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RESEARCH NOTE

The Evaluation of the Student Evaluation of Educational Quality Questionnaire (SEEQ) in UK Higher Education

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ABSTRACT *The Student Evaluation of Educational Quality Questionnaire (SEEQ) is one of the most thoroughly developed and widely used student feedback questionnaires in the USA with a robust factor structure, excellent reliability and reasonable validity. Student feedback questionnaires used in the UK rarely have these desirable characteristics. This paper reports on the use of the SEEQ with 1297 students in nine institutions in the UK. Factor analysis largely confirms the factor structure. The SEEQ is recommended for use in the UK where reliability and comparability are important.*

Introduction

Student feedback questionnaires are widely used in the UK for the purpose of quality assurance of modules and programmes. For formative purposes, while the reliability and validity of these questionnaires are important, the perceived relevance of the questions being asked may be given more emphasis. However, quantitative data from these questionnaires are also used for summative purposes: as supportive evidence in external Teaching Quality Assessment, in cases made by individuals for promotion on the grounds of teaching excellence, and recently in portfolios of evidence of teaching competence for teacher accreditation by the Institute for Learning and Teaching. Where courses are being compared, where candidates for promotion are in competition and are being compared, or when absolute judgements are being made about whether a threshold of quality has been achieved, it is essential that the instruments employed are reliable and valid. Unlike in the US, virtually all student feedback questionnaires used in the UK are 'home grown' and have not had their reliability and validity established in the normal

TABLE 1. The six scales of the SEEQ which were used, with sample items

Scale name	Typical item	Area
1 Learning	You have learned something which you consider valuable	Knowledge acquisition
2 Enthusiasm	Tutor was enthusiastic about teaching the course	Tutor enthusiasm
3 Organisation	Tutor explanations were clear	Tutor organisation
4 Group	Students were invited to share their ideas and knowledge	Group interaction
5 Rapport	Tutor had a genuine interest in individual students	Tutor–student bond
6 Breadth	Tutor contrasted the implications of various theories	Range of topics covered

way. Scores may be reported from single items, or scores may be added from items despite there being no evidence that they form a coherent scale. Items are derived from ‘common sense’ without any evidence that they correlate with any measures of learning outcome. Small differences between scores may be interpreted as significant which may instead be the result of low reliability and error.

One of the best developed and most widely used student feedback questionnaires in the USA is the Student Evaluation of Educational Quality (SEEQ) (Marsh, 1982). Unlike instruments such as the Course Experience Questionnaire (CEQ) (Ramsden, 1991) the SEEQ is not based on student learning research but on psychometric analysis. A consequence of this is that while the constructs underlying the SEEQ are less well supported by learning theory, the psychometric characteristics of the questionnaire are developed to a high degree. The SEEQ has an exceptionally high level of reliability ($r = 0.88$ to 0.97). It also has a reasonable level of validity in that scale scores correlate significantly with a wide range of measures of learning outcome such as student marks on standardised examinations, student feelings of mastery of course content, plans to apply skills learnt on the course and plans to pursue the subject further (Marsh *et al.*, 1975). A review of validity studies can be found in Cohen (1981). Student ratings on the SEEQ also correlate with teachers’ self-ratings ($r = 0.45$, see Marsh, 1982 for a summary of studies). This is important where student perceptions may be doubted in relation to academics’ perceptions, for example when making promotion decisions. While these are still student perceptions, the validity evidence shows that these perceptions offer a useful indicator of teaching quality.

Marsh recommended the SEEQ for use in the UK nearly 20 years ago, but despite this we have been unable to find any reference to its use in the UK. One reason for this might be scepticism that a questionnaire developed in the USA could be relevant to the UK, given the cultural, organisational and terminological differences. This Research Note reports the use of the SEEQ in nine universities in England.

The Study

The Centre for Higher Education Practice at the Open University is undertaking a research programme to investigate the impact of teacher training in higher education, both in the UK and internationally (Gilbert & Gibbs, 1998). During pilot studies in 1998–99 a modified form of the SEEQ was used to measure the possible impact of

TABLE 2. Factor analysis of the SEEQ: rotated component matrix

Scale	Item	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6
Learning	1	0.214	0.081	0.104	0.195	0.134	0.745
Learning	2	0.147	0.062	0.180	0.247	0.150	0.783
Learning	3	0.186	0.140	0.105	0.144	0.226	0.775
Learning	4	0.204	0.176	0.029	0.051	0.603	0.366
Enthusiasm	5	0.748	0.148	0.218	0.139	0.210	0.145
Enthusiasm	6	0.815	0.140	0.186	0.159	0.165	0.184
Enthusiasm	7	0.767	0.210	0.200	0.186	0.109	0.163
Enthusiasm	8	0.725	0.194	0.157	0.213	0.272	0.217
Organisation	9	0.426	0.162	0.195	0.223	0.592	0.138
Organisation	10	0.258	0.129	0.245	0.204	0.693	0.121
Organisation	11	0.124	0.124	0.233	0.214	0.709	0.132
Organisation	12	0.042	0.158	0.085	0.436	0.460	0.123
Group	13	0.167	0.839	0.099	0.210	0.097	0.090
Group	14	0.144	0.876	0.146	0.175	0.095	0.081
Group	15	0.222	0.655	0.308	0.188	0.300	0.129
Group	16	0.179	0.747	0.275	0.196	0.188	0.093
Rapport	17	0.262	0.280	0.717	0.127	0.109	0.094
Rapport	18	0.266	0.159	0.795	0.144	0.162	0.133
Rapport	19	0.193	0.250	0.750	0.198	0.161	0.111
Rapport	20	0.065	0.066	0.633	0.298	0.200	0.130
Breadth	21	0.145	0.181	0.209	0.679	0.247	0.198
Breadth	22	0.133	0.196	0.223	0.739	0.201	0.178
Breadth	23	0.223	0.212	0.187	0.721	0.123	0.183
Breadth	24	0.327	0.206	0.184	0.631	0.125	0.178
Eigen values		10.361	1.791	1.399	1.276	1.024	0.977

Note: Principal Component Analysis. Varimax Rotation with Kaiser Normalisation.

training on teachers’ classroom behaviour. The modified form retained six of the original nine scales, as displayed in Table 1. The three excluded scales concerned aspects of courses outside of the classroom: Examination/Grading, Assignments and Workload Difficulty.

The modified SEEQ was intended to be administered to 20 undergraduate students of each of 20 teachers who were enrolled on training programmes in nine universities. It was administered by the teachers themselves, during normal class time, between weeks three and six of the first semester. It was planned that 3600 questionnaires were to be administered. However, there are no records of how many were actually administered. A total of 1297 were returned, a response rate of 36%. The students, and their teachers, came from a wide range of subject areas and from different years of undergraduate programmes.

Findings

A confirmatory factor analysis was carried out to determine whether the established scale structure of the SEEQ was maintained when it was used with a UK population. The factor analysis technique employed was modelled on that described by Marsh (1982). A principal components factor analysis was found to produce the optimum solution, using a Varimax rotation. The analysis produced a solution virtually identical to that of Marsh (see Table 2). The same six factors were identified, each containing the same four items,

TABLE 3. Component correlation matrix

	Learning	Enthusias m	Organisatio n	Group interaction	Individual rapport	Breadth
Learning	1.000	0.563**	0.601**	0.416**	0.443**	0.570**
Enthusiasm	0.563**	1.000	0.613**	0.523**	0.568**	0.571**
Organisation	0.601**	0.613**	1.000	0.529**	0.575**	0.643**
Group interaction	0.416**	0.523**	0.529**	1.000	0.556**	0.574**
Individual rapport	0.443**	0.568**	0.575**	0.556**	1.000	0.588**
Breadth	0.570**	0.571**	0.643**	0.574**	0.588**	1.000

Note: ** Correlation is significant at the 0.01 level (2-tailed).

with the exception of ‘Organisation’ where one item from the ‘Learning’ scale loaded more heavily (0.682) than the fourth item from the ‘Organisation’ scale (0.553). This represents a very strong confirmation of the original factor structure of the SEEQ when used in the UK.

It can be seen from Table 2 that while the items which load most heavily on the factors are as predicted, every factor contains many items which load significantly. Furthermore, every factor correlates significantly with every other factor (see Table 3). A reliability analysis was undertaken to measure the internal consistency of the 24-item SEEQ, to see if scores on all items could simply be summed to provide a single score of educational quality. This yielded an alpha value of 0.94. It would therefore be justified to produce and use a single score from the SEEQ, for the purpose of indicating overall quality.

The potentially biased student sample (due to the low return rate) and the nature of the sample of teachers involved (mainly new and inexperienced teachers) make the means and standard deviations of scores obtained an unsuitable basis for comparison, and they are not reported here.

Conclusions

The findings indicate that the scale structure of the SEEQ holds up very well to factor analysis as applied and that item scores can be summed to produce a single score that can be used as an overall indicator of educational quality. The SEEQ is recommended for use by individual teachers in the UK to obtain student feedback on their teaching and on their individual modules, in preference to ‘home made’ student feedback questionnaires, where reliability and validity are important and especially where a single score is useful as an indicator of educational quality for summative purposes. The SEEQ is available for free use.

Notes on Contributors

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