to understand students' problems.
Clear Goals and Standards	Addresses course quality as measured by clear aims and objectives, and providing clear expectations of the standard of work expected from students.
Appropriate Assessment	Addresses the extent to which assessment practices measure higher order thinking and understanding rather than simple factual recall.
Appropriate Workload	Addresses students' perceptions of the reasonableness of the workload. The scale looks into the extent to which a heavy workload interferes with student learning.
Generic Skills	Addresses the extent to which students' learning has fostered the development of generic skills identified as being a valuable outcome of university education.

Adapted from: Lyon and Hendry (2002, pp.342-346).

Several items were reworded to provide a balance of 'positive' and 'negative' statements. Students' responses were recorded on a five-point scale of 1 ('Strongly disagree') to 5 ('Strongly agree'). Summing the scores on the appropriate items provided scores on the five scales, with a high score corresponding to a perception of good teaching. Some items had to be recoded to reflect the opposite meaning to that of the scale. For example in item 3, if a student responded 1 (strongly disagree) to 'The workload was too heavy', this was recoded to 5 (strongly agree) to reflect the students' perception of appropriate workload. Items that had to be recoded are marked with an asterisk in Table 4.

Where necessary, some CEQ statements (items) were slightly reworded to ensure that they were suitable for use is a Malaysian context. For example, CEQ item 11, 'The teaching staff normally gave me helpful feedback on how I was going', would be reworded to read 'The teaching staff normally gave me helpful feedback on how I was progressing'. Similar re-wordings were conducted on items 16, 19 and 21. In all the re-wording, the original word was followed as closely as possible so that the meaning of each item was preserved.

Table 4. Items of the course experience questionnaire.

Good Teaching Scale (6 items)	
2	The teaching staff of this course motivated me to do my best work.
5	The staff put a lot of time into commenting on my work.
10	The staff made a real effort to understand difficulties I might be having with my work.
11	The teaching staff normally gave me helpful feedback on how I was doing.
12	My lecturers were extremely good at explaining things.
14	The teaching staff worked hard to make their subjects interesting.
Clear Goals and Standards Scale (4 items)	
1	It was always easy to know the standard of work expected.
4	I usually had a clear idea of where I was going and what was expected of me in this course.
8	It was often hard to find out what was expected of me in this course.
17	The staff made it clear right from the start what they expected from students
Appropriate Workload Scale (4 items)	
3	The workload was too heavy.
9	I usually had a clear idea of where I was going and what was expected of me in this course.
15	It was often hard to find out what was expected of me in this course.
16	The huge amount of work to be got through in this course meant that it couldn't be all completely understood.
Appropriate Assessment Scale (3 items)	
6	To do well in this course all you really needed was a good memory.
7	The staff seemed more interested in testing what I had memorised than what I had understood.
13	Too many staff asked me questions just about facts
Generic Skills Scale (6 items)	
18	The course developed my problem-solving skills.
19	The course improved my logical skills.
20	The course helped me develop my ability to work as a team member.
21	As a result of my course, I feel confident about overcoming unfamiliar problems.
22	The course improved my skills in written communication.
23	My course helped me to develop the ability to plan my own work.

Results

Responses were analysed to furnish evidence for CEQ regarding its factor structure, scale correlation, and scale internal reliability.

Factor analysis

Validation of the revised CEQ with the sample of 368 students commenced with principal components factor analysis followed by varimax rotation. A combination of the scree test and eigenvalue greater than one rule was used to determine the number of factors to be extracted. A value of 0.40 was used for the factor loadings. Table 5 shows the results of the factor loadings for the CEQ questioannire, along with the percentage of variance extracted for each scale.

Table 5. Factor analysis of the CEQ

Scales	Item No.	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Good Teaching	2	0.63				
	5	0.60				
	10	0.74				
	11	0.74				
	12	0.73				
	14	0.70				
Generic Skills	18		0.64			
	19		0.70			
	20		0.68			
	21		0.69			
	22		0.64			
	23		0.61			
Appropriate Assessment	6			0.52		
	7			0.71		
	13			0.46		
Clear Goals and Standards	1				0.67	
	4				0.40	
	8			0.63	0.36*	
	17				0.48	
Appropriate Workload	3					0.74
	9					
	15					0.73
	16					
% Variance		15.01	14.12	8.14	7.32	6.75

Factor loading of less than 0.40 not shown
** To demonstrate the lower loading within its own scale*

The principal components resulted in a five-factor structure which explained 51.34% of the extracted variance for the five scales. The Good Teaching and Generic Skills Scales loaded perfectly. Although the items for Appropriate Assessment loaded as expected, item 8 from Clear Goals and Standards also loaded highly on this scale. Three items from the Clear Goals and Standards Scale loaded well on its structure, although item 8 had a loading of less than 0.40 with its own scale (it loaded with 0.36). The positive loading of item 8 ('it was often hard to find out what was expected of me in this course) on the Appropriate Assessment Scale could suggest that Malaysian students positively associate their inability to understand what was expected of them in their work with that of using memorisation and factual recall to get through the course. Based on the high positive loading of item 8 on the Appropriate Assessment Scale and a much lower loading onto it own scale, item 8 was included into the Appropriate Assessment Scale. Items from Appropriate Workload did not load as expected with only two items showing significant loadings greater than 0.40. The four factors that were generated from the varimax rotation were labelled: Factor 1 – Aspects of Good Teaching (six items); Factor 2 – Generic Skill (six items); Factor 3 – Aspects of Appropriate Assessment (four items); Factor 4 – Aspects of Clear Goals and Standards (three items).

Scale correlations

One criterion to validate further the four-factor CEQ was to examine the relationships between the scores and an external criterion. One such external criterion used is overall satisfaction (Ramsden, 1991; Wilson, Lizzio, & Ramsden, 1997; Byrne and Flood, 2003). There was a question (question 24) which asked students to state the extent of their overall satisfaction with the course. The CEQ was correlated with overall satisfaction (Table 6). Aspects of Assessment had a significant but small correlation with satisfaction while Aspects of Good Teaching, Generic Skills, and Aspects of Clear Goals and Standards, and had high associations with the satisfaction scores. Aspects of Appropriate Workload did not correlate at all.

Table 6.

	Aspects of Good Teaching	**Aspects of Clear Goals and Standards**	**Aspects of Appropriate Workload**	**Aspects of Appropriate Assessments**	**Generic Skills**
Overall Satisfaction	0.61**	0.49**	0.10	0.18**	0.52**

** $p < 0.01$

Internal consistency

Cronbach alpha reliability was used as an index of scale internal consistency. Table 7 shows the alpha reliability values for the five different scales. The Cronbach alpha reliability for the Appropriate Assessment before adding item 8 was 0.48, and Clear Goals and Standards with four items was 0.47. After the change over of item 8 into the Aspects of Appropriate Assessment Scale, the alpha reliability increased to 0.55, while Aspects of Clear Goals and Standards with three items increased to 0.52.

Table 7. Reliability. (Cronbach Alpha Coefficient) before and after Change Over of Item-8.

	Reliability	
	Before Item-8 Change Over	*After Item-8 Change Over*
Scale		
Aspects of Good Teaching	0.82	0.82
Aspects of Clear Goals and Standards	0.47	0.52
Aspects of Appropriate Workload	0.44	0.45
Aspects of Appropriate Assessment	0.48	0.55
Generic Skills	0.79	0.79
	0.47	0.52
Overall Reliability		0.80

Discussion and conclusion

The 23-item CEQ was developed for overall degree or course evaluation. Its use in western universities has been widely reported, but its use in non-western environment has been very little described. Furthermore, many of the studies have been carried out within a campus environment, where the teaching, learning and curriculum come from the university where the study was conducted. Therefore, when a twinning programme mode of educational delivery is being evaluated, it is useful to have a relatively stable and reliable instrument for such innovation or to possess an instrument that can be modified to suit the peculiar characteristics of such mode.

It would appear that Malaysian twinning university students perceive Good Teaching and Generic Skills to be two important domains in evaluating university teaching quality. The results were found to similar different from the previous studies which confirmed the factor structures of CEQ23 (e.g., Broomfield & Bligh, 1998; Byrne & Flood, 2008; Wilson et al., 1997). Despite some overlapping among the items, Appropriate Assessment and Clear Goals and Standards, the alpha values were found to be relatively appropriate as compared to the corresponding values found by Law and Meyer (2011). However, only two items of the Appropriate Workload loaded and it had very low alpha value.

It is worth highlighting that the overall the 23-item CEG might not be applicable to the Malaysian twinning program university's context. Although the alpha values were acceptable, but it was still considered low (Nunnally, 1978). Only the alpha values of the scales of Good Teaching, Generic Skills were robust. The items of the scale were found to have loaded on other scales. In other words, the items were not quite measuring what they were supposed to measure for the CEQ scales based on the Malaysian twinning program's student responses. Nevertheless, although there were some overlapping of the factor structures, the Good Teaching, Generic Skills, Appropriate Assessment and Clear Goals and Standards did appear to be relatively better compared with the original version of the scales of the CEQ 23. This could imply that students' perceptions were somewhat similar on these two scales based on their experience in undertaking university degree courses by the twinning mode. However, a note of caution, the cultural differences between Malaysian students and the imported programs from western countries could perhaps result in different interpretations of the item(s) by the respondents. This can alter the way each item was perceived. The conceptual and cultural equivalence must need to be taken into consideration (Schary & Waldron, 2017).

One possible reason the fourth scale, aspects of appropriate workload, did not perform as expected could be that students did not comprehend the meanings of the items or

that students might be responding to those items differently. This could, in part, be due to the different course disciplines which have different cultures influencing the learning environment or different work ethics found within the learning environment. Hence, it is recommended that an examination of the items in appropriate workload scale be conducted as the scale might still provide useful information. Each statement can be reviewed to check that it is appropriate and if necessary have words changed to provide suitability in the twinning programme environment. Testing of the revised form together with the other scales would be required.

Moving forward, this study recommends that there should be more items creates in all the scales that is more related to the twinning mode environment. As twinning mode programs can be different from an on-campus learning, other items which can respond to issues such as classroom settings, student support, resources, library use, student support from partner universities, quality of graduates should be included. According to Kuh (2001), any learning experience should also include aspects of student engagement and their participation. Aspects of motivation can also be important as more times than not, these twinning students are away from their original campus and might not have the same support like their counterpart.

Perhaps, future study of the 23-item CEG might include other variables pertaining to the effect of gender, ethnic groups, and school or faculty differences in influencing twinning program students towards their evaluation of their own teaching and learning quality. An exploration of gender, ethnic groups, and school differences could also be expanded to other types of twining programs especially those that do the 1+3 or 3+1 types of programs. The number of years the students spend locally or overseas could also have some effect towards how they perceive their teaching and learning. A larger sample size is always recommenced. This study did not conduct a confirmatory factor analysis or a multi-group confirmatory factor analysis which could better differentiate between variables or better confirm the factor structures. Future study could also include more cross-cultural studies with other countries which also adopt the twinning mode of study to ensure consistency in the content and face validity between original CEQ.

Despite the fact that the empirical study does not support the use of the whole 23 items of the CEQ, this finding is still important to educators and policymakers. Policymakers might use some of the items to determine aspects such as teaching quality and allocation of resources. Teaching staff knowledgeable in the twinning mode can be better prepared if they have some form of benchmark about how the students perceived their twinning programs and learning. As generic skills are now important to take these students into the Industrial Revolution 4,0 – the scales within generic skills can be used or expanded for this purpose. Since education do not just begin at the tertiary level, perhaps the CEQ can also be adapted, modified and translated to be used in schools too.

To conclude, this study set out to determine if the 23-item CEQ can be used with twinning program students. It has contributed to the empirical evidence of the scale based on Malaysian twinning students' sample. Although the CEQ does not show that the 23 items are appropriate to use in its entirety, it however, indicate that it is a useful instrument to improve further tertiary students in the twinning mode. Despite the omission of the fourth scale, this study demonstrated that the CEQ would be a useful instrument for lecturers to use to monitor their students' learning environment. The CEQ can also report on the views of students in a twinning programme environment about what makes it difficult for them to learn and what academics can do to help them learn. In addition, it also enables lecturers to obtain feedback quickly about themselves and their classrooms from a student's perspective.

Future improvement towards it psychometric properties is needed. Cross cultural study of the instruments is also necessary. The instrument can assist a better understanding

of how twinning student discern their teaching and learning quality. Other important variables could also be included if any new formulation of the CEQ are conducted. Nevertheless, this is a first starting point to assist tertiary education in the twinning mode to ensure quality assurance within their imported programs and for the 'importer' to assist local universities attain a high standard of education.

References

Akareem, H. S., & Hossain, S. S. (2016). Determinants of education quality: What makes students' perception different? *Journal Open Review of Educational Research, 3*(1), 52-67. https://doi.org/10.1080/23265507.2016.1155167

Biggs, J. (1999). What the student does: Teaching for enhanced learning. *Journal Higher Education Research & Development, 18*(1), 57-75. https://doi.org/10.1080/0729436990180105

Biggs, J. B. (1999). *Teaching for quality learning at university*. Buckingham: Open University Press.

Broomfield, D., & Bligh, J. (1998). An evaluation of the 'short form' course experience questionnaire with medical students. *Medical Education, 32*(4), 367-369. https://doi.org/10.1046/j.1365-2923.1998.00232.x

Byrne, M., & Flood, B. (2008). Examining the relationships among background variables and academic performance of first year accounting students at an Irish University. *Journal of Accounting Education, 26*(4), 202-212. https://doi.org/10.1016/j.jaccedu.2009.02.001

Eley, M. G. (1998, July). The course experience questionnaire: Some effects of altered question formats on the CEQ's effectiveness as an instrument. In paper presented at *The 24th Annual Conference of HERDSA*, Auckland, New Zealand.

Goh, P.S.C., & Wong, K.T. (2015). Exploring the challenges for teacher educators. *Journal of Research, Policy & Practice of Teachers & Teacher Education, 5*(1), 37-45.

Hendry, G.D., Cumming, R.G., Lyon, P.M., & Gordon. J. (2001). Student-centred course evaluation in a four-year, problem based medical programme: Issues in collection and management of feedback. *Assessment & Evaluation in Higher Education, 26*(4), 327-339. https://doi.org/10.1080/02602930120063484

Law, D. C. S., & Meyer, J. H. F. (2011). Adaptation and validation of the course experience questionnaire in the context of post-secondary education in Hong Kong. *Quality Assurance in Education, 19*(1), 56-66.

Lyon, P. M., & Hendry, G. D. (2002). The use of the Course Experience Questionnaire as a monitoring evaluation tool in a problem-based medical programme. *Assessment & Evaluation in Higher Education, 27*(4), 339-351. https://doi.org/10.1080/0260293022000001355

Marsh, H. W. (1984). Students' evaluations of university teaching: Dimensionality, reliability, potential biases, and utility. *Journal of Educational Psychology*, *76*(5), 707-754. https://doi.org/10.1037/0022-0663.76.5.707

Mathews, R. L., Brown, P. R., & Jackson, M. A. (1990). *Accounting in higher education: Report of the review group of the accounting discipline in higher education.* Canberra: Australian Government Publishing Service.

McKeachie, W. J. (1979). Student ratings of faculty: A reprise. *Academe, 65*(6) 384-397. https://doi.org/10.2307/40248725

Nunnally, J. C. (1978). *Psychometric theory*. New York: McGraw Hill.

Ramsden, P. (1991). A performance indicator of teaching quality in higher education: The course experience questionnaire. *Studies in Higher Education*, *16*(2), 129-150. https://doi.org/10.1080/03075079112331382944

Ramsden, P., & Entwistle, N. J. (1981). Effects of academic departments on students' approaches to studying. *British Journal of Educational Psychology*, *51*(3), 368-383. https://doi.org/10.1111/j.2044-8279.1981.tb02493.x

Richardson, J. T. E. (1994). A British evaluation of the course experience questionnaire. *Studies in Higher Education*, *19*(1), 59-69. https://doi.org/10.1080/03075079412331382143

Richardson, J. T. E., & Woodley, A. (2003). Another look at the role of age, gender and subject as predictors of academic attainment in higher education. *Studies in Higher Education*, *28*(4), 475-493. https://doi.org/10.1080/0307507032000122305

Schary, D.P., & Waldron, A.L. (2017). The challenge Course Experience Questionnaire: A facilitator's assessment tool journal of experiential education. *Journal of Experiential Education, 40*(3), 295-307. https://doi.org/10.1177/1053825917708400

Thien, L.M., & Ong, M.Y. (2016). The applicability of course experience questionnaire for a Malaysian university context. Quality Assurance in Education, *24*(1), 41-55. https://doi.org/10.1108/QAE-08-2014-0041

Trigwell, K., & Prosser, M. (1991). Improving the quality of student learning: The influence of learning context and student approaches to learning on learning outcomes. *Higher Education*, *22*(1), 251-266. https://doi.org/10.1007/BF00132290

Wilson, K. L., Lizzio, A., & Ramsden, P. (1997). The development, validation and application of the course experience questionnaire. *Studies in Higher Education*, *22*(1), 33-53. https://doi.org/10.1080/03075079712331381121