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# The Applicability of the Course Experience Questionnaire in Accounting Education in Saudi Arabia

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## Abstract

**Purpose:** This paper sought to investigate the applicability of the course experience questionnaire through its implementation of accounting students in Saudi universities.

**Methodology:** Between a three-month period (January 2020-march 2020) which marks the 2019/2020 session in the Saudi higher education system, a total of 396 accounting students at 7 Saudi state universities. The instrument reliability and validity was assessed using exploratory factor analysis. Internal consistency was measured using Cronbach's alpha. Criterion validity was assessed by examining the correlation between CEQ scales and one single item of Overall Satisfaction Scale and examined the correlation coefficient between sub-scales using Pearson's bivariate correlation analysis.

**Findings:** A four-factor model supported an adequate fit with the data. The findings showed good internal consistency reliability of the instrument as a whole. While four of the five sub-scales of the CEQ showed good internal consistency reliability, just one subscale showed unsatisfactory reliability. The following results were obtained for the four-factor model: Values of sampling appropriateness (KMO = 0.948) and Bartlett test of sphericity ($x2 = 4575,038$, $p < 0.001$). The findings of the present study showed the inapplicability of the CEQ in accounting education due to the low reliability of Clear goals and standards and unstable factor of Appropriate workload.

**Originality/Value:** This study is meant to take advantage of the Australian experience to apply the CEQ as a measure of perceived course quality so as to help the HEIs in planning a better model of both courses and institutions in Saudi. The present study suggests the need for further studies of the CEQ for application in several majors. So, the expansion of the study population in future research to include several majors can further validate the factor structure of the CEQ for use in Saudi and as benchmarking in the Middle East.

## Introduction

The student evaluations are among the most widespread assessments; student's perceptions surveys have a significant role to play in fostering quality assurance of higher education. The research literature contends that students' feedback constitutes a major source of evidence for assessing teaching and learning quality that can use to report attempts to improve the aspects needing attention (Lackey & Neill, 2001; Harvey, 2003; Richardson, 2005). Richardson (2005) concluded that formal surveys of quality assurance purposes are as appraisal instruments designed to collect data on students' perceptions of the learning environment, having regard to be collected after the relevant educational activities, educational contexts diversity and student populations, and focus on key aspects of teaching and quality. Lackey & Neill. (2001) mentioned that the student evaluations are extremely important and have a significant role to play in the quality assurance process. Harvey (2003) concluded that students are important stakeholders in the quality assurance processes and it is important to obtain their views.

The Course Experience Questionnaire (CEQ) is one such formal instrument of quality measurement and as a significant source of evidence through which teaching quality can be systematically assessed. It focuses on measuring student satisfaction with the teaching outcomes in their course of study (Ramsden, 1991, 144).

With growing interest to improve teaching effectiveness and enhance the students' learning outcomes, the CEQ has been used within a variety of academic environments and various research purposes that have also led to its evolution as one of the more powerful tools in achieving those interests.

A multitude of studies has been conducted to demonstrate the validation of the CEQ scale structure on the western educational contexts and non-western in numerous countries. But through reviewing the literature, its validation has not been verified in Saudi Arabia or the Middle East. So the current study is the first attempt to verify the validity and reliability of the CEQ for use with accounting students in Saudi Arabia.

In Saudi Arabia's setting, there is only one study that was confined to report students' experience of problem-based learning (PBL) with medical students without

examining the CEQ scale structure. Alduraywish et al., (2017) discussed just how to evaluate the students' experiences with PBL, using the version of the Students' Course Experience Questionnaire (SCEQ) that contained 37 items distributed over six categories.

This research addresses one question in reaching our conclusions about the applicability of the course experience questionnaire in accounting education: To what range to which the Course Experience Questionnaire can apply to an Accounting Education in Saudi, using the short version of the 23-item? To address this question, the researcher seeks to achieve the following: - to provide validity of this form, using exploratory factor analysis; - to offer an assessment of the reliability of this form, using Cronbach's alphas; - and to examine how valid and reliable is this form, using correlation analysis. This study hypothesized that may be used this form in an accounting context in Saudi universities as with earlier studies that have been demonstrated the reliability and validity of this form on the same discipline both of Ireland and Greece.

This study is for research purposes, rather than for quality assurance purposes that each item of this version refers to a specific course or whole programs. It is limited to this study on accounting students caused by my interests in the topics relating to quality assurance of accounting education. That could not, however, prevent using the CEQ to assess undergraduate satisfaction with various educational courses in Saudi Arabia.

## Literature Review

Over approximately thirty years, the course experience questionnaire has been given of considerable attention of researchers in the scientific research, many previous studies have addressed its reliability, the validity and the measurement of student's perceptions about teaching quality in several academic settings in a various cultural context from the original context, including but not limited to Canada (kreber, 2003), China (Yin et al., 2016 and Yin & Wang, 2015), Greece (Asonitou et al., 2018 and Stergiou & Airey, 2012), Hong Kong (Law & Meyer, 2011), Ireland (Byrne & Flood, 2003), Japan (Fryer et al., 2012), Malaysia (Thien & Ong, 2016), the Netherlands

(Jansen et al., 2013 and Huybers, 2017), Pakistan (Ullah et al., 2011), the United States (Liu et al., 2017 and Harris & June, 2014) and West Bengal-India (Chakrabarty et al., 2016). Too some studies found that the CEQ was valid and reliable, while the other studies found otherwise.

In addition to being used as a national tool to assess annually teaching quality in Australia, however, there are previous studies also have investigated the reliability of the CEQ and the relationship between the learning environment and approaches to learning using the CEQ in Australia itself or the similar cultural context to it's as the UK (Broomfield & Bligh 1998; Grace et al., 2012; Marsh et al., 2011; Lizzio et al., 2002; Lyon & Hendry, 2002; Richardson,1994; Waugh 1998).

Moreover, Several studies included variety educational contexts to assess students' perceptions using the CEQ regarding their experience in the course of study in higher education institutions, including but not limited to business and economics at Maastricht University (Huybers, 2017), Medicine at the University of Sydney (Lyon & Hendry, 2002), tourism management at technological and educational institutes in Greece (Stergiou & Airey, 2012), hospitality, leisure, sport and tourism in the UK (Downie & Mŏller, 2002), online student system in a physiotherapy program at Curtin University (Tucker et al. 2008), higher education system (Ginns et al., 2007) and distance education (Lawless & Richardson, 2002; Richardson et al., 2003).

On the other hand, numerous studies conducted of the CEQ development in various versions, formats, and settings (Eley. 2001; Ginns et al., 2007; Griffin et al., 2003; McInnis et al., 2001; Ramsden, 1991; Wilson et al., 1997), as will be elaborated on below.

The CEQ was validated using the short form of the CEQ-23 to assess the accounting education of both Ireland and Greece (Asonitou et al. 2018; Byrne & Flood, 2003; Byrne & Willis, 2004). They found that the instrument had reasonable internal and good construct validity using an appropriate sample of accounting students enrolled in the accounting programs and using traditional measurement techniques analysis.

This instrument focuses on evaluating the quality of a whole program of five dimensions which are: Good Teaching (GTS), Generic Skills (GSS), Appropriate

Assessment (AAS), Appropriate Workload (AWS), and Clear Goals and Standards (CGSS). The GTS consists of six items and depends on evaluating aspects related to teaching as such the efforts of the teaching staff towards students, and understanding student's difficulties during the course. The GSS comprises six items that interested to evaluate students' responses about the extent to who acquire the generic skills. Three items constitute the AAS and interested to evaluate the individual's learning and skills needs. The AWS consists of four items and appraises students' perceptions of the time reasonableness available to understand their course. Four items make up the CGSS and evaluate students' satisfaction relating to the clarity of the goals (see, Thien & Ong. 2016; Byrne & Flood, 2003).

### The course experience questionnaire (CEQ)

The course experience is a summary of student feedback about quality teaching in higher education institutions, obtains via the instrument of the course experience questionnaire (Liu et al. 2017). This instrument designed by Ramsden (1991) and originally originated out of an earlier tool, namely the Course Perceptions Questionnaire. The CEQ data is now widely used as a performance indicator to explore students' experiences regarding the teaching effectiveness of learning context in Australia and the UK, in which the Australian government maintains a Fund for Performance in Learning and Teaching which delivers resources to institutions according to the allocation of performance-based funding base.

The Course Experience Questionnaire (CEQ) is a recognized statically reliable and valid tool for its useful application as a performance indicator of university teaching quality in several countries around the world, including Australia and the UK (Wilson et al. 1997).

There are several versions of the CEQ, each containing 36-item, 30-item, 25-item, and 23-item for five or six subscales: Good Teaching, Generic Skills, Appropriate Assessment, Appropriate Workload, Clear Goals, and Emphasis on Independence (the optional sixth scale) and an Overall Satisfaction Item plus there are some open-ended questions (see, Broomfield & Bligh. 1998; Eley. 2001; Lyon & Hendry. 2002; Waugh. 1998). The 30-item version of the CEQ is the original instrument that was designed

by Ramsden as a 30-item questionnaire for five categories: Good Teaching, Clear goals and standards, Appropriate Workload, Appropriate Assessment, and Emphasis on Independence (Ramsden, 1991). While the 36-item CEQ was suggested by Wilson et al. (1997) for research uses, that consists of the 30 items of the initial version plus the six items of the Generic skills scale, and the latter provided evidence concerning the reliability and validity of three CEQ versions. (i.e., the 36-item version, 30-item version, and the short 23-item version).

As to the 25- item version of CEQ is the national survey instrument of all recent graduates from Australian universities that conducted annually for obtaining students perceptions on their satisfaction with the overall course experience by the Graduate Careers Council of Australia (GCCA) (see, Curtis & Keeves, 2000; Mclnnis et al., 2001; Talukdar et al. 2013). This version consists of 24 items and one item measuring overall satisfaction, was developed to the enhancement of skills relevant to employment, in which the emphasis on independence scale was replaced by a Generic Skills scale given a weak relationship structure. And the strongest loading items from Ramsden's (1991) analysis of the original CEQ30 item scale were retained, and the Generic Skills scale was added which comprises six new items that are concerned with analytical skills, problem-solving, teamwork, communication and the ability for planning.

It is noted, there have been increasing calls to extend the role of the 25- item version would include items of the physical or social support of students in higher education (McInnis et al., 2001). The latter devised new five scales whose include an additional 25-item, becoming the total items to 50-item. The five new scales investigate to measure the domains of graduate qualities (containing six items), student support (containing five items), learning resources (containing five items), learning community (containing five items), and intellectual motivation (containing four items). They found that the inclusion of new scales had no impact on students' responses to the original scales of the CEQ (McInnis et al., 2001).

Finally, the 23-item short version of CEQ is a shortened survey that evolved in consultation with the Department of Employment, Education and Training (DEET),

the five scales of the CEQ-25 were retained, confined only on modification some items of its. This form is used widely as a national survey of graduates run by also GCCA from 1993 (Wilson et al. 1997).

## Accounting Education in Saudi universities

Saudi Arabia universities offer a four-year bachelor's degree and a two-year term diploma in accounting. Furthermore, postgraduate programs are offered in a limited number of universities. The formal educational language being Arabic and English. Knowing there also is a vocational diploma in accounting is offered by the technical college of the technical and occupational training corporation. Accounting students are required to complete ranging from 122 to 147 credits to graduate and hold a bachelor's degree (e.g. 134 credits in Sattam bin Abdul-Aziz University, 133 credits in King Saud University, 126 credits in King Faisal University, 128 credits in Taibah University, 126 credits in the imam Mohammad bin Saud Islamic University and 129 credits Majmaah university and Qassim University each). To become a licensed public accountant in Saudi Arabia, a candidate must obtain a Bachelor from a business administration college. Also, the candidate must pass a test of fellowship certificate (CPA) of the Saudi Organization for Certified Public Accountants (SOCPA) and have previous experience for a minimum period of three years after graduation. Concerning the 7 HEIs participating in the present study, they all offer an accounting program that combines face-to-face education with distance learning.

## Research Methodology

### *Instrument*

The same instrument validated in the accounting context by Asonitou et al., (2018) and Byrne & Flood, (2003) has been used. The CEQ was translated into Arabic. This used instrument contains 23 items for five scales plus a one-item scale about students' overall satisfaction with their course experiences. The CEQ seeks students' perceptions of teaching quality using a five-point Likert scale ranged from "Strongly Disagree" to "Strongly Agree".

Based on the guidelines for test translations for any instrument when its translated into a culturally different context, the researcher has used specific procedures were

adopted to ensure the quality of the Arabic version of the CEQ by engaging specialists in the field of translation, that involved translation and back translation to Arabic context with made some changes in the Arabic to ensure its consistency with the local cultural context (Beaton et all., 2000). All translators were teaching staff of English. The researcher next adopted a pilot study with a population of students when the teaching of the internal audit course to test whether items were understandable for them. These changes included modifications for clarity purposes, and consistency purposes, it was the standardization 'teaching staff' (because it reflects the language used by the universities system) wherever it is in the Arabic version to express instead of 'staff' or 'lecturers'. The changes also included the use of a verb 'helped me' and the name 'The course' in general skills items to reflect clarity of meaning.

### *Participants*

Using a convenience sampling method, the survey covered 7 out of 29 Saudi state universities representing the five geopolitical zones of Saudi (23 offer currently the program Accounting, the ratio of sample representation of them is 30%.) over a three-month period (January 2020-march 2020) which marks the 2019/2020 session in the Saudi higher education system. The participants were selected for level 4 and above, as there is not sufficient time for commencing the first three-level students to form meaningful impressions of core aspects of an accounting teaching environment compared to the advanced levels students, this because the courses of the three levels are mostly non-specialized, as part of a program's requirements which taught from outside. The participants were selected also to suit the capability of the researcher due to the time, cost constraints, and the large geographical area covered. No reliable data exist on the total size of the population currently studying in the accounting programs of the participating. So The response rate was an unknown due that the number of student population currently studying was unknown and unavailable to us.

It was distributed by the researcher during the teaching of the courses between the end first semester and beginning the second semester in the university that he belongs to. Students in other universities received an online questionnaire to respond on their own, sent from the researcher to their e-mail with the assistance from teaching staff and members of the accounting club at each university. The participants in the study are 396 college students in the accounting departments of these eight universities, 51 were level-4 students (12.9%), 63 were level-5 students (15.9%), 85 were level-6 students (21.5%), 102 were level-7 students (25.8%), and 95 were level-8 students (24%). Finally, 271 were males (68.4%) and 125 were females (31.6%). Table 1 shows demographic data.

***Table 1: Data of Demographic.***

| Measure | Demographic | No | (%) |
|---|---|---|---|
| Gender | Female | 125 | 31.6 |
| | Male | 271 | 68.4 |
| | Total | 396 | |
| Age (years) | Less than 18 | 5 | 1.2 |
| | 18–21 | 190 | 48.0 |
| | 22 and above | 201 | 50.8 |
| | Total | 396 | |
| Level | Level-4 | 51 | 12.9 |
| | Level-5 | 63 | 15.9 |
| | Level-6 | 85 | 21.5 |
| | Level-7 | 102 | 25.8 |
| | Level-8 | 95 | 24.0 |
| | Total | 396 | |
| GPA | Less than 2 | 3 | 0.8 |
| | 2:00-3:00 | 70 | 17.7 |
| | 3:01-4:00 | 160 | 40.4 |
| | 4:01-5:00 | 163 | 41.2 |
| | Total | 396 | |

### *Data Analysis*

For statistical data analysis, the researcher used IBM. SPSS 24.0. Exploratory factor analysis (EFA) was carried out to assess the validity of the Arabic version of the CEQ. A Kaiser-Meyer-Olkin Factor Adequacy test (KMO) was used to determine if the study had an adequacy sample, and Bartlett's test of sphericity was conducted out if the data was suitable to continue with the principal component analysis. Cronbach's alphas were computed for each scale to determine internal consistency reliability

and compared with the reliability tests resulted from previous studies reported. Pearson's bivariate correlation analysis was used to assess Criterion validity by examining the correlation coefficient between CEQ scales and the Overall Satisfaction Scale, and also the correlation coefficient between sub-scales.

## Research findings

### *Construct validity*

To assess the validity of the Arabic version of the CEQ-23, an EFA was conducted using the Extraction method by Principal Component Analysis (PCA) and rotation method by Varimax with Kaiser Normalization, and with Eigen-value above one even be appropriate (Kaiser, 1974). Factor loadings < 0.40 did not report. The EFA showed adequacy of the sample a KMO value = 0.948 and Bartlett's test of sphericity was significant ($x2 = 4575{,}038$, $p < 0.001$). Thus the findings were sufficient enough to allow the analysis.

The item-loadings were first observed in the five factors model, and that was accounting for 64.19% of the total variance. However, in the fifth-factor model, only two items loaded on the fifth component (minimum items per component is three). All items loaded with all factors. Four items (no. 1, 6, 18, and 23) loaded with more than one factor.

Table 2 gives estimates of factor loadings of the CEQ items. Factor (1) demonstrated loadings on all six items of the GTS, one of the four items from the AAS and two items from the CGSS. It's interpreted as measuring the Good Teaching Scale (GTS) and accounted for 40.51% of the total variance. Factor (2) demonstrated loadings on all six items of the GSS and two items from the CGS. It's interpreted as measuring the Generic Skills Scale (GSS) and accounted for 10.44% of the total variance. Factor (3) demonstrated loadings on two of three items from the AAS and one item from the CGS. It's interpreted as measuring the Appropriate Assessment Scale (AAS) and accounted for 5.99% of the total variance. Factor (4) demonstrated loadings on three of the four items from the AWS. It's interpreted as measuring the Appropriate Workload Scale (AWS) and accounted for 3.69% of the total variance. Finally, factor

(5) demonstrated split loadings on one item of each of two different scales and accounted for 3.56% of the total variance (minimum items per component is three).

**Table 2: The factor loadings for the CEQ items.**

| Items | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| *GTS* | | | | | |
| 15 | 0.825 | | | | |
| 17 | 0.787 | | | | |
| 16 | 0.757 | | | | |
| 19 | 0.754 | | | | |
| 7 | 0.722 | | | | |
| 3 | 0.627 | | | | |
| *GSS* | | | | | |
| 5 | | 0.712 | | | |
| 2 | | 0.732 | | | |
| 21 | | 0.703 | | | |
| 10 | | 0.673 | | | |
| 11 | | 0.673 | | | |
| 9 | | 0.630 | | | |
| *AAS* | | | | | |
| 12 | | | 0.688 | | |
| 8 | | | | | -.743- |
| 18 | -0.424- | | 0.481 | | |
| *AWS* | | | | | |
| 4 | | | | 0.857 | |
| 20 | | | | 0.733 | |
| 14 | 0.718 | | | | |
| 23 | | | 0.636 | 0.434 | |
| *CGSS* | | | | | |
| 22 | 0.656 | | | | |
| 6 | | 0.475 | | | 0.488 |
| 1 | 0.476 | 0.429 | | | |
| 13 | | | 0.747 | | |

**Note:** Loadings less than 0.40 are omitted.

Based on the loadings observed, Clear Goals and Standards (CGS) items loaded on three of the factors (GTS, GSS, and AAS) without there being a discernible pattern. So the factors were labeled for just four scales. The four-dimensional scale found in this study demonstrates a similarity with the previous studies that confirmed the four-factor structures of CEQ23 due to impaired the constructs for the same CGS items (Thien & Ong, 2016; Ullah et al., 2011) or other (Asonitou et al., 2018). Simultaneously, these findings were found to be different of the earlier studies

related accounting context which confirmed the five-factor structures of CEQ23 (Byrne & Willis, 2004; Byrne & Flood, 2003) or as other disciplines (Broomfield & Bligh, 1998; Steele, 2003; Wilson et al., 1997).

The next step was to examine the factor loadings with Eigenvalues above for determining the appropriate number of factors to be extracted. That yielded just in three factors, each factor had more than three items, and all values had a high loading (> 0.40). The total three factors explained an overall 56.94% of the total variance. The findings included: Factor 1, Good teaching (40.51%); factor 2, Generic Skills (10.45%); factor 3, Appropriate workload, and Appropriate assessment (5.99%). An analysis of factors revealed also no significant result on generic skills due to loaded with all factors (see Appendix 1).

The third factor has been split into two factors, the first factor is concerned with determining the AAS, whereas another factor is concerned with determining the AWS, and items of the CGS are excluded from loading in a separate factor due was poor reliability and diffusion of items to more of a factor. Thus, a four-factor model with 23 items was more appropriate for this study. The total four factors explained an overall 64.19% of the total variance [Table 2].

### *Construct Reliability*

As evidenced by the values of the Cronbach's coefficient alpha, the CEQ as a whole showed a value of 0.809, which means high reliability. The GTS and GSS had a higher Cronbach's coefficient. While the AAS displayed a satisfactory level of internal consistency, whereas the CGSS and the AWS demonstrated poor reliability, as shown in Table 3.

Accordingly, these findings showed the weaker reliability of both the CGS and AWS scale as compared with studies the relevant by Asonitou et al., (2018), Byrne & Flood, (2003) and Byrne & Willis, (2004), with that original study by Ramsden (1991) for full form and that study by Wilson et al., (1997) for short form [Table 3]. Although the AWS was less in this study, it would be its value of coefficient alpha that was satisfactory, in line with Richardson's (1994) earlier conclusions. It is noted, the AWS was eliminated because of its weaker scale structure by Asonitou et al., (2018).

**Table 3: Cronbach's Alpha Coefficient for present study compared with previous studies**

| Subscales | present study | The studies carried out on accounting education | | | The original studies | |
|---|---|---|---|---|---|---|
| | | Cronbach Alfa Asonitou et al. (2018) | Cronbach Alfa Byrne and flood. (2003) | Cronbach Alfa Byrne and Wills. (2004) | Cronbach Alfa Ramsden. (1991) | Cronbach Alfa Wilson et al, (1997) –for the short form |
| GTS | 0.902 | 0.781 | 0.76 | 0.93 | 0.87 | 0.88 |
| GSS | 0.871 | 0.784 | 0.66 | 0.68 | - | 0.77 |
| AAS | 0.614 | 0.535 | 0.69 | 0.52 | 0.77 | 0.70 |
| AWS | 0.491 | excluded from analyses | 0.73 | 0.57 | 0.80 | 0.69 |
| CGS | 0.282 | 0.688 | 0.78 | 0.64 | 0.86 | 0.76 |
| Overall questionnaire | 0.809 | 0.817 | - | | | |

Concerning the low values of CGS and AWS scale, both item-13 (a reverse coded item) from CGS and item-14 from AWS dropped and coefficient alphas of the CEQ scale re-calculated so as to provide better internal consistency, On the assumption that these items did not well accept in the Arabic context, also not having them that would change this results to be positive findings in Cronbach's coefficient alpha values of CGS and AWS. Appendix 2 shows the results of this procedure in which coefficient alphas of those scales showed acceptable reliability (0.680 and 0.708 each).

Further, as suggested in the studies conducted by Law & Meyer (2011) and Thien et al. (2016), they identified one the reason which might have a possible impact on scale alpha was the credibility of the dominant group. They have jointly outlined that if the original sample split into two sub-samples and re-calculated coefficient alphas of the CEQ scales for the two sub-samples, there would be no substantially different from the corresponding values in the original sample. Both of them adopted that result when the original sample was split into the two sub-samples depending via the students' grade level.

In this study, two new characteristics which merit further consideration, are gender and university to which the respondents affiliated with, in which may be a concern about measuring alpha values being influenced by the responses, based on the idea that students' perceptions of their course have typically varied with gender, and on the other hand, the university each has different specificities to be considered when considering the credibility of the respondents. To explore that, the original sample was split into two-sample in terms of gender and into seven-samples in terms of a university, with Cronbach's coefficient alpha re-calculated, as a result of this procedure, the findings showed a higher value in coefficient alpha with the AWS to the female students compared to the male students and the same thing happened to each university compared to the original sample. But it is noted that there is not much difference in the alpha values of the four scales of the CEQ and the CGS remained lower reliability, as shown in Tables 4 and 5.

**Table 4. Alpha values comparison in terms of Gender as two split Subsamples.**

| CEQ scales | Original sample ($n$ = 396) | Subsample 1 ($n$ = 271)M | Subsample 2 ($n$ = 125)F |
|---|---|---|---|
| GTS | 0.902 | 0. 902 | 0. 897 |
| GSS | 0.871 | 0. 887 | 0. 828 |
| CGS | 0.282 | 0. 252 | 0. 349 |
| AWS | 0.491 | 0. 389 | 0. 639 |
| AAS | 0.614 | 0. 645 | 0. 533 |

**Table 5: Alpha values comparison by University as seven split Subsamples.**

| SEQ scales | GTS | GSS | CGS | AWS | AAS |
|---|---|---|---|---|---|
| Original sample (n = 396) | 0.902 | 0.871 | 0.282 | 0.491 | 0.614 |
| Subsample1 (n = 241) MU | 0.902 | 0.884 | 0.319 | 0.428 | 0.616 |
| Subsample2 (n = 64) TU | 0.902 | 0.856 | 0.098 | 0.544 | 0.564 |
| Subsample3 (n = 21) FU | 0.895 | 0.821 | 0.243 | 0.351 | 0.667 |
| Subsample4 (n = 28) QU | 0.742 | 0.696 | 0.181 | 0.789 | 0.265 |
| Subsample5 (n = 16) PSA | 0.968 | 0.936 | 0.391 | 0.077 | 0.830 |
| Subsample6 (n = 15) 1M | 0.716 | 0.706 | -0.465- | 0.622 | 0.058 |
| Subsample7 (n = 11) KS | 0.961 | 0.906 | 0.348 | 0.386 | 0.709 |

### *The correlation between the sub-scales and overall satisfaction*

For further analysis in the validity of this form was examined using the correlation analysis to assess firstly the association between sub-scales and overall satisfaction as an index of perceived quality and secondly the association between subscales themselves. The findings showed that the satisfaction ratings had statistically significant associations with all the five subscales, the weakest association being with the AWS scale, only one of all five scales shows inverse correlation being to the AAS [Table 6]. This study confirmed the results obtained from most previous studies, those have shown statistically significant correlations between sub-scales and overall satisfaction, and have shown a weak - statistically significant - correlation as to the AWS scale (see, Asonitou et al., 2018).

The correlations between the sub-scales had highly significant except AWS ($p < 0.001$), as shown in table 6. The strongest association being both to the AAS, the findings show the correlation between them was a negative statistical correlation, except the AWS that was a positive statistical correlation. The same applied to the CGS that displayed strong associations, but the form of the association was a positive statistical correlation, except the AAS that was a negative statistical correlation.

**Table 6: Correlation Analysis (correlation coefficient) Pearson's.**

| Scale | Correlation coefficient (r) | | | | | Overall course satisfaction |
|---|---|---|---|---|---|---|
| | GTS | CGSS | GSS | AWS | AAS | |
| GTS | | 0.632** | 0.691** | 0.094 | -0.479-** | 0.706** |
| CGS | | | 0.567** | 0.232** | -0.314-** | 0.533** |
| GSS | | | | -0.021- | -0.594-** | 0.624** |
| AWS | | | | | 0.277** | 0.181** |
| AAS | | | | | | -0.425-** |

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

Also, Spearman's and Pearson's factors values were closely correlated, which means that there is a linear relationship between the sub-scales. This procedure strengthened to include verification of the data, as shown in appendix 3.

## Discussion

The present study aimed to evaluate the reliability and validity of the CEQ as an instrument to assess accounting education quality. The findings obtained using an Arabic version of the CEQ in the accounting education context in Saudi Arabia may, therefore, be seen as a significant contribution to the CEQ literature and that it may be valid and reliable in a different cultural context.

Many studies assessed the validity of the CEQ as an instrument on the teaching quality in multi-disciplinary and in many countries, be it a similar or a different cultural context. Those studies have shown that there was a widespread emphasis that the CEQ is a useful instrument in providing data on teaching quality (e.g., Broomfield & Bligh, 1998; Byrne & Flood, 2003; Ginns et al., 2007; Wilson et al., 1997).

And generally, the present research showed satisfactory internal consistency reliability of the instrument as a whole. In turn, too, the findings demonstrated sufficient internal consistency reliability concerning each sub-scale, except the Clear Goals and Standards that estimates of reliability were poor, and though split the sample into two or more sub-sample, the CGS remained lower reliable. That impact was already noticeable when the results of the factor analysis of the CEQ items in this study showed only four of the intended five factors, namely the Good teaching, the Appropriate workload, the Appropriate Assessment, and the Generic skills.

It is also obvious that these findings were consistent with those of the other earlier studies concerning the Clear goals and standards which reported that lacked the reliability aspects of its component items and was not a stable scale, particularly those studies related to different cultural context as with studies Bloomfield & Bligh (1998); Law & Meyer (2011); Thien & Ong (2016); Ullah et al., (2011); and Fryer et al., (2012). These findings serve to emphasize the difficulty of the transferability of this scale to a different cultural response-context compared with other scales.

Even though the alpha value of the Appropriate Workload scale was relatively lower, its relative alpha value was higher for the female students at each university compared with the male students or with the broader sample. This implies that

student's perceptions are different based on their gender and their experience courses at each university.

However, the findings for the Arabic version of the analysis of responses to the reliability of the sub-scales appeared that Good Teaching and Generic skills each were higher reliability compared to the relevant studies by Asonitou et al., (2018); Byrne & Flood (2003); and Byrne & Willis (2004). These findings may not be generalizable to other majors in Saudi universities or the coming years to accounting students.

Concomitantly, it is noted by previous studies that most results of studies appeared that both of the Good teaching and the Generic skills are a high-value scale, while the Appropriate workload and the Appropriate assessment are usually stable value and but the Clear goals and standards is not a stable value, particularly those related to different cultural contexts.

There are reasons have been indicated in earlier studies that have the impact on the validity of questionnaire responses might be caused about the use of the reverse items in the scale, the cultural backgrounds, the small size of the sample, gender disparity, and the effective sharing of students, especially when the involvement seems not binding (as stated in Richardson 1994; Chakrabarty et al., 2016; Thien & Ong 2016; Stergiou & Airey 2012). So it's clear that's reasons that had also significant bearing on the effectiveness of the Clear goals and standards scale in the present study. Furthermore, it may attribute to the possibility that the students do not understand the clear goals they have to pursue during the course.

Even though a significant effort has been made to reach a wider range of accounting programs covered in this research (using contact with the Email and coordinators), the number of samples precludes any statistical generalizations of the results obtained in the present study. However, as the sample didn't comprise HEIs in all Saudi regions, it is known that there is no such relevant heterogeneity that makes CEQ validation feasible in the Saudi context.

As a final point, the findings of the present study showed that the inapplicability of the CEQ in the context of accounting education, if the CEQ was assessed at five

subscales, due to the low reliability of Clear goals and standards and unstable factor of Appropriate workload. While if the CEQ evaluate as a whole, then it's applicability in the accounting education context.

## Conclusions

The findings of the present study show the inapplicability of the CEQ in the context of accounting education, if the CEQ is assessed by restricting it into five main scales. An analysis had found that expanding tests would improve outcomes. Consequently, the effects of an adaptation of the CEQ were positive with the Arabic version in Saudi. The factor analysis of the CEQ items and reliability tests suggest so. The first because they confirmed that the four-factors model with 23 items was more appropriate, namely Good teaching, Generic skills, Appropriate assessment, and Appropriate workload. The second because they indicated acceptable reliability if the CEQ evaluate as a whole. These findings are consistent with the previous studies that were conducted to verify if the CEQ instrument would be able to capture the perception of these courses quality by its students, whether of accounting context or other domain in a different cultural environment to origin country (Asonitou et al. 2018; Thien & Ong, 2016; Ullah et al., 2011). All those studies confirmed the four-factor structures of CEQ23.

In view of the validity and reliability tests, although lack of integrity of the scale of clear goals and standards, this study's results exhibit that accounting students perceive Good teaching, Generic skills, Appropriate workload, and Appropriate assessment as four significant factors in evaluating teaching quality in accounting education. However, clarity of goals is a significant component of any learning environment, so the inability to measure them is a problem that needs to be addressed for accessing a comprehensive learning environment measure for the Saudi tertiary context is to be constructed.

It is also worth noting that clear goals and standards had a strong association, according to the results of desirable associations between the CEQ factors and overall satisfaction. Furthermore, in a previous study carried out the local context of medical education in Al-Jouf University, students' perception of the goal and standards of the

course might not be sufficiently explicit (of the 170 respondents, only 71 respondents demonstrated that they recognize its clear) (Alduraywish et al., 2017). Faculty members, more attention should be paid to provide clear teaching objectives for their students.

The Australian experience with the CEQ is that it is an appropriate performance indicator across the full range of universities, and fields of study, to assess teaching quality at five subscales. The CEQ should thus be adapted to suit all those subscales to identify an appropriate measure of perceived course quality so as to help the HEIs in planning a better model of both courses and institutions in Saudi.

Within this context, this article suggests that, as future potential research, the CEQ shall be applied to a larger number of HEIs to improve Perceptions of good university quality teaching. Additionally, it is suggested that this questionnaire is replicated on alumni because it will allow identifying the perception of the quality of those who already inserted in the job market and, therefore, will have better perceptions of their educational environment. Fulfilling these suggestions will help this research to overcome the limitation on the number of HEIs and respondents qualitative. Further studies are also recommended on construct validity using confirmatory factor analysis with more majors to explore the verifiability of the factor structure of the CEQ for use in a higher education environment in Saudi and as benchmarking in the Middle East.

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## Appendix

### Appendix 1: Exploratory factor analysis output.

| | Factor1 GTS | Factor 2 GSS | Factor 3 AAS |
|---|---|---|---|
| GTS | | | |
| 15 | 0.827 | | |
| 17 | 0.803 | | |
| 16 | 0.756 | | |
| 19 | 0.756 | | |
| 7 | 0.723 | | |
| 3 | 0.630 | | |
| GSS | | | |
| 5 | | 0.750 | |
| 2 | | 0.731 | |
| 21 | | 0.669 | |
| 10 | | 0.634 | |
| 11 | | 0.644 | |
| 9 | | 0.623 | |
| AAS | | | |
| 12 | | -0.478- | 0.519 |
| 8 | | -0.478- | |
| 18 | -0.407- | | 0.422 |
| AWS | | | |
| 14 | 0.712 | | |
| 20 | | | 0.779 |
| 23 | | | 0.742 |
| 4 | | | 0.699 |
| CGSS | | | |
| 22 | 0.642 | | |
| 6 | | 0.636 | |
| 1 | 0.486 | 0.489 | |
| 13 | | | 0.698 |

### Appendix 2: Cronbach's Alpha Coefficient with the removal of item 13 and 14.

| Scale | The coefficient alphas of 21-item | The coefficient alphas of 23-item |
|---|---|---|
| **GTS** | 0.902 | 0.902 |
| **GSS** | 0.871 | 0.871 |
| **AAS** | 0.614 | 0.614 |
| **AWS** | 0.708 | 0.491 |
| **CGS** | 0.680 | 0.282 |

## Appendix 3: linear correlation between subscales of the CEQ by Spearman and Person correlation.

| Scale | Overall course satisfaction by Spearman correlation | Overall course satisfaction by Person correlation |
|---|---|---|
| GTS | 0.701** | 0.706** |
| GSS | 0.631** | 0.624** |
| CGS | 0.503** | 0.533** |
| AAS | -0.421-** | -0.425-** |
| AWS | 0.105* | 0.181** |

*. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).