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FACULTY MEMBERS' VIEWS OF EFFECTIVE TEACHING: A CASE STUDY OF QATAR UNIVERSITY

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Abstract:
Effective teaching (ET) has recently drawn attention within higher educational institutions owing to the need for greater accountability and high-quality learning outcomes. The present study investigated Qatar University faculty member's (QUFM) perception of ET, characteristics, practices, and impediments by assembling data from a cluster sample of 75, using a quantitative approach. The methodology that was utilized took the form of five research questions that were answered using a basic descriptive and inferential statistical approach. Results indicate that 52% of QUFM consider the ET term to be ambiguous, which means 48% of the QUFM population are not contributing to fulfilling the adapted strategy of education and learning excellence, which is based on achieving ET. Moreover, the data revealed that 57.14% of QUFM's instructional knowledge is not at an acceptable rate. Finally, the results suggested that most academic staff is required to receive further training in implementing ET concepts.

Keywords: effective teaching; teaching effectiveness; higher education instruction; teacher perception of teaching

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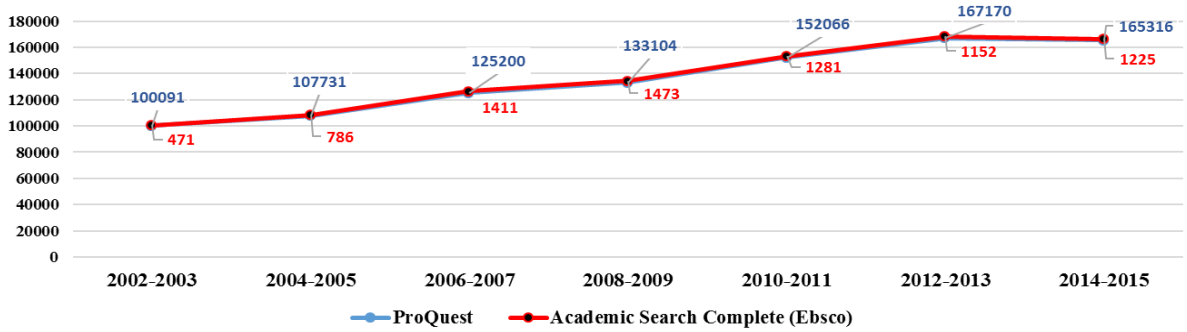
1. Introduction

Recently, ET has become a popular topic and a significant issue among higher education institutions (Fig. 1). As a consequence, there is a need for greater accountability, transparency, and improvements in the quality of the learning outcomes in order to meet the rising demand of quality education.

Fig. 1. Number of research papers published in the field of effective teaching, 2002-2015



Most faculty are experts in the subject they teach, but many have had little or no knowledge of teaching or training in how to teach, which can negatively affect teaching and learning outcomes. Hence, there is a need to explore faculty perspectives on effective teaching, which, however, remains underexplored among faculty at many institutions, including Qatar University (QU) in Doha, the first established -and the only- national institution of higher education in the state of Qatar. There are now a number of studies that have investigated ET; however, most of these studies have mainly focused on student and administrator perceptions of it (Komos, 2011; Minor, Onwuegbuzie, Witcher, & James, 2010), and little is known about faculty perspectives (Alemu, 2014; Chang, McKeachie, & Lin, 2010).

According to the basic assumptions of learning theory, practices are based on previous knowledge; therefore, it can reasonably be speculated that faculty who have a strong pedagogical knowledge base will be more able to teach effectively as a result. Thus, in order to promote better teaching and learning outcomes at QU, the university 2003 adopted an "*education and learning excellence strategy*" focused on using more student-centred instructional techniques as an instructional approach to ET; since then, QU has offered many professional development workshops and seminars in ET within the university to help fulfil this strategy. The present study is the first to investigate the outcomes of the strategy. It proceeds from the assumption that ET is both an art and a science (Magsuga-Gage, Simonsen, & Briere, 2012) and that without formal pedagogical preparation, university academics will be distinctly disadvantaged in the effort to meet the 'high-quality teaching' expectations of university administrators and students (Scott & Scott, 2015).

The need for this study arises from our professional desire to better serve QU administrators and faculty to fulfil their remit of providing education and learning excellence. Therefore, the main task adopted by this study was to investigate Qatar

University faculty members' (QUFMs') views on the basic conceptual nature of ET, its characteristics, related practices, and impediments to it.

1.1 Effective teaching: Definition of concept

The vagueness of the ET concept is likely part of what hinders higher education institutions from enhancing their teaching and learning outcomes. However, conceptualising ET effectively will require criteria for effectiveness. These might include, for example, whether it addresses the objectives of education in general and of teaching in particular, political and social needs, and best practices as defined by educational professionals and scholars (Ko & Sammons, 2013); among the factors potentially complicating the drawing of a clear concept of ET are the advent of the Internet and the related technological innovations that have influenced instructional environments (Scott, 2015). ET is also a multidimensional concept, highly person-specific (both teacher- and student-specific) and seldom observed; these conditions also make it more difficult to describe and measure, a situation that leaves institutions unable to incentivise, track, or demonstrate improvement in teaching quality (Wieman, 2015). Indeed, there is no consensus about what precisely effective teaching is (Beran & Rokosh, 2009; Doyle, 2004; Seidel, 2007; Stronge, 2007) or how it should be measured (Lumpkin & Multon, 2013).

Nevertheless, there have been attempts to conceptualise ET; Seidel (2007), for example, defines it as the impact of teaching on the educational process, while Hayes (2006) considers it to be the degree to which teaching takes account of students' individual experiences and personal philosophies, and does not place too much meaning in the improvement of quantitative results. Another study (Isbell & Szabo, 2015) defined ET as a teacher's belief in her or his ability to impact student performance. This may involve a range of teacher characteristics, extending from field knowledge and experience with pedagogical techniques to being "*fun and enthusiastic, demonstrating fairness, honouring learning processes*" (Hill, 2014), etc. Ultimately, effective teaching blends personality factors and ability factors, but the key factor remains the instructor's personality (Alemu, 2014).

1.2 ET dimensionality

There is much diversity in the literature regarding the nature and number of dimensions or components of effective teaching (Devlin & Samarawickrema, 2010). In the 1950s, ET was a unidimensional concept attributed usually to teacher characteristics; however, during the 1960s, 1970s, and 1980s, scholars came to perceive it as a multidimensional concept involving factors such as teacher's disciplines, perception of the teaching process, professional skills (Ambrosino & Peel, 2011), and students' thinking style (Zhang, 2004). Yon, Burnap, and Kohut (2002) identify nine dimensions in all: format of the class, content of subject matter being covered, teacher's demonstrated knowledge or proficiency in subject matter, organisation of the presentation of material, clarity of presentation, level of presentation, engagement of audience/effective interaction between teacher and students, and effective use of visual aids. Te-Sheng, Huei-Hsuan, and Mei-Mei (2011) and Chang *et al.* (2010) address six dimensions: course design, class management,

interpersonal relations, learning assessment, technology usage, and instructional strategy. Komos (2011) identifies three factors through exploratory factor analysis: regard for the student, instructor competence, and instructional proficiency, which together are found to explain over half the variance in ET. Ko and Sammons (2013) focus on the teacher behaviours and classroom processes that promote better student outcomes. More recently, Kalra, Negi, and Chauhan (2015) identified two underlying (meta-)dimensions of ET: instructor characteristics and taught educational content. In fact it is possible that teaching is so broad a concept that ET requires multiple definitions or breaking down into multiple types (as distinct from subcomponents) (Komos, 2011). Similarly, teaching in higher education requires complex, multidimensional knowledge of the content of a given course as well as of how to teach it (Beckerman, 2010).

1.3 Characteristics of effective teaching practices

Effective teaching practices (ETPs) are any teaching practices that influence students' learning. The literature on ETPs has revealed various main factors: some related to the instructor's personality traits, which are out of the scope of our study, and others to their teaching practices, ability, experience, gender, or disciplinary teaching area. Previously identified factors representing teaching practices include lesson clarity, instructional variety, and instructor task orientation, engagement in the learning process and student success rate (Alemu, 2014; Borich, 2010); class organisation, task setting, the nature of task content, teaching skills, instructor–student interaction (Wray, Medwell, Fox, & Poulson, 2000); also meaningful, in the case of Indigenous students, integrating their culture and the community they represent (Lloyd, Lewthwaite, Osborne, & Boon, 2015); there are also factors related to instructor teaching ability, including being well prepared and organised, making difficult subjects easy to learn, having more years of teaching experience, encouraging questions from and discussion among students, requiring students to think critically, giving frequent feedback on progress, expecting students to become independent, maintaining strict control over the class, encouraging students to learn in pairs/groups, using the latest computer technology in one's teaching, giving many quizzes and tests, lecturing (talking) for the entire class period, or assigning a lot of homework (Alemu, 2014).

Teaching practice selection is generally based on three approaches; theoretical, experiential, and subjective (that is, based on trial-and-error). Instructors who adopt a theoretical approach implement practices rooted in specific pedagogical-theoretical assumptions; these instructors will be more sensitive to certain phenomena in the classroom, such as student learning styles, motivation, etc., and will be more willing to adapt various teaching strategies in response to those factors or needs. The experience-based approach represents a shift from a theory-oriented to a practice-oriented approach – novice teachers sometimes find themselves relying purely on (untheorized) experience because they are unable to infuse theory into practice due to as yet undeveloped pedagogical skills (Lunenberg & Korthagen, 2009). In the experience-based approach, the instructor may thus unwittingly adopt instructional practices regardless of their appropriateness to class conditions, leading to various potential concerns. The trial-and-

error approach's practices, in contrast, are instructional practices unrooted in theoretical assumptions or inexperience but based only on subjective selection.

Faculty teaching practices and their selection have long been assumed to be influenced by training in graduate programmes; whether, when, and to what degree departmental climates value and support educational innovation, and the presence and nature of reward systems; however, the relationships of these factors with teaching practices have rarely been empirically studied (Lattuca, Bergom, & Knight, 2014). The research does indicate that there are specific teaching behaviours which, when implemented appropriately in classrooms, tend to increase student engagement and, thus, academic achievement, teacher behaviour is critical among these and has beneficial effects via approaches to the development of lessons, instruction methods or presentation of material, and creation of positive learning environments that promote active participation (Harbour, Evanovich, Sweigart, & Hughes, 2015). What teachers do and how students perform intersect, making teachers a critical factor for determining student success.

When teachers use effective practices, they maximise the probability that students will be actively engaged in instruction. Student engagement is one of the most well-established predictors of achievement; when students are more engaged in academic instruction, they tend to have greater academic and also social success (Harbour *et al.*, 2015).

Maynes and Hatt (2012) provide a model that identifies characteristics believed to be critical for a teacher's conceptual focus on their students' learning as opposed to their own teaching: a professional growth perspective; passion and enthusiasm for the content; pedagogical content knowledge; a rich instructional repertoire of strategies; awareness of assessment for, as, and of learning; ability to read the body language of the learner; caring classroom management strategies and instructional efforts. Modelling teacher behaviour is considered one of the most effective teaching practices, and a powerful way to influence students' reasoning skills, behaviours, and actions inside and outside of the classroom (Harbour *et al.*, 2015). Modelling is particularly important when teaching students to use cognitive learning strategies (Regan & Berkeley, 2012). (Harbour *et al.*, 2015) asserts that effective modelling should have a narrow focus, directing students' attention to the important aspects of desired skills and behaviours. Feedback is another powerful practice for improving student achievement, engagement, and behaviour (Harbour *et al.*, 2015). Recent and prior research findings emphasise that teaching excellence depends on the use of a range of effective teaching dimensions and strategies (Hativa, Barak, & Simhi, 1999); it is an art and no easy endeavour (Alemu, 2014). The common perception that having a doctorate is all that is required to be an effective teacher (Scott & Scott, 2015) is a false; ETP is rooted in the instructor's personality traits, teaching skills, learning context, subject matter, students' characteristics, and social, political, and cultural characteristics of the community, among other factors (Major & Palmer, 2002).

Regarding perceptions of ET by faculty members' gender and the effects on their teaching performance, there has been little research (Jha & Singh, 2012). Chang *et al.* (2010) stated that faculty gender and pedagogical knowledge are largely unexplored as

factors explaining faculty teaching efficacy. What research does exist presents mixed results on the effects of gender. Minor *et al.* (2010) reported that males tended to place more weight on being an effective classroom and behaviour manager than did females, corresponding to Hill's (2014) idea that since students tend to prefer teachers similar in age and gender to themselves, teaching practices vary across faculty members' gender (he also states that cultural factors such as teachers' belief influence their teaching practice). Other studies reveal gender differences in lecturing and active classroom practice, varying by disciplinary area, but where, overall, the average female faculty member spent 14% more class time on active classroom practice than her male counterpart. However, other findings indicate that the gender of faculty does not play a significant role in the relationship between teachers' beliefs and their actual practices (Aliakbari & Heidarzadi, 2015). The case is still unclear and would benefit from clarification, and QU, which is not a co-ed university, is a good case in which to investigate whether male faculty differ systematically from females in their pedagogical content knowledge and teaching practices.

Prior research on ET and disciplinary differences showed that the largest disciplinary differences existed between physical sciences on the one hand and humanities and social sciences on the other; faculty members in physical sciences, on average, devote 10% less class time to active classroom practice than their counterparts in soft fields (Nelson Laird, Garver, & Niskodé-Dossett, 2011), suggesting that these fields are less student-focused (Stes, Coertjens, & van Petegem, 2010). However, in physical sciences, females spent more class time on active classroom practices than their counterparts in social sciences and humanities (Nelson Laird *et al.*, 2011), and active classroom practice also increased the more times an instructor taught that course (Nelson Laird *et al.*, 2011).

1.4 Impediments to effective teaching

There are few studies at the tertiary level on ET impediments; however, reviews of what literature does exist have shown that by far the most-cited obstacles are lack of pedagogical knowledge (Torff, 2005; Hativa, Barak & Simhi, 2001; Walls, Nardi, von Minden, & Hoffman, 2002), inadequate teacher beliefs (Scott & Scott, 2015) and expectations about teaching and learning practices (Sunal *et al.*, 2001). Other impediments relate to behaviour inside the class, such as inappropriate communication skills (Sidelinger, Nyeste, Madlock, Pollak, & Wilkinson, 2015), tolerance of traditional methods of teaching (Buskist, 2002), incapability or unwillingness to implement ET methods (Jinkens, 2015), uncaring, lack of sense of humour, nor confirmation (Myers, Goodboy, & Members of COMM 600, 2014). There are also impediments caused by the environment, especially the faculty environment: teaching workload (Matney, 2001), class size and administrative workload (Buskist, 2002), or lack of institutional professional development support (Ambrosino & Peel, 2011; Buskist, 2002). Moreover, high administrators and student expectations regarding teacher performance (Hativa *et al.*, 2001) also impede teaching efficiency, lack of resources (Jinkens, 2015), overemphasis on student evaluations in the assessment of teaching, and infiltration of "big business"

perspectives in higher education (Buskist, 2002). Another impediment emerges from the debate on research and teaching excellence (Tang & Chamberlain, 2003). In addition, some administrative procedures indirectly impede teaching effectiveness, such as focusing on research publishing as the main criterion of academic excellence (Smith & Van Doren, 2004); this is in contrast to some literature suggesting positive synergies between these two, and even suggesting that teachers without strong research contributions are not qualified to teach (Tang & Chamberlain, 2003). Other impediments related to demographic variables have also been identified, including number of years of teaching, where older instructors may be reluctant to adopt ET strategies (Nelson Laird *et al.*, 2011) and the instructor's age (Davidovitch & Soen, 2006).

2. Methodology

The main objectives of the current study are to:

1) Estimate the level of ET concept clarity among QUFMs in general and across genders and disciplines.
2) Assess the extent of QUFMs' belief in the effectiveness of ET across genders.
3) Explore ET concept dimensions according to QUFMs' perceptions.
4) Identify important and/or effective teaching practices and impediments to them as perceived by QUFMs.
5) Provide useful information to QU administrators and instructors on the extent to which the educational and learning excellence strategy that was adopted by QU in 2003 has been fulfilled.

In order to address these objectives, the following research questions were formulated:

1) To what extent is the ET concept clear among QUFMs? Does this extent vary across genders or disciplines?
2) To what extent do QUFMs believe in the effectiveness of ET? Moreover, does it vary within gender?
3) What are the dimensions of ET according to QUFMs (procedural or theoretical perspective)
4) What teaching practices are effective as perceived by QUFMs?
5) What are ET impediments as perceived by QUFMs? And, which had the great effect?

2.1 Data source and data collection

A quantitative approach to data collection was employed, consistent with the aim of the study. Data were assembled from a cluster sample of 75 QUFMs (13% of the total N = 557). In all, 92 QUFMs were invited to participate (making the response rate 81.5%); only participants who did not hold administrative positions were invited. Demographic information for the participants is shown in Table 1. A survey method was used: a paper questionnaire was distributed to participants in their departments, and follow-up emails were sent thanking participants and encouraging them to complete an online

questionnaire as well in order to increase the response rate. The questionnaire consisted of four sections (see Appendix 1). All questions were close-ended. Section 1 covered the conceptual clarity of and the respondent's belief in the effectiveness of ET and included two questions: responses were yes/no. Section 2 covered effective teaching dimensions chosen from the ET literature (Downing, 1994; Doyle, 2004; Guskey, *1988*; McNaughton *et al.*, 2004; Qtami, 2004; Beran & Rokosh, 2009; Seidel, 2007; Tuckman, 1995). Responses were based on a four-point categorical scale ("strongly agree" to "strongly disagree"). Section 3, on ET impediments, included 12 impediments; responses were meant to indicate on a four-point categorical scale how much of an effect the participant felt the impediment had ("None" to "Great"). Section 4, on ET practices, included six ET practices chosen from the literature, which participants were asked to order according to importance from their point of view, from more (rating of 1) to less (rating of 3) important; each of the ratings was given to two practices. The questionnaire was checked and revised by three curriculum and instruction professors from Cairo University it was reliable.[ii] Kendall and Kappa Agreement coefficients were estimated (Kendall, 0.85; Kappa, 0.67).

2.2 Data analysis

The five research questions were answered using basic descriptive and inferential statistics. For objectives one and two, data were analysed descriptively and inferentially using percentages and chi-squared. The percentage of agreement was calculated for ET concept clarity, and 2*2 chi-squared was calculated to determine if an association existed between gender or discipline (natural sciences and humanities) and instructors' perceptions of ET clarity. For objective three, data were analysed inferentially using exploratory factor analysis to explore their underlying dimensions. For objective four, data were analysed descriptively using percentage and mode to determine the important practices of ET as perceived by QUFMs. Finally, for objective five, data were analysed descriptively using percentages to identify ET impediments as perceived by QUFMs. For questions three, four, and five, only results from respondents who comprehended the meaning of ET were retained, reducing the sample size to 35, (see all tables in Appendix 2).

3. Results

3.1 ET concept clarity among QUFMs and its associations with gender and discipline

To identify the clarity of the ET concept and any associations with gender and discipline, frequencies and percentages were compared for answers to question one. As reported in Table 2, and figure 2,3 slightly more than half (52%) of QUFMs thought ET was unclear; the majority of them were male (56%) and from science disciplines (66.7%).

[ii] Profs Yahia Atea Soliman, Zainab Ali Elnagar, and (Dean) Ali Algamal, College of Education, Cairo University.

Fig. 2. Do you think the concept of ET is unclear? yes

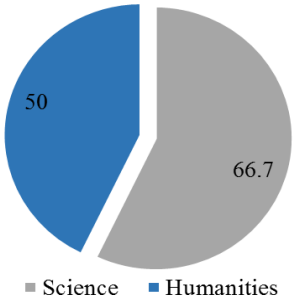
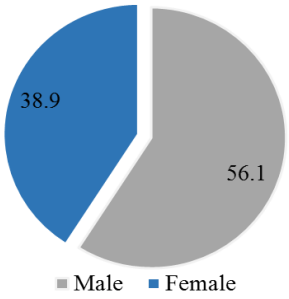


Fig. 3. Do you think the concept of ET is unclear? yes

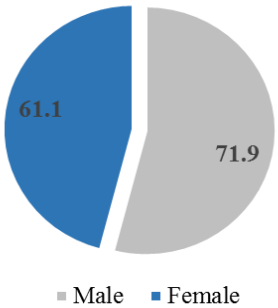


A chi-squared test was performed for clarity of ET concept by gender, k^2 (1, $n = 74$) = *1.18*, $p = .28$, and discipline type, k^2 (1, $n = 74$) =.80, $p = .37$; as seen, no associations were found, suggesting that the rate of concept clarity of ET is similar across genders and disciplines.

3.2 QUFMs' belief in the effectiveness of ET and its association with gender

With regard to QUFMs' belief in ET and it is association with gender, the results for question two, presented in Table 3 and Figure 4, showed that the majority of QUFMs (69%) did think ET was effective despite the concept's lack of clarity. A chi-squared test was performed on belief in the effectiveness of ET by gender, K^2 (1, $N = 74$) = .955, $p = .33$; as seen, no significant association was found (at $p < .05$). These results suggest that the rate of believers in ET among QUFMs is similar across genders.

Fig. 4. Do you believe in ET? yes



3.3 ET dimensions according to QUFM perception

To explore the underlying dimensions of the ET concept as perceived by QUFMs, as addressed by question three in the questionnaire, an exploratory factor analysis was conducted, assuming that no prior theory or model's data were normally distributed; the extraction method was the principal component, and for maximum likelihood, Kaiser's criterion (eigenvalue > 1) was implemented. After culling one item with a low item-total correlation, the resulting 8-item measure was found to have a Cronbach's alpha of *.819*. Sampling adequacy was assessed by KMO and Bartlett's test (0.*71*), showing approx. chi-squared (*102*,*35*), sig .001 with df (28). To explore the factor structure, first, principal

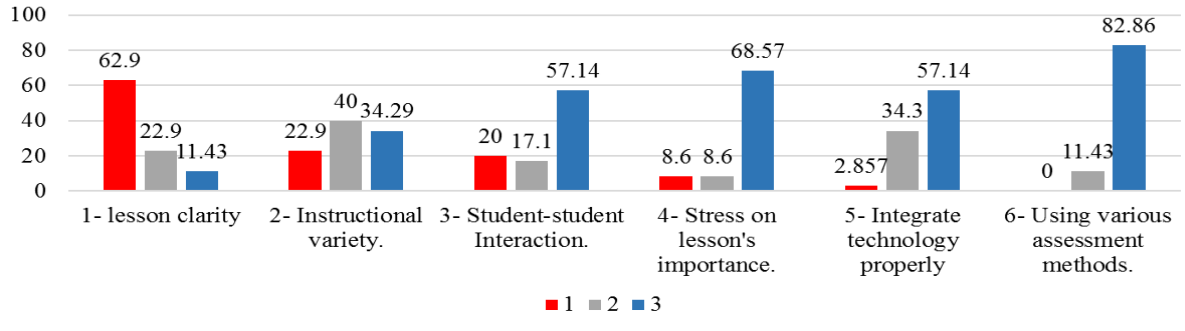
component analysis was implemented; then, the maximum likelihood was extracted based on eigenvalue > 1, with an unrotated factor solution; finally, to simplify the factor structure, an oblique rotation (Oblimin with Kaiser normalisation) was conducted. All three extraction methods indicated a two-factor structure; the eigenvalue cumulative variance explained was (65.29%). The ET was conceived as multidimensional; the extraction resulted in two factors (*Student Achievement* and *Teaching Skills*) -with the sum of squared loading ranging from .947 to -.034. Each factor contained *8* items; clustering of items into factors was easily interpretable (see Table 4). The correlation between factors was .26. Since the structure has few items, it should be considered at this point only a preliminary structure for ET.

3.4 Important ET practices as perceived by QUFMs

To identify which ET practices QUFMs perceived as important, ranked percentages derived from question four were compared, as shown in Table 5 and Figure 5. The most important practice was regarded to be lesson clarity (*62.9*%); less important were assessment method variety (82.86%), appropriateness of technology integration (57.14%), stress on lesson importance (68.57%), student–student interaction (57.14%), and instructional variety (34.29%).

These data reflect a general agreement among participants that only lesson clarity is an effective practice to achieve ET, and a lack of interest in using other practices, especially different assessment methods, stressing lesson importance, and integrating technology in instruction.

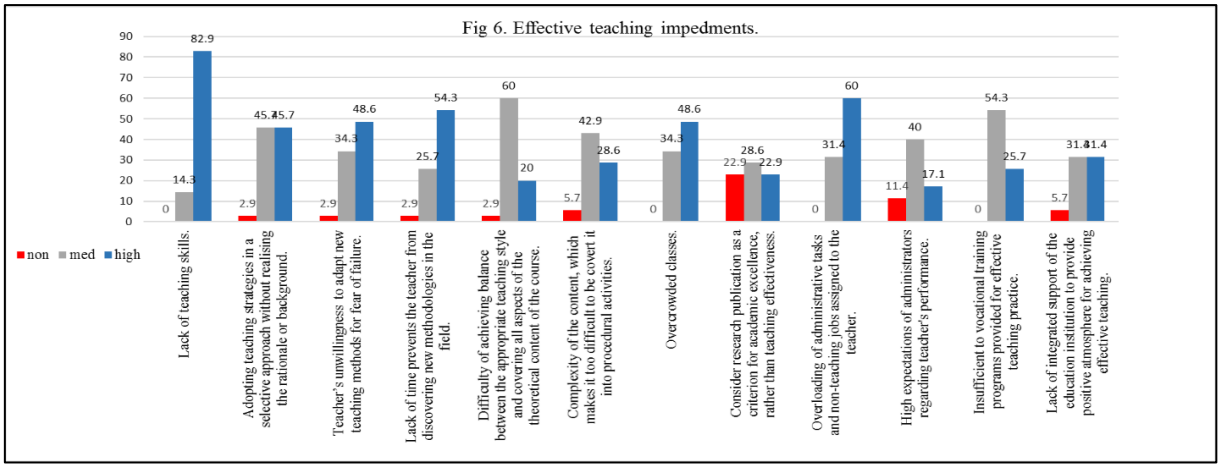
Fig. 5. Ranking of important ET practices as perceived by QUFMs



3.5 ET impediments as perceived by QUFMs, with effect sizes

Question six of the questionnaire addresses impediments to ET and the extent to which these impediments are a concern for QUFM; responses are summarised in Table 6 and Figure 6. The results showed that a large majority of participants believe that the biggest impediments to ET are lack of teaching skills (82%), overloading with administrative tasks and non-teaching responsibilities (60%), and difficulty in achieving the balance between appropriate teaching style and covering all aspects of the theoretical content of the course (60%). Additionally, moderate impediments included insufficient vocational training programmes provided for effective teaching practice (54.3%), adopting teaching strategies selectively without realising the rationale or background (45.7%), and

administrators' high expectations of instructor performance (40%). Finally, research publication expectations were considered only a low impediment (22.9%).



4. Discussion

This study investigated QUFMs' actual views on effective teaching, using a quantitative approach, in order to determine the extent to which the institution's educational and learning excellence strategy adopted in 2003 had been effective. In the next subsections, the most important findings of each question will be discussed (Van Huy, Dunne, & Debattista, 2013).

4.1 ET concept clarity by gender and discipline

Results of previous studies on the relationship between the gender of faculty and their beliefs about teaching and their actual practices are mixed. Aliakbari and Heidarzadi (2015) indicated that this relationship is not gender bound, while other studies, such as Minor *et al.* (2010), Hill (2014), and (Stes, Coertjens, & van Petegem, 2010), do locate effects. Our results suggested that ET concept clarity among QUFMs is similar across genders and disciplines (that is, we found no significant differences). However, overall, the rates were fairly low, with less than half (48%) of respondents having a clear idea of the meaning of ET.

4.2 QUFMs' belief in ET and association with gender

With regard to QUFMs' belief in ET and its association with gender, the results showed that the majority of QUFMs (69%) do believe in the effectiveness of ET despite their lack of clarity on the concept, with no gender effect. This finding is in line with the indication of Aliakbari and Heidarzadi (2015) that male teachers were not significantly different from females in terms of the relationship between their beliefs and actual practices. Since there is a significant relationship between teachers' beliefs and their actual practices (Inprasitha & Changsri, 2014), it can be inferred that QUFMs will be likely to strive for teaching effectiveness. However, the question is whether these teachers can choose appropriate instructional practices for their subject, learners, and environment. They

may, for example, be drawn to practices they know more about, which they may be better able to apply as a result, but that also implies that if a teacher has more knowledge of more instructional practices, he/she may be better equipped to compare and contrast them, and to choose the most appropriate practice (Liu, Jones, & Sadera, 2010).

4.3 ET dimensions according to QUFMs

The results of exploratory factor analysis (EFA) yielded two dimensions that identified perceived components of effective teaching – Student Achievement and Teaching Skills. Since the structure only yielded a few items, it should be considered at this point only a preliminary structure of ET. These results are in line with Ko and Sammons (2013), who identify two quite similar factors – student learning outcomes and teacher behaviours – and partly in line with Ambrosino and Peel (2011) and Komos (2011), which addressed three factors through exploratory factor analysis: regard for the student, instructor competence, and instructional proficiency.

4.4 Important ET practices according to QUFMs

The rankings of important ET practices derived from question four in the questionnaire indicate that more than half of the participants believe that lesson clarity (62.9%) and instructional variety (22.9%) are the most important ET practices; these findings are in line with previous research from Alemu (2014) and Hativa, *et al.* (1999), who emphasise regarding these findings a complicating fact: that teaching excellence is achieved by lesson clarity and instructional variety use of different effective teaching strategies. Also interesting is the low importance given to technology integration and student–student interaction (57.14%), which is not consistent with prior research findings that have shown that these practices are strongly connected to effective teaching (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, & Sendurur, 2012).

Kim, Kim, Lee, Spector, and DeMeester (2013) reported that beliefs about effective ways of teaching and technology integration were positively correlated. Moreover, Al-Ghazo (2008) found that most faculty members had positive attitudes toward the integration of technology and viewed it to be an important practice. QUFMs' perception of integrating technology into teaching practices as less beneficial could be attributed to barriers preventing them from doing so, such as their own lack of preparation to integrate technology in class, institutional environment and (lack of) support, and general attitudes and beliefs toward technology. The low importance ascribed to student–student interaction is not in line with what Harbour, Evanovich, Sweigart, and Hughes (2015) indicate that student–student interaction leads to more engagement in learning and to greater academic and social success because learners are able to function as an effective knowledge source for each other (Zhao & Bitchener, 2007). The low importance ranking given this factor here could be attributed to course organisation; Suryati (2015) found that shows that teachers spent 93% of their teaching time on teacher–student interaction and only 7% facilitating student–student interaction.

4.5 Impediments to effective teaching

The results showed that the large majority of participants believe that lack of teaching skills (82%), overloading of administrative tasks (60%), and difficulty achieving a balance between an appropriate teaching style and covering all aspects of course content (60%) are the main impediments to ET. These findings are in line with previous research showing that teaching skills are both an important ET characteristic (Wray, Medwell, Fox, & Poulson, 2000), and one of the most important factors in instructor teaching ability (Alemu, 2014). Existing literature on ET impediments has shown that the most frequently cited is a lack of pedagogical knowledge and skills (Ambrosino & Peel, 2011; Torff, 2005; Buskist, 2002; Hativa, Barak, & Simhi, 2001; Walls, Nardi, von Minden, & Hoffman, 2002; Sidelinger, Nyeste, Madlock, Pollak, & Wilkinson, 2015; Jinkens, 2015). With regard to overloading faculty with administrative tasks, Buskist (2002) similarly but more broadly reported that a major impediment is caused by the environment surrounding faculty, especially the institutional environment. And difficulty of achieving a balance between appropriate teaching style and covering content is in line with Beckerman (2010), who reported that teaching in higher education requires complex, multidimensional knowledge of content as well as of how to teach it. It can be inferred from these results that QUFMs would most likely view the main ET impediments as external factors affecting their teaching practices, placing the responsibility on the university administration to alleviate these constraints.

4.6 Limitations and future research directions

There are some limitations to this study's approach that should be mentioned. First, it was quantitative only; it will also be important to include a qualitative analysis of QUFMs' views on pedagogy to fully understand their opinions. Second, the EFA results should be considered only preliminary results regarding the structure of ET, since the items are very few; further analyses are needed to fully understand ET. Additionally, many variables identified as meaningful for ET in previous studies were not included in this discussion. Last, due to potential limitations in the representativeness of the sample (only one faculty member from pharmacy and four from engineering) and the level of detail of data analysis (descriptive), caution is needed in generalising these results to other faculties or universities. To fully understand ET, future studies may include more variables that can provide more information and deep insight. There is a need to explore internal and external factors that influence ET practices and instructional strategies using a larger-sample, qualitative follow-up study. Based on the results of this study, such additional studies should begin by constructing a primary model of five variables needing examination: pedagogical knowledge, emotional aspects of teaching, dimensions of instructional practices, relative effectiveness of instructional practices, and instructional impediments.

5. Conclusion

The study sheds light on aspects of ET as perceived by QUFMs. Overall, the findings remained largely consistent with those of previous studies. More than half (52%) of QUFMs think what specifically the ET concept referred to remained ambiguous; this seems to imply that around half of QUFMs may be having trouble implementing RT. Moreover, more than half of QUFMs may not have adequate instructional knowledge because the clarity of the ET concept depends heavily on the quality of the instructor's pedagogical knowledge. The majority of QUFMs (69%) value teaching effectiveness and it is likely they will be willing to use practices they believe are most effective; further, they believe ET enhances faculty instructional proficiency and increases student achievement level, making it clearly effective for teaching. QUFMs' perception of the best ET practices was skewed heavily toward lesson planning and the use of a variety of instructional methods rather than other practices; lack of teaching skills (82%) was evaluated as the largest ET impediment. Participants also believed that ET impediments are external factors, especially emerging from university administration and strategy. Moreover, the findings suggest that it is important to ensure that QUFM and administrators fully understand ET as a concept, and to have procedures in place for improving teaching and learning outcomes. Lastly, the results suggest that the term "ET" remains ambiguous for most respondents, showing the need for further training in implementing ET concepts for most academic staff.

Conflict of Interest Statement
The authors declare no conflicts of interest.

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