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January 01, 2016
Prof. Dr. Muzaffer Elmas
Sakarya University

Table Of Contents

ENSURING QUALITY IN PRESERVICE INTERNSHIP TEACHING IN CHINA: STAKEHOLDERS' VOICES IN BEIJING

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Abstract: This paper aims to explore how quality teaching is ensured during preservice teaching internship in China. Data were collected through interviews with four groups of stakeholders: university professors, interns, mentors and school administrators. The study showed that quality teaching during internship is ensured by thoroughly grounding the interns in their subject content areas and education courses which include pedagogy at the training institution and through the support the interns get from their professors, mentors and school administrators during teaching practice. However the study proposes that strong cooperation between the cooperating schools and the teacher training institutions is required to achieve a strong alignment between course work and teaching practicum.

Key words: intern, teaching practice, internship, mentor, practicum

Introduction

Teachers are the backbone of any education system, from kindergarten to university. They are at the center of what is happening in an education system (Ayodele & Oyewole, 2012). To stress the importance of teachers, Henard and Leprince, (2008) argue that the quality of education cannot be higher than the quality of its teachers. Therefore, for quality education to be a reality in any country there is need to have well trained and qualified teachers at all levels of education. Tuli and File (2009) also attest to this fact by noting that teachers of high quality will lead to high quality education. However, for a country to have quality teachers there must be a high quality teacher training program. According to UNESCO (2006), teacher quality covers a number of issues such as knowledge, skills, competencies, motivation and effectiveness to deliver in a classroom which could be acquired through theory and also practice. Based on a study which they conducted in Germany, Voss and Gruber (2006) found that the most important attributes for teachers are expertise, communication skills, teaching skills, humour, friendliness, teaching methods and enthusiasm. While some of the important attributes are arguably inborn, a good number of them are acquired during training. Therefore for a teacher to possess most of the critical attributes that make a teacher to be of high quality, a teacher training program must emphasise both theoretical and practical aspects. A very important element of the practical aspect of teacher training is internship. This paper discusses how quality teaching is ensured during internship in China.

Teacher training in China

According to Chen and Mu (2010), Chinese teacher education system has been around for more than one hundred years. However, over the years it has undergone several transformations as a way of improving the system so that it serves the country better. Currently, teachers in China are trained in teacher training colleges and universities (both normal and comprehensive) up to College degree, Bachelors degree and also Masters Degree. In the past, teacher training was offered in normal schools, normal colleges and normal universities and used to enroll graduates of junior secondary school to be trained as primary school teachers, graduates of senior secondary school to be trained as teachers in junior secondary school and graduates of senior secondary school to be trained as teachers in senior secondary school respectively (Chapman, Cheng & Postiglione, 2000). Although there could be some minor differences on how the training programs are currently organized, generally the programs follow a similar curriculum pattern in that they start with theoretical content before the student teachers go for their teaching practicum which is done in the final year of the programs for a period of about ten weeks (Chen & Mu, 2010). The focus of this paper is on preservice teacher trainees studying for a Bachelors Degree at a teacher training institution.

Internship

Internship is the period of time when teacher trainees are deployed to different schools to do their teaching practice which is an integral part for teacher training. Prior to this time, arrangements are made between teacher training institutions and the schools where the interns are sent. Internship in preservice teacher training is considered as a bridge between theoretical courses learnt at a training institution and the teaching profession. According to Cheng (2013), teaching internship "provides opportunities for preservice teachers to internalize the theories learnt in the campus courses into their own knowledge by practicing the theories in classroom teaching under the guidance and support of their school mentors" (p. 6). During internship, the teacher trainees are given the opportunity to translate theoretical knowledge into practice. This therefore means that the main aim of internship is to enable the intern to convert what was learnt as theory into practice.

Teaching internship plays a very crucial role on the student teachers' professional development. During internship, a student teacher is in a very complicated situation operating at two levels to adjust to life as a student, under the control of mentors and supervisors and also life as a teacher, managing his/her class (Koerner & Rust, 2002). Loughran, Korthagen and Russel, (2015) also note that teacher trainees struggle with being learners of learning and learners of teaching at the same time and what they experience as learners of teaching can have far reaching consequences on their future career. Therefore an intern's experience during internship can make or break his/her teaching career depending on how the experience has been to the intern. Tuli and File (2009) also attest to the important role of internship by indicating that "practicum experiences among preservice teachers are often described as the most important part of teacher education program" (p. 110). Additionally, Haciomeroglu (2013) also considers internship as very important by arguing that it is one of the most critical elements of teacher training.

Models of internship. There are different models of teaching practice that different countries or universities adopt during teacher training. Manzar-Abbas and Lu, (2013) shed some light on teaching internship arrangement in some

teacher training institutions in the world. They note that some institutions adopt a block type of internship. In this one, student teachers are firstly taught all theory courses at the training institutions before being deployed in the schools towards the end of their program for a specified period of time such as ten weeks. On the other hand, in some institutions, teaching practice is integrated with the other aspects of the training program throughout the whole period of training. The latter arrangement ensures that in every year of the training program there is an element of teaching practice. Heeralah and Bayaga (2011) look at the arrangement of teaching internship in South Africa. They observe that student teachers are deployed in schools for internship for a period of time towards the end of their training. The period starts with class observations where the interns observe some teachers delivering their lessons. This is followed by the interns themselves teaching the classes under the supervision and mentorship of experienced teachers in the schools. China follows a similar approach as indicated by Manzar-Abbas and Lu, (2013). Figure 1 below is a diagrammatic presentation of a teacher training programme showing the relationship between theory and practicum in teacher training.

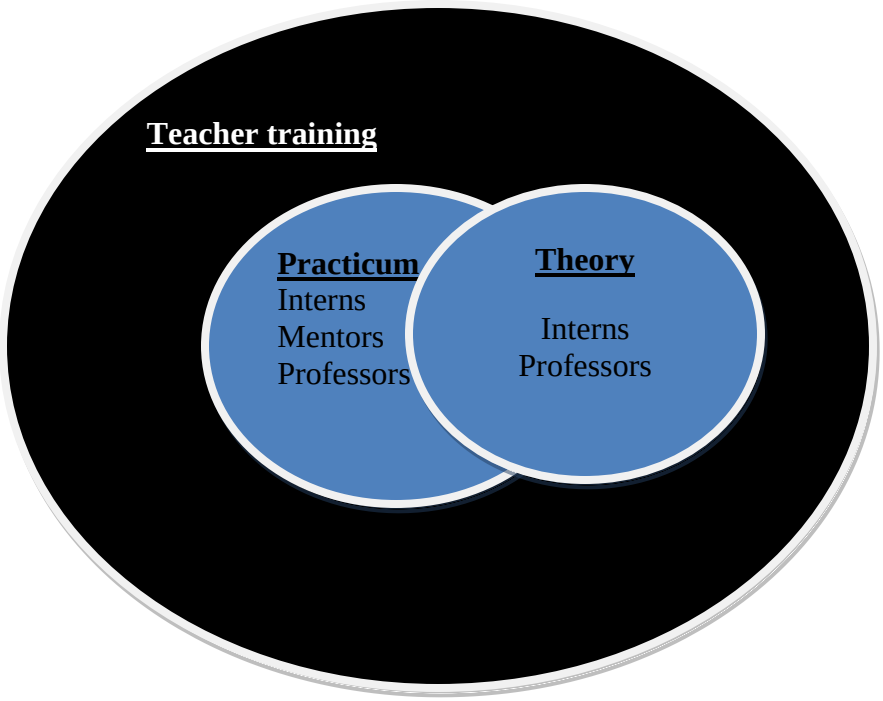

Figure 1: Representation of a teacher training programme

Purpose of the study

There are concerns about the quality of teacher training in general and teaching internship in particular in different parts of the world (Rosemary, Richard & Ngara, 2013; Ayodele & Oyewole, 2012; Tuli & File, 2009). Among other things, the concerns revolve around how the teacher training programmes are organized. In most cases the training programmes are said to be weak because they do not give the students enough time for practice or they do not effectively ground the students in theory content and sometimes there is a misalignment between theory and what is done during practicum (Darling-Hamond, 2006; Loughran, Korthagen & Russel, 2015). All these purported

weaknesses could have a negative effect on the quality of teachers that are being trained. Therefore a study was carried out to explore mechanisms put in place to ensure quality in preservice internship teaching in China.

Specific objectives.

1. To determine how training institutions prepare teacher trainees for their teaching roles during internship
2. To determine the support that interns are given in schools during internship to ensure quality teaching.

Conceptual framework

The conceptual framework used in the study was based on the 3P Model (Biggs, 1993). The model postulates that in measuring quality, the following variables should be considered: presage, process and product. Presage variables are those that are in the education context or environment before students start learning. They could refer to issues of resources availability, quality of teaching staff, quality of students that are enrolled, infrastructure, and quality of management just to mention some. Process variables are those that deal with what goes on in the classroom such as amount of class time, teaching methods, feedback and class size. Product variables are those that focus on the outcomes of the education process such as student performance, student retention and employability (figure 2). Materu (2010) adopts the same model to look at quality of education by using slightly different terminology. He looks at input, processes and output. In teacher training, presage variables or inputs could cover a number of issues to do with the training institution and the schools where the interns are sent for teaching practice. Process variables could focus on how the student teachers are handled both at institutional and school levels to develop expertise in teaching. Product variables or output look at what the student teachers are able to do during teaching practice. The product or output of a teacher training program will largely depend on both the input and process. Quality teaching in this discussion refers to the meeting of minimum standards of teaching without compromising pupils' learning on the understanding that interns are not expected to provide teaching of very high level because they are still in training. It entails teaching that fits the purpose of the teaching practice institutions and also that is able to register some form of transformation on the learner in terms of knowledge, attitudes and values. Transformation and fitness for purpose are the two most valued definitions of quality in education as they put the learner at the center of the teaching and learning process (Horsburgh, 2000).

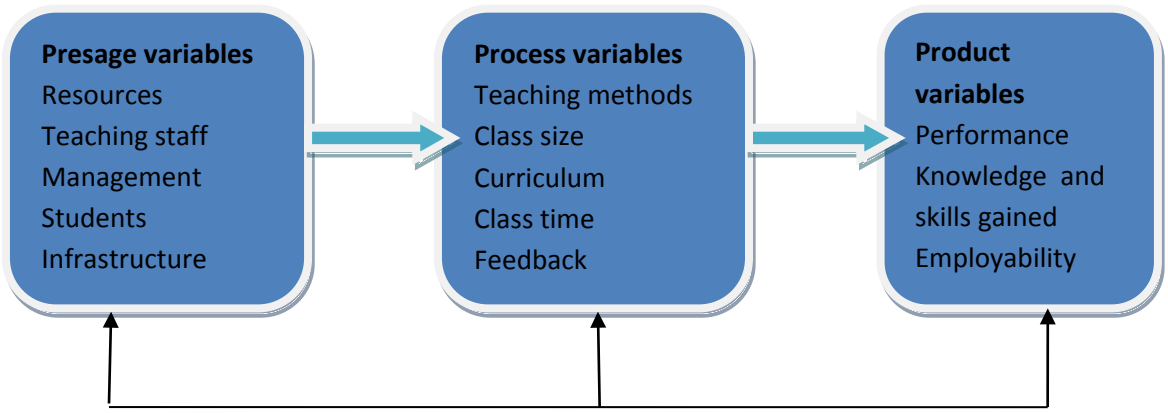

Figure 2: Adaptation of Biggs 3P Model

Methodology

The study used a qualitative approach which according to Johnson and Chritensen (2008) is "research relying primarily on the collection of qualitative data (non numerical data such as words and pictures)" (p. 388). This approach was considered appropriate because the researchers wanted to have a deep understanding of teacher internship in China. Haepfl (1997), states that qualitative research designs are used to better understand a phenomenon which is not very well known to the researcher or to gain new perspectives and have more in-depth information on a phenomenon about which much is already known. In the case of the current the research, the researchers have enough knowledge about internship in general but wanted to have a deep understanding of it in the context of China.

Data for the study were collected from four groups of people who are involved in issues of internship around Beijing. These are professors in the teacher training institutions, interns who are sent to different schools for teaching practicum, mentors in schools where the interns are sent to do their teaching practice and administrators in the schools where internship is done. It was envisaged that these people would provide vital information that would give some insights about internship. For example, it was expected that professors would give more information about how the trainee teachers are prepared in the training institutions before they go for teaching practice. The teacher trainees themselves would give in-depth information about how they are prepared in the institution, how they are mentored, supervised and assessed in the schools where they do their teaching practice. The researchers also thought of including mentors in the study because they are the ones who play a vital role in helping the interns develop their profession in the schools. School administrators were also considered important because they are the contact people with training institutions and they also monitor the progress made by the interns during the course of the internship. The collection of data from different groups of people helped to triangulate the findings and thus making the study more credible as argued by Maxwell, (2009)

The sample for this research was identified using convenience sampling. According to UNESCO (2005), convenience sampling is the type of sampling where subjects are selected based on their accessibility to the investigator. Therefore, the subjects in this study were those people who were reachable and accepted to take part in the study. The sample was made up of four interns who had just come back from internship and were back to their training institution. There were also two mentors who are teachers at a middle school. The sample also had two professors at a teacher training institution and two administrators from two middle schools.

The study used semi structured face to face interviews to collect data from the respondents. The use of interviews as a data collection tool has been highlighted by many researchers. For example, Creswell (2003) indicates that interviews are one of the most important means for collecting data in a qualitative study because of the opportunity that a respondent is accorded to freely talk about an issue from their perspective and this helps researchers to have deep understanding about the phenomenon under investigation. Additionally face to face interviews give the researcher an opportunity to make the data richer through the use of the respondent's nonverbal cues during the interviews. These cues help to add more insights which may not be very apparent through the spoken words.

An interview guide was prepared for each of the four groups of respondents as indicated above. The interview guide had both open ended and closed ended questions. Although different groups of people were targeted, the questions solicited basically the same information from different perspectives. Broadly, the questions focused on issues of interns' preparation in the training institutions and their teaching practice experience in the schools. Each interview lasted for 50 to 60 minutes and the interviews were conducted in secure venues to maintain the interviewees' privacy. Interviews with mentors, professors and administrators were conducted in their offices while students were given a choice on where they wanted to be interviewed. Most of them preferred quiet places which also provided the much needed privacy. The researchers took down the notes from the interviews at the same time and compared them during data processing. This also helped to make the data credible.

Data analysis started with the processing of the raw data in form of notes from the interviews. These were properly typed using a word processor to produce transcripts. The researchers then carefully read through all the transcripts several times to familiarise themselves with the data and have a full understanding of the data. Based on the research questions, themes were extracted from the data set and relationships between the themes were also examined. All the information belonging to one theme was put together by pasting parts of the transcripts to their appropriate themes under each research question using Microsoft word.

Findings

This section presents and discusses the findings of the study based on the research questions which focused on how teacher training institutions prepare student teachers for their teaching roles during internship and also how the student teachers are supported in their practicum schools.

Course work at the training institution

The training institution where the teachers are trained plays a vital role on the quality of teaching during teaching practice. A training institution is the first stage in the process of developing a teacher. It equips the teacher trainee with the knowledge, skills and attitudes that shape his/her life in the teaching profession. The study has found out that the professors in the faculties where teachers are trained teach the trainee teachers a number of disciplines to help them get properly trained for their future teaching responsibilities. According to Smith and Lev-Ari, (as cited in Cheng, 2013),

> campus based courses play a very important role in the development of the pre service teacher which has a great impact on the quality of their teaching practicum. The programme design should be comprehensive enough to cover different teaching strategies that could develop a concrete theoretical basis on their teaching. The subject matter courses should equip them with substantial subject knowledge to cope with the curriculum of the practicum schools. The pedagogy courses should equip them with substantial pedagogical content knowledge so that they are confident in their teaching practicum (p 7).

Subject content areas. The study found out that teacher trainees are comprehensively taught about the subjects which they will teach in schools in order to fully equip them with adequate knowledge of what they will teach. This is done in the belief that a teacher trainee without adequate knowledge about the subject(s) he/she will teach in school will negatively affect the quality of teaching during internship and beyond. The provision of adequate content knowledge to the teacher trainee is vital for the development of expertise in the subjects that they will teach in schools. Writing about field experiences of student teachers in teacher training programmes in Turkey, Haciomeroglu (2013) also touches on the importance of content courses at the teacher training institution. Further, Voss and Gruber (2006) argue that expertise is one of the most critical attributes of a teacher. Therefore for the trainees to develop into quality teachers, they are required to develop the necessary expertise in their profession. According to the professors in the study, trainee teachers are adequately taught the different aspects of the curriculum so that they acquire adequate knowledge in their teaching subjects at school.

Education courses. Student teachers are also taught education courses such as philosophy of education, history of education, educational psychology, and sociology of education. These provide them with knowledge that is directly related to education and they help them to develop professionally in terms of acquiring the skills that are required for effective teaching. The teacher trainees indicated that before they went to do internship, they had spent more than 40 hours each on pedagogy and psychology. In addition to these subjects, trainee teachers are also taught teaching methodologies for different subjects, lesson planning and delivery, class management and student assessment. All these areas were considered to be very crucial by the respondents in ensuring quality teaching during internship. Voss and Gruber (2006) also report about the importance that is attached to teachers' attributes such as

approachability, communication skills, teaching skills and teaching methods all of which could be a product of education courses which are learnt in teacher training institutions. On the other hand, Haciomeroglu, (2013) argues that pedagogy courses and general education courses help teacher trainees to develop pedagogical knowledge including class management and counseling and they also equip them with background knowledge on social, cultural and historical issues.

While teaching the student teachers all the required theoretical courses in their universities is an important element in the training of a teacher, the way they are taught also matters a great deal. That is why Darling-Hammond (2006) argues that teacher educators should not just be worried about what to teach the student teachers but also how to teach them. She therefore proposes a way of teaching that will make student teachers to become adaptive people who will continue to learn in different other ways. Additionally Darling-Hammond (2006) and Grossman, Hammerness, McDonald and Onfeldt (2008) argue for the teaching of course work that will bring integration and coherence of all course work rather than teaching the courses in isolation and in a disjointed manner. While this could be referred to as inter-subject integration, one would also argue for intra-subject integration where students will be taught in ways that will make them have a wholesome view of a subject rather than looking at it from the point of view of isolated topics.

Mentorship

Mentors or cooperating teachers are experienced teachers that assist teacher trainees in schools during internship. They are a very important resource in ensuring quality teaching of interns. Mentors can be said to be teachers who initiate trainees into the world of professional teaching and into the school society. They provide a link between teacher training institutions and the teaching profession. They are the people who help the interns to put what they learnt in the university into practice in a real life situation. Therefore mentors have to be teachers with high personal integrity, good academic and professional qualifications and adequate teaching experience. The study has found out that most of the people who are given the responsibility of mentoring teacher trainees are those with Masters Degree in Education and with vast teaching experience. Each of the mentors in this study had more than twenty years of teaching experience. This was very good for the trainee teachers' development. Writing about different types of coherence in teacher training programmes, Grossman, Hammerness, McDonald and Onfeldt (2008) note that one way of achieving coherence is through the selection of appropriate cooperating teachers. Although they are not very explicit on the mentor selection issue, one could assume that some of the attributes outlined above could be used in the selection process. At the same time teacher training institutions would be willing to select cooperating teachers with whom they share a common goal and understanding that could help the intern to develop into an accomplished teacher by the end of the training. Haciomeroglu, (2013) notes that cooperating teachers need to be people with integrity and he reports of some cooperating teachers who were not helpful to the student teachers by among other things failing to suggest what student teachers need to improve and providing feedback without observing the interns. At the same time, Glenn (2006) gives a list of what one could call qualities of a good mentor: a good mentor should be more of a collaborator rather than dictator, should show a balance between control and trainee

independence, should allow a personal working relationship to flourish, should share constructive feedback and should accept differences with his or her mentee.

According to one intern, mentors help them on "how to go along with school leaders, colleagues, students and even parents. They also assist on how to get things done flexibly, efficiently and how to develop a positive attitude towards work and students." Generally, mentors provide support to student teachers which helps them develop the art of teaching in their specialized subject areas and encourage student teachers to develop professionally through a number of strategies such as being a role model, advisor and counselor. Mentors may allow student teachers to observe their lessons so that they are shown the way on how teaching is conducted. Even outside the classroom, mentors endeavor to set a good example of professional behavior for student teachers to follow. Mishandling of interns by mentors during internship would greatly compromise the quality of teaching and would also have far reaching consequences on the interns' teaching careers. However, the study has found out that there is a good working relationship between the interns and their mentors in the schools where teaching practice is done. Glenn (2006) also reports such good and cordial working relationship between mentors and their mentees in a study which he conducted. However, he notes that such reported good relationships may not reflect the real situation on the ground. He notes that interns may not want to report their mentors' weaknesses because in some cases they would need them to write letters of recommendations for jobs.

> In terms of the student-provided data, we must consider also that student teachers face unique circumstances due to their joint role as student and as teacher. Unlike employed teachers, they are dependent upon their cooperating teachers for letters of recommendation that may influence whether or not a permanent teaching position is attained after the student teaching experience. As a result, student teachers might feel as though they need to avoid a disruption of the power balance and thus choose not to contradict or call into question a teacher's practices. Their willingness to share honestly might be shaped by their fear of jeopardizing a future job offer (Glenn, 2006, p.94).

Supervision

Another strategy that is put in place to ensure quality teaching in internship is supervision. According to the findings, supervision is done by university professors and mentors in schools. However, the study has found out that most of the supervision work is done by mentors in the schools who meet the trainee teachers between once and five times in a week on average while university professors visit the trainee teachers once or twice in two weeks. Supervision involves observing the interns delivering lessons and giving them feedback after the lesson. Their discussions focus on issues of class management, interaction with students, time management and teaching strategies among other things. The most important aspect about supervision is that at the end of a lesson, the teacher trainee is given time to reflect on the lesson by looking at what worked well and what needs to be improved on in future lessons.

Supervision leads to evaluation or assessment where the teacher trainees are evaluated on a number of aspects in their teaching. According to this study, the interns are evaluated based on lesson preparation, lesson presentation, masterly of subject content, lesson evaluation and teacher personality among others. The interns' evaluation grade is made up of 50% of the mentor's grade and another 50% of the supervisor's grade. In itself, the evaluation process makes the teacher trainee to try to improve on his/her teaching so that at the end of the teaching practice period they

should be awarded a good grade. According to the findings of the study, mentors play dual roles of supervisor and mentor. This is in line with Ambrosetti and Dekkers, (2010) who note that despite differences between mentoring and supervision, mentors in preservice teacher education engage in both mentoring and supervisory roles. Additionally, Loughran, Korthagen and Russel, (2015) advise that there should be a triangle of supervision discussions involving the cooperating teacher, the intern and the university professor to look at the progress of the intern where the intern should also be given a voice

Conclusion

For any teacher training institution to produce teachers of high quality there is need to have a strong and vibrant teacher training program with strong theoretical and practical aspects. According to Darling-Hammond (2006) among other things such powerful teacher training programmes are a requirement in the contemporary times because of the highly diversified student groups whose needs are also diversified. Therefore teacher training programmes should produce teachers who are well prepared to deal with the diversity of the student population and other problems which are rocking the contemporary teaching profession. On the theoretical part, the training institutions should aim at adequately equipping the teacher trainees with all the required knowledge, skills and attitudes that will help them in the development of their profession. The practical aspect depends mostly on the organization of internship and what happens during internship. The study has found out that there are some important strategies that are put in place in the Chinese situation to ensure high quality teaching during internship. However, there is need to do more to further improve the situation.

Further reflection

Based on the findings of the study and the literature that was reviewed, the researchers decided to give more insights into some areas by way of reflecting on some of the critical issues in teacher education.

Strong collaboration between schools and teacher training institutions. When student teachers are going for internship, the schools they go to take more responsibility over them than their training institutions because they become part of the school community. In this way therefore, the schools are helping in training the teacher trainees. However, this partnership cannot yield much if there is no close collaboration between the training institutions and the schools. Close collaboration benefits the interns in that they will be able to get the necessary social and professional support from the schools' management. Close collaboration is required "to ensure that the experience is beneficial and meets the needs of ensuring a quality student teaching experience" (Guo & Pungur, 2008, p. 262). Furthermore, the close collaboration will ensure that the teacher trainees are paired with mentors who are well qualified, experienced and who are ready to willfully work with the teacher trainees. Therefore there is need for constant discussions between the training institutions and the schools' administrators at a macro level and between university supervisors and mentors at a micro level to foster a good working relationship (Casey & Howson as cited in Cheng, 2013).

Many writers on teacher education have highlighted the need for close collaboration between cooperating schools and the teacher training institutions. For example, Loughran, Korthagen and Russel, (2015) argue that lack of cooperation between the university professors and the cooperating teachers may lead to misalignment between the theory that is taught in the training institutions and what the student teachers actually do in class. Similar to the argument above, Grossman, Hammerness, McDonald and Onfeldt, (2008) note that lack of cooperation could lead to training programme incoherence. On the other hand, Darling-Hammond, (2006) notes that one attribute of a powerful teacher training programme is strong collaboration between universities and the schools.

Training opportunities for mentors. To enhance the efficiency of mentors in assisting the trainee teachers, teacher training institutions should consider conducting mentorship programs targeting teachers in the cooperating schools (Darling-Hammond, 2006). The mentorship programmes would be part of the continuing professional development for the cooperating teachers. The purpose of these programs would be to improve the mentors' skills, attitudes and knowledge in assisting the teacher trainees. Some of the issues reported by Haciomeroglu, (2013) could be a result of lack of mentoring knowledge and skills whose genesis could be lack of mentor training. Therefore as Hudson and Hudson, (2010) suggest, "Suitable mentors must be prepared in their roles as pre service teacher educators by having particular knowledge to take deliberate action in their mentoring, and by developing the specific skills to critique constructively both their own teaching practices and their mentees' practices" (p. 4). This in turn will have a positive impact on the quality of teaching by the interns. However, the success of the mentor training programmes would heavily depend on the cooperation that exists between the universities and the schools.

Arrangement of internship. According to the findings of the study, internship is done at the beginning of the fourth year of the four year academic program with a duration of about ten weeks. This clearly shows that the aim is to comprehensively prepare the teacher trainees in theory before they engage themselves in practical teaching. However, this arrangement is criticized by some researchers because it does not give the interns enough time to adequately master teaching skills (Manzar-Abbas and Lu, 2013). Darling-Hammond (2006) outlines some of the common features of what she calls successful teacher training programmes and one of them is an extended period of practicum which she puts at 30 weeks at least. She observes that

> traditional versions versions of teacher education have often had students taking batches of front-loaded course work in isolation from practice and then adding a short dollop of student teaching to the end of the program—often in classrooms that did not model the practices that had previously been described in abstraction (Darling-Hammond, 2006, p. 8).

On the other hand, Manzar-Abbas and Lu, (2013) propose that teaching practice should not be a one off activity. It should be integrated with teaching of theory throughout the four years in that each year there should be some form of internship before the main internship in year four of teacher training. In this way, the interns will be able to reflect on their experiences and work on aspects in which they have not reached full proficiency.

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EXCELLENCE IN TEACHING: CENTRES OF EXCELLENCE IN FINNISH UNIVERSITY EDUCATION 2010–2012

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Abstract: Excellence in university teaching is a current topic both in research and in practice; however, there are only few studies that focus on the practices employed by winners of national teaching excellence awards. This study approaches this research gap through an analysis of the Centres of Excellence in Finnish university education for the period 2010–2012. The award winners' applications are analysed using qualitative data analysis software, and all practices demonstrated by the award-winning units are coded using the European Foundation for Quality Management Excellence criteria as a framework. The results are compared between the analysed units and with previous research literature on teaching excellence. The discovered common practices include quality assurance-related activities, researcher training, core analysis of content and active participation of stakeholders. Comparisons with earlier research show similarities in practices with the Norwegian Centres of Excellence. Some less tangible aspects of excellence cannot be directly identified through practices but need to be supported by more holistic models of teaching excellence. The research results can be utilized as a benchmark to support development work in higher education.

Introduction

The 21st century has witnessed a transition from quality assurance towards excellence in higher education (Gosling & Hannan, 2007; Rostan & Vaira, 2011). The reasons for this have been well studied and include national policy changes in order to increase the competitiveness of the higher education system (Ramirez & Tiplic, 2014), resulting in 'enterprization' of higher education institutions (Skelton, 2009) and the global rankings movement of universities (Brusoni, Damian, Sauri, Jackson, Kömürcügil et al., 2013). However, within the excellence context, rewards systems have strongly favoured publications (Turner & Gosling, 2012), to the point where an 'overwhelming dominance of the research agenda' results in a lowered status of teaching (Young, 2006). In the last few years, there has been a re-emergence of the discourse around teaching excellence in Europe to rebalance what has been a dominant rhetoric of excellence in research (Gunn & Fisk, 2013).

National recognition and reward systems to promote excellence in teaching have now been established in several European countries (Raaheim & Karjalainen, 2012). For instance, in Great Britain a national initiative for Centres for Excellence in Teaching and Learning was established in 2004, and 74 centres were selected and received significant recurring funding for a five-year period (Turner & Gosling, 2012). In Norway, a bidding and assessment process took place in 2013, and as a result three out of 24 applicants were selected as Centres of Excellence in Education (NOKUT, 2013). Each of these units receives 3M NOK (300–350 k€) annually for a five-year period. In Finland, five selection rounds took place between 1998 and 2012, and a total of 88 units were designated as Centres of Excellence in University Education (Hiltunen, 2009). Such evaluations provide information on the pedagogical decisions, teaching processes and outcomes of an institution, and they may serve as starting points for long-term development of educational processes (Kettunen, 2011).

While local dissemination has taken place, systematic analysis of the content of the award applications has been scarce. As Raaheim & Karjalainen (2012) point out, the authentic applications are a precious resource and should be actively used in the development of teaching. Best practices, such as the ones found in these applications, can be seen as road maps in higher education's global hunt for excellence (Ramirez & Tiplic, 2014). In the present study, I approach this research gap through the analysis of award applications of the 2010–2012 round of the Finnish Centres of Excellence competition. The following research question is addressed:

Which practices can be identified in the applications of Centres of Excellence in Finnish university education during the period 2010–2012?

The applications are analysed using qualitative data analysis software. The practices presented by the applicants are classified according to the European Foundation for Quality Management (EFQM) Excellence criteria. Similarities and

dissimilarities between the cases are compared, and implications for how the quality units have organized their education are drawn based on the analysis and compared with previous research of excellence in higher education.

Excellence in higher education

The concept of excellence has made its way into higher education discourse in the 21st century. The notion of excellence has been a source of confusion (e.g. Gosling & Hannan, 2007), particularly whether it is exclusive, meaning only a select few can be excellent at a given time, or whether the concept is 'bleached', meaning it is attainable to everyone and refers to performance above a given standard (Allan, 2007). On one hand the rise of the concept of excellence has helped in driving enhancement, but on the other hand it can be carelessly used in politics, leading to unrealistic expectations for institutions of higher education (Brusoni et al., 2013). According to Gunn & Fisk (2013), teaching excellence is divided into three clashing discourses:

1. Cynicism: teaching excellence is a facet of neoliberalism and part of an agenda aimed towards a consumerist view of higher education.
2. Pragmatism: focus on policy—how to implement and demonstrate teaching excellence in a way to satisfy all stakeholders.
3. Aspirationalism: genuine drive towards enhancement of teaching that is based on practice and supported by student/staff-led teaching excellence reward mechanisms.

The most common excellence framework in Europe is the EFQM Excellence Model used by over 30,000 European organizations (EFQM, 2012). This is a frame of reference that enables an organization to assess their performance according to criteria determined in the model (Heras-Saizarbitoria et al., 2011). Its evaluation criteria consists of five enablers categories and four results categories. The categories are further divided into subcriteria (EFQM, 2012) and follow the idea that in an excellent orientation, enablers drive the results (Nabitz et al., 1999). The EFQM criteria have been applied across numerous fields, including higher education (i.e. Davies, 2008; Hides et al., 2004; Tari & Madeleine, 2011)

The US equivalent of the EFQM model, the Malcolm Baldrige model, has been adapted for education as the Education Criteria for Performance Excellence. On the criteria level, it consists of Leadership, Strategy, Customers, Measurement, Analysis and Knowledge Management, Workforce, Operations and Results (Baldrige Performance Excellence Program, 2015). It has become a powerful means for performance excellence in education, however it has been criticized as too generic and not providing specific guidelines for its users (Asif et al., 2013).

Skelton (2009) presents a personal view of teaching excellence in higher education. It involves developing a personal teaching philosophy, constantly striving to realize one's educational values in practice and seeing excellence as a moral category, i.e. reflecting what is morally defensible and contributing to the good of society. On an institutional level, he suggests that teaching excellence resides in the material conditions underpinning high-level teaching and that it is about generating pluralistic deliberate cultures in which pedagogical theories, values and policies can be shared and academic practices are integrated in a mutually reinforcing way.

Viewing excellence as a standard for high performance, the seminal seven principles by Chickering and Gamson (1987) can be seen as a guideline for what excellent higher education should account for:

1. encourages contacts between students and faculty
2. develops reciprocity and cooperation among students
3. uses active learning techniques
4. gives prompt feedback
5. emphasizes time on task
6. communicates high expectations
7. respects diverse talents and ways of learning.

Research method

The primary data source used in this analysis was the publication *Centres of Excellence in Finnish University Education 2010–2012* (Hiltunen, 2009). This book presents the quality award applications of the ten units that were chosen as

Centres of Excellence out of 44 applicants for the time period 2010–2012. The applicants were asked to submit a ten-page application, including a statistical supplement of 1.5–2 pages, using the following structure:

1. Mission of the unit
2. Programme and course design
3. Delivery of education
4. Outputs
5. Continual development.

The award winners were chosen based on their application and a site visit by an international expert panel. The process is described in more detail in Hiltunen (2009). The applications were analysed using qualitative data analysis software. In the process, all documented evidence of practice was coded in a standard quality award evaluation manner. Additionally, the practices were classified using the 'enablers' areas of the European Excellence criteria in order to create a clearer profile of the units. The headlines given in the award contest call were not used, as the units had not strictly adhered to the structure. A total of 410 nodes were coded ranging from 33 to 60 per unit. The coded nodes were then summarized, both for each individual unit and for each enabler criterion. The results were compared to highlight common areas and differences between the units and were compared with earlier research findings on the topic.

Results

The coded practices (410 in total) were each classified according to the Enablers area of the EFQM Excellence Criteria and were condensed into a tabular format. These profiles are presented in Appendix 1. A synthesis of the practices related to each Enabler area is presented below along with a summary of the most common practices.

Leadership

According to the EFQM Excellence model, in excellent organizations leaders drive the development of the organization's strategic base, management system and change management. They act as role models and engage with stakeholders (EFQM, 2013). Very few direct references to leadership-related practice were found in the analysis as decision making was presented as a result of committees and working groups or part of the organization, such as the Medical R&D Centre in the Turku Faculty of Medicine.

Some examples of leadership practices included professors supervising M.Sc. theses, thus also communicating with stakeholders, and even professors tutoring students with their personal study plans. Practices, such as regular meetings with students or staff, were also presented.

Strategy

By EFQM's definition, excellent organizations develop a stakeholder-focused strategy based on its mission and vision. Policies, plans and processes are deployed based on the strategy (EFQM, 2013). From an excellence in education perspective, this was seen as how the goals and overall content of the study programmes are formed and what structures are used in deployment.

The strategic process was described in a similar manner in most of the applications. Degree requirements are discussed in a committee, such as an appointed one, or monthly team meetings and often further discussed in development seminar-like events in which students and stakeholders may participate. In several cases a core content analysis or similar assessment was performed for the whole programme, describing the overall content and interdependencies between study modules and courses, and then deployed to a course level. A few applicants demonstrated a strategic idea behind core content, such as DAS-formalism, CAT/RAT/MOUSE or pillars of education. International standards were also used as a basis for programme design.

Some applicants demonstrated a regular process of programme-level analysis and improvement, while in others strategic-level planning of the whole programme was based on outside impulses, such as the Bologna process or changes in their field of education.

People

Excellent organizations create a mutually beneficial culture for achieving personal as well as the organization's goals. Fairness and equality are promoted, and people's capabilities are developed (EFQM, 2013).

Pedagogical competence and training of the staff were mentioned in some form in all of the applications. Many reported organizing their own training, often working with another unit of the university. A 'researchers teach' policy was reported by many; also, 'teachers research' along with organizing research periods for teaching staff was mentioned by some applicants. One unit had introduced a teacher forum after the unit was formed from three smaller ones.

Some units mentioned strategic recruitments to support education. These included international study coordinators, recruiting professors to new areas discovered through strategy work and staff or professors dedicated to pedagogical activities.

Reward systems for achievements in teaching and its development were mentioned: public distinguishment for development of education, prizes and public credit for staff or students for excellence in education and awarding credits for students for participation in development work.

Partnerships & resources

In excellent organizations, external partnerships, suppliers and internal resources are managed in a way that supports the delivery of strategy. Societal and environmental impacts are effectively managed (EFQM, 2013). For excellence in education, environmental impact is not particularly relevant. Most practices related to this area were connected to partnerships, both academic, and with industry and other non-academic stakeholders. Some practices were related to educational resources, such as laboratories and student workspaces.

Presented modes of national and international educational research networking included participation in educational research groups and organizing educational conferences. The most common ways of organizing international student activity were study programmes and summer schools. Examples of partnership involvement included having stakeholder representatives in various planning groups and committees and participation in national and international committees and consortiums.

Training periods were supported by allocating support resources, and some units had established training centres, such as health centres. Thesis work and supervision were seen as good ways to interact with stakeholders and gather data about the relevance of the studies. The practice of organizing regular alumni meetings was mentioned by some units as a way to interact with graduates.

Students actively participate in various committees and working groups; in some units they are actively integrated into the unit's research starting from the beginning of their studies. One applicant also presented a practice of having a representative in the student association meetings.

Study support resources included support resources for training, e-learning and providing students with study spaces located within the unit's premises.

Processes, products and services

According to the EFQM, processes, products and services are designed to generate increasing value for customers and other stakeholders (EFQM, 2013). In this study this was interpreted as the educational processes, courses as products and supporting services.

Many applications highlighted practices related to teamwork and small group learning, sometimes integrated with project work with an outside client organization. Practical exercises, problem-based learning, integrated training periods and generally not basing teaching on literature examinations were also demonstrated as good practices. Regular reflection and feedback throughout studies were mentioned several times, sometimes connected to portfolio work.

Most units reported having defined course learning objectives and prerequisites as a continuum to strategic-level core analysis. Some reported that these objectives are presented at the beginning of each course.

Several units mentioned practices related to learning researcher skills, such as the use of scientific articles as course material; observation and participation in the unit's research projects, method and scientific writing courses; and the use of a unit's courses as data collection pools.

The supervision of master's theses was mentioned as a source for measuring competence requirements and a driver for improvement actions. Some units used thesis projects to improve their education. University-level metrics, such as the number of graduates, study progress and graduate feedback, were also used as metrics. A teaching development team, often working on a monthly schedule, was mentioned as the driver of continuous improvement in some applications. Most centres mentioned having a regular, often annual, feedback seminar with students and staff as well as the use of an electronic feedback system to collect course-specific feedback.

Support methods for integration included student peer tutoring, teacher tutoring and the creation and monitoring of personal study plans. Many units had developed an orientation course for new students for introducing learning skills and motivating the students through real-life practical demonstrations of their potential future work. One unit mentioned having developed a quality manual-like document for introducing new students to their practices. Several units also mentioned having developed assessment tools for e-learning or blended learning courses as well as assessment manuals in order to communicate and standardize requirements for both students and staff.

Most common practices

A summary of the practices most often mentioned in the applications is shown in Table 1 along with the number of times the practice was mentioned in the ten applications. All practices with four or more mentions were included in the table.

Table 1. The most common practices found in the analysis

Practice	N	Practice	N
A steering committee for the study programme(s) is in place	8	An e-learning-support resource has been established	5
Feedback sessions involving staff and students are held at regular intervals	8	Students participate in committees and working groups	5
Analysis of core content, workload and learning objectives has been performed	7	The unit organizes pedagogical training for teaching staff	5
Researcher training is included in the studies	7	The unit participates in international educational research	5
Stakeholders are involved in the planning of degree requirements	7	A 'researchers teach' policy is in place	4
The unit has developed tools, manuals or guidelines to support assessment	7	A development seminar is held at regular intervals	4
A web-based regularly used feedback system is in place	6	A project course with teamwork and an outside client has been established	4
An orientating skill course has been developed	6	A teacher-tutoring system has been established	4
Regular feedback is collected in forms of, e.g. career surveys or working life feedback	6	Indicators have been defined and are regularly used to measure progress	4
The unit organizes international summer schools or educational programmes	6	Students compile personal study plans and progress is followed	4
A resource for vocational training support has been established	5		

Discussion

The results of the analysis present a view on how Finnish excellent university education units organize their teaching processes. While there are differences between units and disciplines, Table 1 in the previous section shows that certain elements common to Finnish higher education exist. The results can help enhancing teaching excellence by making the good practices described in the centres' applications more explicit; this places the present study in the aspirational discourse rather than in the political or cynical ones presented by Gunn and Fisk (2013).

Analysis of the most common practices

The typically Finnish activities of having a regular, usually yearly, feedback session with staff and students and having some type of teaching steering committee were both mentioned eight times. Four units also mentioned having regular planning and development events. Having these types of forums can advance the creation of a pluralistic, deliberate educational culture (Skelton, 2009). Most mentioned collecting feedback electronically and collecting graduate feedback, and some had defined indicators that were regularly used to monitor progress. This is in line with Bråten's (2014) observation that both Norwegian and international excellence units have advanced quality assurance systems and constantly evaluate teaching and learning. Having these types of systems in place also supports the EFQM's excellence concept of linking enablers and results.

Student participation in development activities was suggested by Raaheim and Karjalainen (2012) as a common denominator between successful units and was mentioned by half of the study population. This also supports Chickering and Gamson's (1987) point of encouraging contact between students and faculty. As student participation in faculty committees and other activities is a regular practice in Finland, it is possible that some units left it unmentioned due to it lacking 'excellence merit'.

The observation of Raaheim and Karjalainen (2012) that successful units share a 'research-based approach' to teaching and learning was supported by the inclusion of researcher training in the studies by a majority of the units as well as half the units reporting participation in pedagogical research. Several units also reported having a 'researchers teach' policy in place. This supports the finding of Bråten (2014), who observed the presence of a strong academic foundation in Norwegian, Swedish and Finnish units of excellence. Skelton's (2009) view that different aspects of academic practice should be integrated in excellent teaching and Chickering and Gamson's (1987) principle that good practice uses active learning techniques relate to these practices as well. The idea of researchers teaching and teachers researching (and even allowed research periods) correlates to Skelton's (2009) idea that proper material conditions for teachers are a prerequisite for high-quality teaching.

Most units mentioned having defined core contents, workload and learning objectives for courses, usually in the context of the Bologna process. The same number of units also mentioned having stakeholders involved in the curriculum process. This was also observed by Raaheim and Karjalainen (2012), stating that successful units are typically more open to society. Bråten (2014) also identified external orientation and cooperation with stakeholders to ensure relevance as a common characteristic of excellent educational units. Applying these definitions in practice reinforces the 'time on task' principle of Chickering and Gamson (1987).

Seven units had developed some kind of assessment-supporting tools or instructions, and many had established resources or support systems for training, e-learning and thesis work. Peer tutoring, teacher tutoring and the construction and monitoring of personal study plans were mentioned in many applications. This is another common Finnish practice that possibly some units omitted because it was viewed as not adding excellence merit. These findings correlate with Bråten's (2014) that centres of excellence focus on supporting learning processes and with Chickering and Gamson's (1987) principle of giving prompt feedback.

Bråten's (2014) finding of centres of excellences' close cooperation with industry, municipalities and other stakeholders is highlighted in curriculum cooperation, training and theses, and many units mentioned organizing project courses with outside clients and student teamwork. The teamwork aspect also promotes the 'reciprocity and cooperation among students' principle of Chickering and Gamson (1987).This principle is also supported by the practice of having orientation studies in the first year that focus on learning skills and motivating through early practical involvement as mentioned by six units. Integration with the social environment and the value of orientation studies in regard to student retention has also been recognized by Murtaugh et al. (1999) and Wilcox et al. (2005). The 'communicates high expectations' principle of Chickering and Gamson (1987) can also be included in these motivation-building orientation studies.

Bråten (2014) reported a high degree of internationalization as a common denominator of the Norwegian Centres of Excellence. Also, most of the Finnish units highlighted international cooperation in the form of organizing international seminars, summer schools, consortium memberships and international study programmes.

Half of the units reported organizing pedagogical training for their staff. The statement of Raaheim and Karjalainen (2012) that 'in successful units a large proportion of the academic staff has taken courses in university pedagogics' was not visible in all the applications. Bråten (2014) did not report organizing training as a common factor in Norwegian units of excellence but rather that all the units had excellent and merited teachers in their staff.

Further discussion of the results

Academic leadership is discussed in several models and analyses of excellence; however, it was not strongly present in the results. Possible explanations are that the call for applications did not emphasize leadership or that the national tradition of organizing education does not emphasize it but rather emphasizes an expert organization's way of shared leadership. Gunn and Fisk (2013) point out that in the literature academia generally views distributed leadership as 'better' than industry-based commandeering leadership.

The seventh principle of Chickering and Gamson (1987), 'Respects diverse talents and ways of learning', was visible in some places, for example, through personalized study plans and portfolio work mentioned in some applications, but it was not prominently displayed by any means. Skelton's (2009) teacher-based view of excellence includes personal values and moral categorization of excellence. These personal and cultural values are difficult to demonstrate through practical examples but nevertheless can be crucial for genuine excellence in teaching.

The results can also be compared with frameworks for excellence or quality in higher education. Gunn and Fisk (2013) suggest four elements for developing a teaching-excellence taxonomy: 'Achieving educational demands on universities' relates to demonstrating excellent learning outcomes in relation to educational demands and was well demonstrated by the analysed units. 'Excellent structures' refers to approaches promoting excellence, of which there was some evidence, such as student participation, improvement activities and reward mechanisms. 'Demonstrating individual excellence' was present in forms of feedback, scholarship related to teaching and participation in development work. 'Quality of evidence' regarding individual teacher excellence was not particularly prominent, apart from mentions of pedagogical skill, as the applications tended to focus on the teacher workforce as a whole and on courses rather than the individual responsible teachers.

The dimensions of quality by Owlia and Aspinwall (1998) consist of Academic Resources, Competence, Attitude and Content and a total of nineteen underlying characteristics. The Content and Competence dimensions were well represented in the applications. The Academic Resources dimension was supported by some evidence in the applications but not in much detail. Attitude was not directly present in the applications, possibly because it was not mentioned in the call and also providing evidence is difficult without a particular student survey.

The results of this study, as well as the original applications, are not a comprehensive guide to organizing the education of an academic unit but rather could be used as part of a holistic framework of quality, like the EFQM model, or higher education models, such as the ones by Chickering and Gamson (1987), Owlia and Aspinwall (1998) or Kok and McDonald (2015). This study supports these frameworks by presenting practices related to their dimensions and employed by Centres of Excellence.

The EFQM Excellence criteria were used as the classification framework in this study. Asif et al. (2013) state that the EFQM model's equivalent Baldrige has become a powerful means for performance excellence in education but has been criticized to be too generic and thus not providing specific guidelines for its users. This is a common criticism for excellence models, and the present study supports implementation by providing examples of good practice related to different areas of an excellence model.

This study was focused on practice, but the role of metrics and indicators should not be forgotten. A sample set of metrics to support excellence is proposed by Asif et al. (2013). They also suggest that a good basis for a management system could be a hybrid approach of self-assessment, audits and benchmarking and that future educational excellence models could support this idea.

Gunn and Fisk (2013) state that their literature review of university teaching excellence implies it cannot be universalized. This is caused by differences between disciplines and differences between higher education sectors in general. The results of the present study suggest that within countries or between countries with a similar cultural

background (Finland and Norway in this case) certain common elements exist between units deemed excellent. Possibly within a certain cultural context, it could be possible to create a framework of current excellent practice in higher education.

Conclusion

The concept of excellence has surged in popularity in the 21st century discourse of the performance of higher educational institutions. Excellence in research has somewhat dominated funding, with possible adverse effects on the quality of education. To counter this, several countries have established award and funding schemes for excellence in teaching. This study aims to contribute in the research area of teaching excellence through the analysis of practices of the Centres of Excellence in Finnish university education 2010–2012. In the study, the applications of the ten award-winning units were analysed using qualitative data analysis software, and all practices presented by them were coded using the EFQM Excellence criteria as the analysis framework. The results were summarized both for each unit and for each enabler area of the EFQM criteria. A comparison between the units and with previous research of excellent practice in higher education was performed.

Even though variance between units could be clearly seen in the results, certain practices common to most units could be identified. These include quality assurance -related practices, such as regular feedback events with staff and students, having a teaching steering committee and having various feedback systems in place. A majority of units reported having researcher training as part of their study programme. Most units had performed a core analysis of the contents of their education and had developed tools or instructions to support assessment. The participation of stakeholders and students in a diverse range of activities, particularly development work, was also a common factor.

A comparison of the results with earlier research on units of excellence and teaching excellence in general demonstrated significant similarities with the Norwegian Centres of Excellence, suggesting that common good practice could be interchangeable within culturally similar Nordic areas. Reflecting against other work on teaching excellence similarities could be found, but ‘softer’ organizational and personal activities are hard to demonstrate through examples of practice, and more holistic frameworks are needed to support inventories of best practice.

This study contributes to the field of teaching excellence by presenting a systematic analysis of a sample of teaching excellence units. The results can be used in practice to benchmark a unit’s practices against those demonstrated by teaching units deemed excellent by an international panel.

As the research was scoped to be based on the applications, the listed practices do not give a comprehensive overview of all the processes of the examined units. Also due to the geographic focus on Finland, the practices may not be directly transferrable to significantly different educational cultures. Even though it can be assumed that the application text corresponds with reality and was further reinforced by site visits by the evaluation panel, it is still possible that ‘game playing’ is involved in writing award applications or that important practices have been left out from the text by accident or due to being viewed as too mundane to mention in an excellence award application.

Future topics of study include a further analysis of the existing material related to units of excellence, as currently there are few studies on the topic. The analysis could be reinforced with follow-up studies as well as by gathering additional data on the units in order to get a more complete view on their operations. Another topic could be to perform a similar study in a different educational context and compare the results.

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Appendix 1. Summaries

University of Helsinki, Department of Computer Science

At the time of the application, the Department had a student intake of 169, and staff consisted of 12 professors, 28 other teaching staff members and 56 other personnel. In addition, adjunct professors provided 48 hours of teaching.

Table 1. Summary of practices from the application of the Department of Computer Science

Leadership
The Head of Studies is a full-time post with duties for coordinating, recruitment, writing and maintaining instructions for studies and the operation of the teaching quality system.
Strategy
Degree requirements are discussed at least once in the department steering committee and staff meetings. They have been frequently reviewed due to fast development of the field. The degree contents are developed in department-wide discussions involving students and all the teaching staff.
People
The department has a working principle stating that all researchers have a teaching responsibility. They also act as teacher tutors. Junior teachers are employed to assist the head teachers on large courses, including students that have advanced well in their studies. Their teaching hours are organized in a way that doesn't hinder studies. The unit has a policy of circulating tasks at appropriate intervals. Pedagogical studies and teaching experience are accounted for in recruitment. The teaching staff has carried out international educational research in addition to internal reporting.
Partnerships & Resources
The students are represented in the steering group, the teaching development committee, annual strategy seminars, objective negotiations and temporary committees. A department representative takes part in the student association board meetings. Students are provided with premises, an IRC server for tutoring and peer support and an annual sum for improving the learning environment.
Visiting lectures and short courses given by foreign lecturers are organized regularly (twelve during academic year 2007–2008). A colloquium course has been particularly popular, attracting an audience of 150–200 students. The department runs its own Moodle server, and a full-time employee provides support for web courses.
Processes, Products and Services
The operations and operational policy have been documented in detail in a quality manual. The entire teaching staff has been provided with copies of the University Teacher's Manual. The committee for the development of teaching organizes development projects, student tutoring and pedagogical studies for the teaching staff. Learning objectives have been defined for all study modules, and an assessment guidebook has been developed to support assessment of principal themes and methods. The interdependencies between modules are described to the students, including a recommendation for the sequence of courses. A separate working committee has been established to improve virtual teaching. Development work is systematically monitored, and progress is published. Feedback is collected through, e.g. personal study plan counselling (given to students throughout their studies) and study plan portfolios and in teacher–student discussions organized during each term. At the end of each course, feedback is collected from students and the head teachers and a web-based form is at the teachers' disposal. The feedback is reviewed in review discussions with immediate superiors and Head of Studies. Advisors keep track of advisee progress in a thesis database, and special graduate clinics have been set up in order to help certain students finish their studies. Several yearly training and theme days are organized, and part-time teachers participate in training at least twice yearly. In the introductory course, students are familiarized with net-based and face-to-face cooperative learning. Later studies include a course where student groups plan and make a product together with a client.

University of Helsinki, Faculty of Pharmacy

At the time of the application, the Faculty had a student intake of 20, and staff consisted of 14 professors, 30 other teaching staff members and 43 other personnel. In addition, adjunct professors provided 159 hours of teaching.

Table 1. Summary of practices from the application of the Faculty of Pharmacy

Leadership
The Faculty invites the whole staff to a morning coffee meeting with the Dean three times a term.
Strategy
The Faculty's values, strategic choices, personnel policy and operations manual are based on the University's strategy. Action plans for teaching and research are created based on strategic planning. Educational policies and objectives are prepared by the academic committee and approved by the faculty council. Educational strategy is based on constructive alignment, and a strand-based curriculum is chosen based on studies and surveys by teachers and students. It is supported by participation in a learning outcomes project, developing the strand on scientific thought and professional growth and by doctoral studies. Functionality of the degree programme is assessed with a learning experience survey.
People
All researchers have a minimum teaching obligation. A lecturer specialized in university pedagogy supports teaching staff and development and is involved in the Faculty's in-house university pedagogy training. Over a third of the Faculty's 120 teachers and researchers have completed courses and studies in pedagogy. Interaction between teachers is enhanced by organizing Teacher Forum events and campus-level teacher meetings. A student, an employee or a working group is awarded yearly for distinguishment in the development of education.
Partnerships & Resources
During the degree reform, interest groups were interviewed, and the degree and learning objectives were created in collaboration with students, other national and international pharmacy teaching units and labour market representatives. Employer cooperation has been enhanced through a working group for training and appointing a university instructor. During orientation, employer representatives interact with the new students. The teachers participate actively in joint international education development meetings, and the Faculty has increased its international activities, particularly in advanced and postgraduate studies with partner universities. A learning centre has been provided for students, and a specialist in web-based education supports the use of ICT. Divisions and students can apply to the Academic Committee for educational development project funding.
Processes, Products and Services
Course objectives are defined together with curriculum core analyses and updated at least every three years. The learning objectives are listed in the course catalogue and explained in the beginning of each course. Teachers are required to develop courses and evaluation based on the core analyses and feedback. Guidelines and strategic progress is evaluated in the Academic Committee, biannual student feedback meetings and the Faculty's development seminar. Research on education is carried out in the Faculty. Training periods have been integrated with studies, and feedback is collected to monitor them. Academic skills are developed from the beginning of studies, including use of scientific research articles, integrating theses with research projects, learning academic writing and small-scale research project work in real-life environments. Feedback is given each term through Faculty's electronic feedback system, teachers give counter-feedback, including development measures, and feedback is discussed in the twice-yearly feedback event. Students are introduced to self-guiding learning and study cycles, and their personal development is evaluated through personal feedback on, i.e. exercises and reports, training and their personal study plan. For theses, evaluation matrices are discussed upon initiation as well as expectations and learning objectives. A peer support group led by a counselling psychologist has been organized for delayed graduates.

Helsinki University of Technology, Department of Computer Science and Engineering

At the time of the application, the Department had a student intake of 169, and staff consisted of 12 professors, 11 other teaching staff members and 37 other personnel. The statistics on teaching given by adjunct professors were not available.

Table 1. Summary of practices from the application of the Department of Computer Science and Engineering

Strategy
The minimum subset of graduates' competences is defined in a joint committee, using an international reference. All study modules were analysed and revised in 2004–2005 and incrementally updated since. Other degree programs are communicated with during changes. Each major subject is reviewed and updated yearly by the supervising professors. Core topic and workload analysis has been carried out for all basic and intermediate-level courses. The policy is that responsible teachers are given considerable freedom in organizing their courses within boundaries, but formal procedures support maintaining good practices in the long term.
People
When the unit was recently formed from three laboratories, a new practice was started in which teachers get together monthly to discuss education and socialize with each other. Teachers actively follow international research on teaching and learning their subject matter, which is seen to be a key factor in the quality of education. Best courses and teachers are given public credit.
Partnerships & Resources
Being one of the largest computing education research groups, the unit is strongly involved in developing one of the top conferences of the field and has organized a national engineering education conference. The unit collaborates actively both nationally and locally, organizing joint graduate schools, coordinating a programming education network and adopting specialized learning environments. The student guild is represented in informal and formal education committees.
Processes, Products and Services
Research projects provide topics for M.Sc. theses and students' team project works. All students are required to take a software development project, which consists of a year of teamwork. Both quantitative and qualitative research method courses are offered as well as a doctoral specialization in computing education research. The larger courses are utilized for data collection, and the research results are utilized to aid improvement. Automatic assessment tools are used for activation in all large programming courses, providing immediate feedback. The program has a feedback system coordinated by a feedback committee, and questionnaires are published for all courses at the end of the semester. A department wide full day seminar for discussing quality and best practice in education has been organized.

University of Lapland, Department of Social Work

At the time of the application, the Department had a student intake of 81, and staff consisted of 8 professors, 11 other teaching staff members and 10 other personnel. In addition, adjunct professors provided 48 hours of teaching.

Table 1. Summary of practices from the application of the Department of Social Work

Strategy
Resource use and planning of study programmes are based on continuous assessment and development, based on monthly unit-level meetings and supported by links to other faculties and university administration, and two to three times per year by staff development days. The curriculum work draws from national directions and developments and by expert assessments on future labour needs. Examples of innovative developments include introducing the science of rehabilitation into the curriculum and leadership psychology to administrative sciences.
People
Methods to improve the capacity of the staff include organizing research periods, activating them to engage in further education and maintaining a development encouraging workplace atmosphere. The unit's researchers teach and teachers do research. Every staff member reports their activity annually, which enables keeping skills profiles up to date. An academic chair specializing in Russian competence has been established to support cooperation with Russia and the Baltic states.
Partnerships & Resources
The unit nationally coordinates the network university of social work and cooperates with other universities in curriculum design. Regionally, the unit coordinates the Centre of Expertise in Social Welfare. To reinforce lifelong learning, effort has been invested in a Third Age University, which has been the only one in the country to award a doctoral degree. International graduate and postgraduate education cooperation takes place through several collaborative projects, research cooperation, expert duties and student and teacher exchanges. Postgraduate education has particularly been focused on transition countries. For ten years the unit has hosted an international summer school for close to 100 participants with the University of Vermont.
Processes, Products and Services
All phases of basic degree education include field practice and contact teaching in small groups. Combining face-to-face and online teaching has been found to be particularly beneficial, especially online help service, assignment feedback and assessment. Students have laptop computers provided by the university. Course work is assessed in a plethora of ways. Teaching draws on the two-teacher model. Student guidance, including teacher-tutoring, is personal and systematic, and the progress of personal study programmes is regularly monitored. Guidance in rehabilitation science and master's programmes has been developed into portfolio work. An online feedback system is in place, and the anonymous feedback can be read by everyone. Additional feedback is collected through personal guidance, additional assessment methods, university career surveys, student participation in development work and faculty-level feedback sessions. A model named ‘quality bridge’ combines assessment by students, teachers, employers and alumni.

Lappeenranta University of Technology, Department of Industrial Management

At the time of the application, the Department had a student intake of 243, and staff consisted of 14 professors, 69 other teaching staff members and 23 other personnel. In addition, adjunct professors provided 16 hours of teaching.

Table 1. Summary of practices from the application of the Department of Industrial Management

Strategy
Curriculum planning takes place on strategic and operative levels. The strategic part takes place in the steering committee for curriculum design and a two-day annual development workshop involving both staff and students. The operational design is done by a curriculum committee in three yearly scheduled meetings and by responsible professors and teachers. In addition to these, the evaluation and development cycle includes Home Circle meetings and monthly management committee meetings. The pedagogical development of instruction has resulted in a strong emphasis on a student-oriented approach. The development of instruction has an annual schedule similar to curriculum design.
People
The development of instruction is supported by arranging tailored pedagogical training provided by a third party. A professorship with duties involving industrial management pedagogy has been established. Nearly all teaching staff has participated in pedagogical training.
Partnerships & Resources
The unit operates in regional units in two university consortiums and participates in multidisciplinary research in three of the university's independent research units. An innovation-related summer school brings together students from three renowned Russian universities. A large number of studies are offered to other departments and in twenty continuing education courses and programmes. Education is supported by resources, such as a research-based Group Design Support Systems laboratory, Voter equipment and the Blackboard online learning environment. Home Circle is a systematic way to cooperate with the student association. It meets thrice a year and is composed of student representatives and the department's management committee.
Processes, Products and Services
The supervision of M.Sc. theses is an important channel for accruing information on graduates' competence requirements; it is supported by annual graduate feedback and a follow-up five years from graduation. Feedback beyond five years is acquired through the university's alumni activity. Students receive guidance, particularly via individual study plans and teacher and peer tutoring. A quality manual ‘Rules of the Game’ has been designed to ease students into their studies, and all students take an introductory course on studying industrial management. The web-based manual ‘Thesis Roadmap’ aids students in planning and completing their thesis work. Approximately one hundred international students participate in the unit's international business and technology management programme annually. Core content and workload analysis has been done for all courses, and courses are linked to each other with prerequisites. Only four courses are purely based on a literature examination, and thirteen courses apply lecturing as the sole mode of teaching. General education improvement needs are recognized by systematically monitoring information from university-level online indicators, related reports and collecting course-specific feedback using a defined policy and feedback system.

University of Oulu, Department of Process and Environmental Engineering

At the time of the application, the Department had a student intake of 84, and staff consisted of 9 professors, 25 other teaching staff members and 59 other personnel. In addition, adjunct professors provided less than 100 hours of teaching.

Table 1. Summary of practices from the application of the Department of Process and Environmental Engineering

Strategy
Education is based on a concept called DAS-formalism, consisting of descriptive, analytical and synthetic phases, through which education in all orientations is carried out. This approach ensures that the studies concentrate on engineering from the beginning instead of the conventional approach beginning with natural science studies. The M.Sc. programmes are based on a module-based 'Quandrangular Model' consisting of four 30 ECTS modules. All development work is supervised by the Teaching Development Team and for doctoral studies by another similar team. Development work focuses on a few projects at a time so as not to spread resources too thinly.
People
Roughly 75% of teachers have taken pedagogical training, and the unit's researchers have published over 100 works regarding results of education research and development work. The unit employs its own international coordinator to develop the area and provide study counselling for foreign students.
Partnerships & Resources
Most students complete their thesis work in close collaboration with industry and work three to four months each summer. These activities are seen as part of the unit's education and societal impact.
Processes, Products and Services
The education aims for student-centred and competence-based studies. This is supported by methods, such as extensive and well-resourced tutoring for B.Sc. students and fairly widely spread (44% of courses) use of continuous assessment methods. A 'Get Your Degree Finished' programme with support and special arrangements has been established for students whose studies have been delayed. The entire educational process including D.Sc. studies has been modelled analysed using Core Analysis Tool as one of the methods. Quality assurance is based on weekly strategic discussions by staff, monthly teaching development team meetings including students and yearly meetings with students. Monitoring takes place on the curriculum, course and student level, including both qualitative (such as written feedback, meetings with students, discussions with employers, tutoring discussions) and quantitative (course feedback, yearly intake, ECTS accumulation, yield and throughput). Deviations in quantitative metrics are seen to provide particularly important information. Some specific metrics, such as student status after the first study year and problem courses, have been found to be important.

University of Turku, Faculty of Medicine

At the time of the application, the Faculty had a student intake of 146, and staff consisted of 75 professors, 133 other teaching staff members and 299 other personnel. Teaching given by adjunct professors was not reported.

Table 1. Summary of practices from the application of the Faculty of Medicine

Strategy
The Medical Education R&D Centre has the central coordinating role in the strategic planning process of education. It was established in 2002 to support changes in teaching and learning philosophy. The master's programme in medicine was reformed during 2001–2008.
People
Professorships have been established to reflect current topics, such as in Medical Ethics and Health Exercise. The R&D centre organizes pedagogic courses for medical teachers.
Partnerships & Resources
The Centre has an advisory committee that brings together stakeholders of medical education in order to review and anticipate future educational needs. Besides students and teachers, physicians from the public health service were nominated in the planning groups of study modules. A substantial part of clinical training has been decentralized outside the university hospital, which allows the students to identify the functional roles of a physician on different levels of health care services. Two teaching health care centres, designed specifically for medical education purposes and with a multiprofessional education policy, have been established in the area. Benchmarking projects on curriculum development have been initiated with other national and international medical faculties. Interdisciplinary programmes, such as Medical Humanities and Doctor and Civil Defence, are planned and organized together with other academic organizations.
Processes, Products and Services
A pioneering programme of Early Patient Contact introduces the student to fieldwork and goals of the education during the first year of studies. Student-based longitudinal health surveys of own family members stress the importance of preventive medicine. During the sixth study year, a special two-week minihospital period is organized. A structured self-assessment has been connected to students' portfolio work. A personal tutoring programme for undergraduates was established in 2003 based on a recommendation by an international evaluation panel. To support the multiprofessional approach, graduate entry studies for other health care professionals have been established. To reinforce the link between research and education, special research tracks have been organized for undergraduate students. Elective study modules have been partly restructured into study tracks. A unique feedback form has been developed together with the Faculty of Education. Feedback is collected by responsible teachers, analysed and discussed in feedback seminars in which all teachers, students and tutors participate. A summary of the results is presented to the Board of Education and made visible in the Medica-portal. The assessment of learning is supported by a joint research project on cumulative learning and longitudinal development of expertise during medical studies.

University of Jyväskylä, Department of Physics

At the time of the application, the Department had a student intake of 105, and staff consisted of 14 professors, 17 other teaching staff members and 132 other personnel. In addition, adjunct professors provided 2% of the teaching workload.

Table 1. Summary of practices from the application of the Department of Physics

Strategy
In the study programme, renewal process key content areas and their connections were identified, followed by defining key substance, learning outcomes and workload for each area. To ensure teamwork and guarantee learning prerequisites, the programme was designed to contain only one physics course at a time accompanied by methodology courses.
People
Visiting and permanent researchers give lectures, work as assistants and supervise student research projects when allowed by their funding supervision. Most of the personnel work in two large research facilities.
Partnerships & Resources
Students are expected to participate in the department's activities starting from the early B.Sc. phase. A lecture room has been converted into an open student workspace. M.Sc. and Ph.D. thesis projects comprise a major part of the research groups' work, and research laboratories and well-equipped workshops enable student supervision and participation in building experimental apparatus. The latter is seen a crucial working-life skill. Especially in programmes related to industrial applications of physics, outside experts are actively involved in development, and minor subject studies are developed in close collaboration with other faculty departments. Alumni days are held every five years. The department coordinates or is a partner in several graduate schools.
Processes, Products and Services
Student integration starts from day one with a two-week crash course on today's physics. M.Sc. studies contain more than a thousand increasingly challenging problem-solving tasks. A summer training programme is offered and receives approximately fifty participants each year. During B.Sc. studies, most laboratory work is integrated with lecture courses to maintain dialogue between theory and practice. This connection is supported by offering multidisciplinary study programmes. A course ‘Physicists in working life’ has been developed to stress the generic professional skill requirements and how to maintain them. Ph.D. studies are supported by increased research method training, support for doctoral students working in industry and offering topical Ph.D. courses. Writing publications is reinforced by mentoring, publication goals and acquiring external instructors for thesis projects.

University of Oulu, Department of Educational Sciences and Teacher Education

At the time of the application, the Department had a student intake of 217, and staff consisted of 12 professors, 70 other teaching staff members and 60 other personnel. In addition, 4 adjunct professors provided teaching.

Table 1. Summary of practices from the application of the Department of Educational Sciences and Teacher Education

Leadership
The Head of Department and Chief Academic Officer regularly meet the representatives of the student organizations of each degree programme.
Strategy
The curriculum is developed collaboratively as a cyclic process involving testing, evaluating and reformulating. All training programmes are based on defined pillars of education and the aim of enhancing conceptual understanding to aid deeper and effective learning. The Bologna process-based curriculum renewal began with a core analysis aided by student feedback and related experiences. Content was reformed thoroughly in all degree programmes. The process involved the work of small groups consisting of teaching experts and researchers, and monthly meetings with all stakeholders in which the work of these groups was reviewed. Views of external experts were also invited and considered. The entire staff took part in the process. Special programmes, such as Educational Technology and International M.Ed., are strongly related to the unit's teaching and research activities. All Ph.D. students of the EdTech team participate bi-annually in brainstorming and evaluating the EdTech studies.
People
The department has pioneered the practice of awarding optional credit to a student for active involvement in the development of teaching. A person has been employed to take care of exchange students and their study planning.
Partnerships & Resources
The university's Teacher Training School provides a place for both teaching practices and research activities. The Future School Research project integrates various degree programmes and research groups with developing teaching in city schools. Educational experts are met at their workplaces and participate in in-service training offered by the department. The department has been involved in developing a regional education assessment model with representatives of three subregions. The Education and Globalization master's programme allows students the possibility to take a double degree with a university of another country.
Processes, Products and Services
The department's long-standing vision of the teacher as researcher emphasizes qualitative research methods in master's theses to allow future teachers to apply these methods in their work. Students reflect on scientific articles during teaching practice, observe and participate in studies during different stages of their studies and have the opportunity to participate in national and international research projects. To respond to global and national changes, research results are put into teaching practice and methods are developed in line with recent educational research. Master's thesis topics are regularly focused on the programmes and on evaluating and developing the quality of teaching; they have resulted in changes. To address new dimensions of multiculturalism, the Master of Education, International Programme has been established. Additionally, students from different programmes are placed together during certain courses to enrich dialogue and effectively use teacher expertise. Students also study abroad as part of their compulsory studies. Groups of twenty students are assigned a teacher tutor and a student tutor during the first year of their studies. Personal study plans are made within the first six months of studies. Progress is monitored, and extra support is provided if needed. Student organizations and each programme's teaching development teams collect feedback from students and teachers and prepare the data for joint assessment workshops. In connection with these, there are meetings to which alumni are invited to report on issues in working life. Based on assessment data and workshop discussions, the next year's development issues are chosen and a self-assessment report is written. Teaching development teams for each programme are responsible for organizing and reporting these meetings. The teaching development teams also assemble regularly during the academic year and have student representatives in them. Educational results are monitored with targets for numbers of degrees and learning outcomes. Efficacy is monitored annually with a follow-up study for graduates and working-life feedback.

University of Art and Design Helsinki, School of Motion Picture, Television and Production Design

At the time of the application, the School had a student intake of 28, and staff consisted of 10 professors, 12 other teaching staff members and 10 other personnel. Teaching given by adjunct professors was not reported.

Table 1. Summary of practices from the application of the School of Motion Picture, Television and Production Design

Leadership
The students compile personal study plans with the professors. Resources are negotiated annually in a group consisting of the dean, two vice-deans and professors of each specialization area.
Strategy
For curriculum development the school has a working group controlling and organizing the evaluation and preparation of the formal degree requirements. The current degree requirements are analysed by all specialization areas using SWOT and paying attention to changes in the professional environment. The school has introduced a model of three pedagogical 'pet' models, CAT combining creativity and artistic teamwork, RAT for radical approaches and testing and MOUSE for meaningful subjective ethos, originality and universality. Teaching takes place in small groups, and as student productions grow progressively, professor–student relationships develop towards colleague–colleague relations. Directives and classifications have been developed to support learning goals, and research results have a direct impact on the curriculum. The school belongs to several educational organizations in which degree requirements and best practice are discussed. Resources are allocated based on performance and educational, research and artistic results.
People
Recruitment of high-level professionals and experts support the competence level of the graduates as well as close cooperation with the creative industries. Docents have recently been appointed to support and further develop research projects. The well-being of students and staff is supported by the working group for quality assurance.
Partnerships & Resources
Final thesis works are financed partly by outside companies and organizations, and industry operators take part in evaluating the curriculum. A graduate school was established in 1998 and has developed into an internationally noted research unit. International artists and researchers give lectures and workshops, and students from other universities participate in productions and projects. International co-productions have been carried out successfully. Joint courses and seminars with other art universities are organized regularly. Professionals from the field participate in regular feedback sessions and in open to public autumn and spring screenings. Facilities and support services are offered by a separate organizational unit primarily dedicated to assist project work. The school participates in an EU programme aiming to smooth the transition to working life.
Processes, Products and Services
From the beginning of studies, students are familiarized with teamwork and production-oriented working processes through practical exercises. Productions are systematic and controlled, and self-assessment, meaning of reflection and goal-oriented processes are emphasized. Each exercise involves a reflective report, and exercises and productions are deconstructed afterwards. Festival participation is seen as the most important evaluation tool, and success reflects the validity of education. The school has carried out core analyses in which new interdisciplinary working methods have been developed to support education. The curriculum includes international practice/exchange periods.

INFLUENCE OF STUDENTS' SATISFACTION WITH STUDENT LIFE QUALITY ON THEIR PERFORMANCE: THE CASE OF HIGHER EDUCATION INSTITUTIONS IN PORTUGAL

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ABSTRACT : This paper discusses the student satisfaction, student's life quality and their performance. The main goal of this paper is to further elaborate which factor influences the overall student life satisfaction to the greatest extent. Furthermore, the aim of this paper is to establish if there is a direct link between student life satisfaction and life in general and the link between student life satisfaction and students' performance. The verification of research goals is based on the review of literature. On the basis of previous research, a valid research instrument was created. The verification of research goals are empirically analysed among the students of the University of Aveiro, Portugal. It is believed that research results can assist managers of educational institutions in creating a strategy, leading to the better students satisfaction with student life quality and there performances.

INTRODUCTION

A number of research projects have been conducted on the subject of students' satisfaction and the effect thereof on achieved results and overall life satisfaction of student population. Many authors have elaborated this subject in order to determine if there was a connection between the students' personal satisfaction and the achieved success during studying and to establish what causes student satisfaction. Numerous variables were analysed, in particular Thien and Razak (2012) examined the quality of the environment where the classes were conducted, Simomu and Dahl (2012) the quality of teachers' performance, workload, social life, religious life, sports activities, family influence, employment opportunities, future expectations, difference between part-time and full-time students; Mark (2013) analysed the *student-customer* model. Data obtained from this research can be utilised by higher education institutions in their attempt to provide a better quality service than their competition and thus attract new generations of students.

Precisely the aforementioned variables encouraged Thien, Razak (2012) to closely examine in their paper the non-cognitive studying outcomes which they refer to as *"Student Quality of School Life (SQSL)"*, i.e. Student Life Quality. The effect of *Academic Coping (ACOP), Friendship Quality (FQUA)* and S*tudent Engagement (SENG)* on student life quality was examined. On the other hand, Gibson (2010) examined students' satisfaction and included some non-academic aspects therein, e.g. university reputation, contact personnel quality in administrative departments, acknowledgements and services, quality of teaching and IT facilities and student body diversity. Simomu and Dahl (2012) are based more on teaching quality analysis and the effect of that variable on students' satisfaction. However, not all authors observe students' satisfaction through the classical prism of academic and non-academic variables and their effect on satisfaction. Hence Mark, E. (2013) in his paper deals with the achievement of students' satisfaction through the controversial student-customer model.

The scientists in Portugal have also dealt with the subject of students' satisfaction in order to meet the students' needs to the greatest extent possible, improve the studying process and remove any potential problems. According to Alves and Raposo (2007), in the past two decades the higher education sector in Portugal underwent some sweeping changes, as well as in the USA and in the rest of the European

countries. It is primarily caused by the considerably reduced number of candidates enrolled as government measures to increase the quality level and introduce the minimum level of points that need to be registered, and secondly by the decreased birth rate. Furthermore, the decrease in public financing and the increase in the perspective of "money value" have been confirmed, which requires greater responsibility from the institutions in this sector in terms of quality and efficiency, Aleves, Raposo, (2007). On the other hand, the higher education institutions are facing different types of students (young students at the beginning of the study, graduates and post-graduates, experts with continuous personal improvement and adults seeking knowledge update or professional evaluation) with different needs and studying goals, and satisfaction perspective. This competitive scenario became even more intense due to the agreement on the Bologna Declaration harmonising academic degrees in the European Union. The main goal of this paper is to further elaborate which factor influences the overall student life satisfaction to the greatest extent. Furthermore, the aim of this paper is to establish if there is a direct link between student life satisfaction and life in general and the link between student life satisfaction and students' performance.

THEORETICAL ASPECTS OF STUDENTS' SATISFACTION

According to Ozretić Došen (2002) service quality and users' satisfaction are undoubtedly closely connected, mutually intertwined values. The most commonly cited and applied definition in marketing compares expectations and perceptions of users each time they are faced with the service. According to Ozretić Došen (2002), the company should strive towards maximising the users' satisfaction. Furthermore, Vranešević (2000) states that the concept of clients' satisfaction is based on the concept of value and we have previously mentioned that the value aspect (i.e., the aspect of expected benefit) is mostly influenced by quality. In their paper, Young, Ennew (2001) explain the connectedness of consumers' satisfaction with their loyalty to a certain product/ service and the effect of loyalty on the realisation on the company's profit goals. The powerful connection between employees' satisfaction and consumers' satisfaction is examined in the paper of Gelade, Young (2005), where they explain that the practice has shown significant, positive correlation between the employees' work experience and the financial results of company's business operations.

Budić, Andrilić (2011) define users' satisfaction as the consequence of value of the received product or service with respect to the expected value, which could cause positive or negative feelings evoked in the client by using a certain product or service. In order to achieve optimum users' satisfaction, the companies should create products and services which would ensure a complete product or service, i.e. contain the product/service and support thereof. Furthermore, Badri et al. (2010) in their paper deal with measuring the modified users' satisfaction index model in Abu Dhabi assumed from the original *American Customer Satisfaction Index (ACSI)* model. The particularity of Badri et al. (2010) research is the measurement of parents' satisfaction at measuring satisfaction in schools/faculties, because they enable schooling to their children. In fact, parents' satisfaction is considered similar to users' satisfaction and their satisfaction influences the parents' loyalty to the school their child is attending (Bhote, 1996; Salisbury et al, 1997; Scheuing, 1995, cited from: Badri et al. 2010). Research conducted by Badri et al. (2010) is based in two factors: perceived quality and users' expectations and quality level expected by the users before using the service. Research was conducted on 4774 persons (parents and students). Research findings show that on the scale from 1 to 100, the parents' satisfaction with public schools/faculties their child is attending has a high-ranking grade of 69.52, whereas in the USA it received a low-ranking grade of 6.9. It is similar with the private universities; ADEC received the grade of 75.48, whereas in the USA the importance of parents' satisfaction was graded as low as 7.1, which is extremely low with respect to ADEC. Consequently, there is no point in implementing the same reforms in the educational system of the USA and the UAE, because they would not be enacted. Therefore, each country should determine its current position and the prospective direction, and on that basis determine the strategy of achieving the desired goals, taking into account the social norms.

Furthermore, numerous authors have examined the effect of each individual item constituting the overall studying impression (library, student registration office, canteen, personnel, technical support etc.), and consequently their effect on students' satisfaction. Jayasundara et al. (2010) have analysed the significance of library service satisfaction in the overall students' satisfaction, i.e. studying experience since the library is an intrinsic element of the study process. Model on which the research was conducted is based on the modification of the SERVQUAL (*Service Quality*) model developed in 1988 by

Parasuraman, A., Berry, L.L., Zeithaml, V.A. (1988, 1990, 1991). Examinees confirmed the hypothesis that their overall satisfaction is proportional to the improvement of the library service quality. Also, the research has shown that there is room for improvement, but it depends on different work practices, methods, community and library resources. It was proven that culture can have a significant influence on service quality and customers' satisfaction. Moreover, numerous research projects have demonstrated that students' satisfaction with their faculties positively influences their motivation, regular attendance of classes, possible recommendations of the faculty to future students, which increses the faculty's reputation and budget (Alves and Raposo, 2013).

In their research, Simomu and Dahl (2012) are based more on teaching quality analysis and the influence of that variable on students' satisfaction. Evaluation methods are based on student's success rate based on different measures determined by the teacher or the educational system. However, not all authors observe students' satisfaction through the classical prism of academic and non-academic variables and their effect on satisfaction. Hence Mark, E. (2013) in his paper deals with the achievement of students' satisfaction through the controversial *student-customer model* and explains positive and negative sides of that model. According to Marku, E. (2013), many scientists refute the idea that the quality management principles (*Total Quality Management – TQM*), whose significant component is the focus on customers, can be transferred onto education. One of the most crucial reasons thereof is the fact that the focus on customers can be potentially harmful in the learning process (Albanese, 1999; Bay & Daniel, 2001; Buck, 2002; Cloutier & Richards, 1994; Franz, 1998, cited from Mark, E. 2013), because in order to ensure students' satisfaction, their demands should occasionally be met, although it is not currently the best idea since it might encourage the students to blame the institution for their personal failures. One of the arguments is that the students simply do not have enough knowledge of what they need in order to achieve successful learning (Albanese, 1999; Wambsganss & Kennett, 1995, cited from Mark, E. (2013). Besides, there is no significant incongruity between what the students want and what they actually need (Rinehart, 1993; Schwartzman, 1995, cited from Mark, E. (2013).

THEORETICAL ASPECTS OF MEASURING PERFORMANCES

Educational sector is a part of the public sector whose basic purpose is to satisfy the public needs. With the aim of monitoring the extent to which those needs have been met, many countries use different success indicators. Rowe (2004) describes them as indices by which data on functionality and quality of service providers and public sector are measured and assessed. According to Vašiček, Budimir, Letinić (2007), one of the most significant issues occurring in the higher education institutions is quality guarantee. Higher education quality represents the core of establishing the European Higher Education Area. In that respect, it is extremely important to develop the common criteria and methodology of quality assurance. Furthermore, Vašiček, Budimir, Letinić (2007) compare in their paper the types of measurements of success indicators between Australia, Great Britain and Canada. Authors state that, for instance, in Australia, success rate is measured through four groups of indicators (Department of Education, Science and Training, 2005; cited from: Vašiček, Budimir, Letinić, 2007): *student indicators*; *staff indicators*; *finance indicators*; *research indicators*. In Great Britain, the *Higher Education Statistics Agency - HESA* each year publishes a series of higher education success rate indicators. The following success rate indicators are calculated: enrolment indicators; completion indicators (yes/no); efficiency; employment indicator; research activity. In terms of Canada, the educational system has considerably improved, which they achieved by introducing the total quality management. However, it is interesting to emphasise that this manner of management defines the students and the public as clients. This type of understanding perceives the higher education institutions as based on entrepreneurial principles. In the Canadian higher education system, the state prescribed several groups of indicators, namely: (Beaton, 1999b, cited from: Vašiček, Budimir, Letinić, 2007): indicators based on programme results (student indicators); indicators measuring financial efficiency; indicators based on research activity.

In their paper Schochet and Chiang (2010) schematically divided performance measurement into two parts. In the first part the authors deal with the internal school issue: "Which teacher performs their job in a certain educational institution exceptionally well or exceptionally poorly with respect to all other teachers in that institution?", while in the second part they examine the inter-school issue: "Which teachers perform their job exceptionally well or exceptionally poorly with respect to all other teachers in the entire school district?". Furthermore, Rittschof and Chambers (2011), with the help of modern information graphs, tend to better understand the differences in the students' performances. Also, E. Umble and M. Umble (2012) conducted the performance measurements in a very interesting way. In fact,

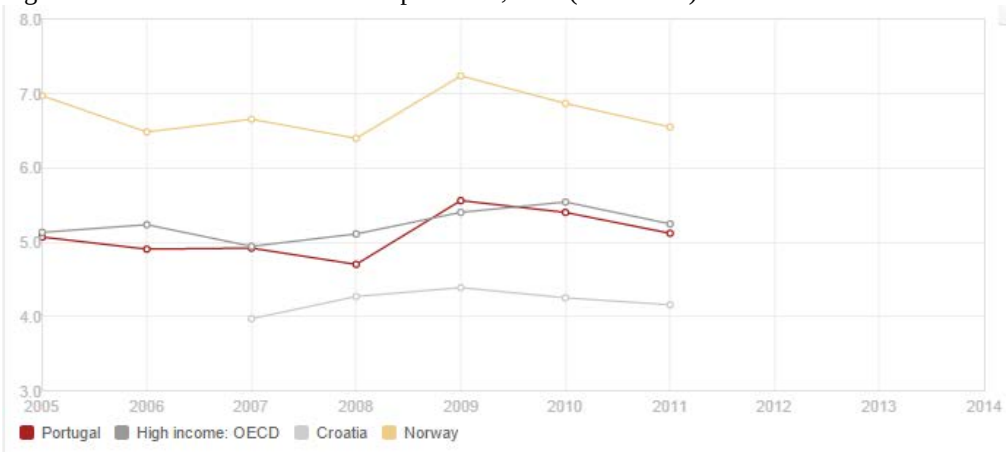
they illustrated the effect of the performance measurement system on the organisational performances among the students through the game *"The Blue-Green Game"'*. This game illustrated the significance of performance measurement, student encouragement system and their strength to reconsider their decisions on such an important subject. Hanushek (1996) studied in his paper the difference between performances of seventeen-year old students based on race and ethnical affiliation. Rode et al. (2005) researched not only the effect of satisfaction with the faculty on students' performances, but the influence of the overall life satisfaction on them. Research has shown that the students who are more satisfied with their overall life have better results and cope more easily with studying challenges and vice versa. In both cases, the research has demonstrated that life satisfaction is important, not only from the aspect of influencing the social environment or keeping students, but academic performance as well. Numerous studies have shown that the satisfaction with particular life areas is in strong correlation with the overall life satisfaction (e.g., Andrews & Withey, 1976; Campbell, Converse, & Rodgers, 1976; Near, Smith, Rice, & Hunt, 1983; Near, Smith, Rice, & Hunt, 1984; Rice, Near, & Hunt, 1979, cited from Rode et al., 2005). From all of the aforementioned, we can deduce that there are numerous possibilities for conducting performance measurements. Sergy et al. (2010) also examined the issue of students' satisfaction and its influences. In their paper, these authors have based their research on the examination of satisfaction with the academic aspects of student life, e.g.: satisfaction with the faculty, satisfaction with the teaching methods, satisfaction with the class environment, satisfaction with the workload, satisfaction with the academic reputation and academic differences. Furthermore, the research included the social aspects of student life, such as: satisfaction with campus accommodation, satisfaction with international programmes and services, satisfaction with spiritual programmes and services, satisfaction with clubs and student social organisations and satisfaction with recreational activities.

EDUCATION AND HIGHER EDUCATION IN PORTUGAL

One of the most commonly implemented definitions of education was provided by Haralambos and Holborn (2002), which states that "education is simply the aspect of socialisation which includes acquisition of knowledge and learning of skills". Different educational sectors, from pre-school education to research, personal improvement of teachers and long-distance learning, have developed in parallel (Grosjean, 1994). When we discuss the present-day higher education system within the European Union, we must mention the Bologna Process which is a constituent part of the unified educational system of Europe. The Bologna Declaration was signed on 19th June 1999 by twenty nine European countries (Polšek, 2004). According to Vassiliou (2012), the Bologna Process has entirely changed theretofore higher education scene in Europe. However, this kind of educational organisation set new challenges before the social community. Therefore the ministers who gathered in Leuven/Louvain-la-Neuve in 2009 agreed that the newly occurred issues should be modified in the changing environment and set the following four goals for the new decade (Vassiliou, 2012): finalisation of the structural reform and deepening of its implementation through consistent understanding and implementation of developed tools; enforcement of higher education quality connected with research, lifelong learning and promotion of employment; ensuring the realisation of the social dimension by enabling the students to enrol in and complete the higher education and that the diversity of student population in Europe is reflected; ensuring that at least 20% of graduates in the European Higher Education Area underwent professional training abroad.

Before elaborating the situation of higher education in Portugal, we need to lay out the amount the Portuguese government invests in the educational sector in general. According to the 2011 Worldbank indicator, the Portuguese government awards 5.1% of the total GDP funds to the educational system. This indicator includes the expenditures financed by the transfers from international to governmental resources. Government refers to local, regional and central government.

Figure 1: Governmental education expenditure, total (% of GDP)



Source: The World Bank, http://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS/countries/PT--XS-HR-NO?display=graph

For instance, Figure 1 shows how much money the governments of Portugal, Republic of Croatian and Norway provided for the educational system from the overall GDP. This indicator indicates that the developing countries should continue to increase their expenditures in the educational sector because it is the key to better and better quality society as a whole, which is best attested by the highly developed countries investing on average 6-8% of the overall GDP in the educational system. However, Portugal is slowly approaching that limit. In Portugal in 1996/1997 there were 82.140 officially registered students, and until 2008/2009 that number substantially increased to 115.372 students. The number of graduated students has also increased from 68.511 in 2002/2003 to 84.009 in 2007/2008 (GPEARI, 2009a, cited from: Bisinoto et al, 2014). According to File (2008), the most significant changes in the Portuguese educational system occurred after the parliamentary election at the end of 2005. Educational reform was the key item in the pre-election campaign, hence it became the important part of the new government programme. The government accepted the provisions of the Bologna Process with regard to the three-part education – bachelor's, master's and doctoral degree. In June 2005, Portugal approached the implementation of OECD *(The Organisation for Economic Cooperation and Development- OECD)* review of the Portuguese higher education system within the education programme of the OECD Board for Public Survey. In May 2006, the Portuguese technological plan was issued. The key goals of this plan which should be realised by 2010 include the duplication of the number of PhD holders and the increase in the number of science and technology graduates by 50% (File, 2008). Furthermore, in the sense of systematic diversity, the Portuguese higher education is rather diversified in terms of institutions which constitute the system. There are three principal lines of institutional differentiation: binary difference between the university and college institutions, difference between specialised schools with usually one focus and larger integrated multi-oriented institutions and finally the co-existence of public and private sector of higher education (OECD, 2007, cited from: File, 2008). According to the OECD data from 2012, Portugal is among the countries which show the best progress in terms of improving the qualification bases, but it still lags far behind with respect to secondary and higher level of education. Nonetheless, Portugal has one of the lowest rates of secondary education attendance among the 25-34 age population (52% with respect to the OECD average of 82%, Portugal is at the 34th place out of 36 countries). However, the situation is considerably different for graduate studies. The rate of completed graduate studies in 2010 surpassed 100% (with respect to the average OECD grade of 84%), and more than 40% of students were over 25 years of age. In terms of student financing, higher education in Portugal rests on the assumption that the parents/families are responsible for the students' living expenses, and not the state. Slightly over half of Portuguese students come from families with a better financial status. Around 70% of students receive funds from their families in order to support themselves, whereas around 50% live at home. Only around 20% of students pays for their own education.

EMPIRICAL RESEARCH

Research model

The research model occurred as a combination of two models from different authors and, based on them, it was adjusted to the needs of the Portugal research. Authors of the original models are Rode et al. (2005) and Sirgy et al. (2010). Both models deal with students' satisfaction and affecting elements. The model in Figure 2 illustrates how satisfaction with the faculty, faculty facilities and accommodation influences the overall students' satisfaction with the student life and to what extent the overall satisfaction with the student life influences student performances.

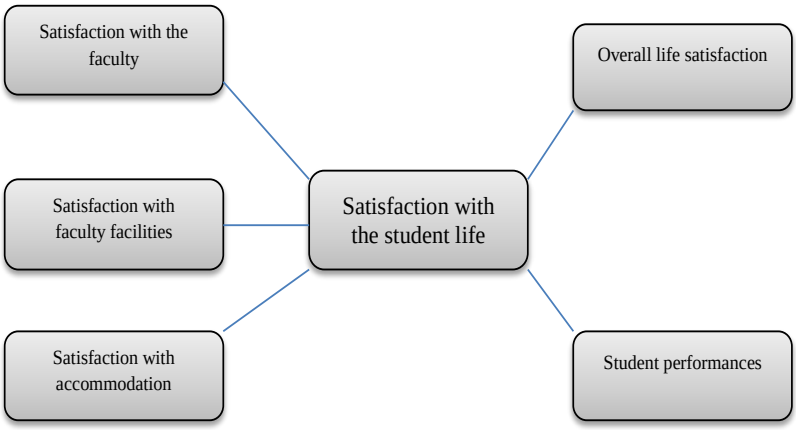


Figure 2: Research model

Satisfaction with the student life encompasses the following aspects:

- satisfaction with the faculty (teachers, teaching methods, academic reputation) - cited from Rode et al. (2005), in the original model, the influence of this item on the overall life satisfaction and performances was analysed.
- faculty facilities, bodies and services (student registration office, library, infolab, parking) – cited from Sergy et al. (2010), in the original model, the influence of this variable on the satisfaction with academic and social aspects was analysed.
- accommodation (whether the students live in dorms, private accommodation or with parents) – cited from Rode et al. (2005), the influence of this factor on the overall life satisfaction and students' performances was analysed.

Research was conducted among the students of the Faculty of Economics in Aveiro, Portugal. Here, we should emphasise one of the specificities of higher education in Portugal. The students of, for instance, primarily mathematical faculty can sign up for economics courses they deem interesting or useful. Furthermore, there is a certain number of economics courses (related to management and company management), which are mandatory for all students regardless of the faculty they are attending, because the Portuguese government believes that every person with higher education, who will one day work in the factories (e.g. engineers) or similar companies, should know the economic, i.e. managerial part of their domain. At the Faculty of Economics in Aveiro, there are 2000 students from the 1st to the 5th year. Survey questionnaire was conducted on the random sample of 150 examinees. For the specificity of the environment where the research was conducted, the survey questionnaire was personally given to each individual examinee. In fact, in Portugal there is a poor students' response to online surveys. The analysis of the collected data was performed at the Statistical Package for Social Sciences - SPSS.

RESULTS

The study included 60.7% women and 39.3% men. The largest number of respondents (46%) had between 21 and 23 years, and the smallest number of respondents (3.4%) is 27 years old and more. From 18 to 20 years of age have 37.3% of respondents, while 24 to 26 year is 13.3% of respondents. The largest

number of respondents (45.3%) is the third year of undergraduate study. The minimum number of respondents did not answer this question, 1.3% of them. On the second year of undergraduate study, 26% of respondents, the first year of graduate studies is 14.7% of the respondents, the second year of graduate studies is 10% of the respondents, while 2.7% of respondents in the first year of undergraduate study. Most of the respondents were full-time students, some 94%, part-time students is 4.7%, while 1.3% of respondents did not answer this question. As in Portugal, the University of Aveiro, it is possible to enrol on subjects from different study programs at the same time, some respondents noted multiple choice answers. The survey showed that most respondents listens Management study program (45.3%) and the lowest number of respondents are from Psychology study program (1.3%). Subjects from Languages programs listens 27.3% of respondents, from Industrial engineering program 16% of respondents, from Economy Program 8% of respondents, from other branches of engineering, 4.7% of respondents, and the exact sciences, 2% of respondents.

H_1: The greater the satisfaction with the teachers' teaching methods and knowledge, the greater the satisfaction with the overall student life

For the purpose of determining the connectedness of the observed variables, we will use the Pearson's linear correlation coefficient, which is also the most well-known measure of linear correlation.

Table 1: Impact of the quality of teaching on Satisfaction with the student life

		The quality of teaching	Satisfaction with the student life
The quality of teaching	Pearson Correlation	1	**0,359**
	Sig. (2-tailed)		0,000
	N	150	150
Satisfaction with the student life	Pearson Correlation	**0,359**	1
	Sig. (2-tailed)	0,000	
	N	150	150

Table 1 illustrates that Pearson's correlation coefficient amounts to r = 0.359, which means that there is a weak positive correlation between the teaching quality and the overall satisfaction with the student life. Analogously to the aforementioned, two other variables were analysed, Table 2.

Table 2: Value, the direction and intensity of Pearson linear correlation coefficient

VARIABLES	VAULE OF THE COEFFICIENT	DIRECTION AND THE INTENSITY OF THE COEFFICIENT
The quality of teaching	0,359	weak positive correlation
Knowledge of the professors of subjects they teach	0,090	weak positive correlation
Regularity of classes	0,209	weak positive correlation

The influence of the faculty on students' satisfaction with the student life has a positive impact in all three observed variables, i.e. in all three cases there is weak positive correlation. Based on the performed analysis, the decision was made to *accept HypothesisH_1: The greater the satisfaction with the teachers' teaching methods and knowledge, the greater the satisfaction with the overall student life.*

H_2: The greater the satisfaction with the faculty facilities, the greater the overall satisfaction with the student life

The effect of the faculty facilities was observed through three categories, each consisting of certain claims. The total of 10 claims were observed, and pursuant to that 10 tests were conducted in order to reach the final decision on accepting or refuting the hypothesis.

Table 3: The impact of the library staff to the total satisfaction of student life

		Library staff	Satisfaction with the student life
Satisfaction with the student life	Pearson Correlation	1	**0,267**
	Sig. (2-tailed)		0,001
	N	150	150
Satisfaction with the student life	Pearson Correlation	**0,267**	1
	Sig. (2-tailed)	0,001	
	N	150	150

Table 3 shows that Pearson's correlation coefficient amounts to r = 0.267, which means that there is weak positive correlation between the satisfaction with the library staff and the overall satisfaction with the student life. Analogously to the previous research, other tests were conducted and all tests for all 10 claims are presented in Table 4.

Table 4: Value, the direction and intensity of Pearson linear correlation coefficient

VARIABLES	**VAULE OF THE COEFFICIENT**	**DIRECTION AND THE INTENSITY**
Library staff	0,267	weak positive correlation
Organization of library materials	0,216	weak positive correlation
Availability of materials	0,195	weak positive correlation
Availability of computers	0,317	weak positive correlation
Speed of Internet connection	0,304	weak positive correlation
Equipment quality	0,325	weak positive correlation
Age of computers	0,269	weak positive correlation
Availability of parking	0,196	weak positive correlation
Sports and recreational facilities	0,169	weak positive correlation
Purchase of books and other material	0,234	weak positive correlation

The influence of the faculty facilities on students' satisfaction with the student life, Table 4, in all ten observed variables has a positive impact, i.e. in all ten cases there is weak positive correlation. Based on the performed analysis, the decision was made to *accept Hypothesis* H_2*: The greater the satisfaction with the faculty facilities, the greater the overall satisfaction with the student life.*

H_3: The greater the satisfaction with accommodation, the greater the overall satisfaction with the student life

Prior to the testing, the structure of examinees was presented regarding the type of accommodation with respect to satisfaction, Table 5.

Table 5: Students' satisfaction with regard to the type of accommodation

		Type of accommodation				
		Dormitory	Private accommodation	With parents/family	Other	Total
Satisfaction	sufficient	1	4	0	0	5
	good	7	15	13	1	36
	very good	9	52	33	1	95
	excellent	1	10	3	0	14
Total		18	81	49	2	150

Table 5 shows that the majority of examinees reside in private accommodations and the least number of examinees reside in other forms of accommodation. The majority of examinees, regardless of the type of accommodation, marked their accommodation arrangements as very good, whereas the least number of examinees marked them as sufficient. Not even a single examinee marked their accommodation arrangements as insufficient.

Table 6. The impact of satisfaction with accommodation on the overall satisfaction with the student life

		Satisfaction with accommodation	Satisfaction with the student life
Satisfaction with accommodation	Pearson Correlation	1	**0,211**
	Sig. (2-tailed)		0,009
	N	150	150
Satisfaction with the student life	Pearson Correlation	**0,211**	1
	Sig. (2-tailed)	0,009	
	N	150	150

Table 6 illustrates that Pearson's correlation coefficient amounts to r = 0.211, which means that there is weak positive correlation between the students' satisfaction with accommodation and the overall students' satisfaction with the student life quality.
Based on the performed analysis, the decision was made to *accept Hypothesis* H_3*: The greater the satisfaction with accommodation, the greater the overall satisfaction with the student life.*

H_4: The greater the overall satisfaction with the student life, the greater the overall life satisfaction

Table 7: The impact of student life satisfaction to overall life satisfaction

		Satisfaction with the student life	The overall life satisfaction
Satisfaction with the student life	Pearson Correlation	1	**0,225**
	Sig. (2-tailed)		0,006
	N	150	150
The overall life satisfaction	Pearson Correlation	**0,225**	1
	Sig. (2-tailed)	0,006	
	N	150	150

Table 7 shows that Pearson's correlation coefficient amounts to r = 0.225, which means that there is weak positive correlation between the overall students' satisfaction with the student life and the overall life satisfaction.
Based on the performed analysis, the decision was made to *accept Hypothesis* H_4*: The greater the overall satisfaction with the student life, the greater the overall life satisfaction.*

H_5: The greater the overall satisfaction with the student life, the greater the student performances

Student performances were observed through 3 variables. At the beginning, one variable (studying regularity) will be demonstrated with respect to the overall satisfaction with the student life. Then, for the purpose of establishing the connectedness of other observed variables, Pearson's linear correlation coefficient will be applied.

Table 8: The respondents' satisfaction and regularity of studying

		Regularity of studying				
		BO	Repeat few years of studying	Repeat one year of studying	Regularly passed	Totalo
Satisfaction with the student life	sufficient	0	1	1	3	5
	good	0	7	8	21	36
	very good	2	7	18	68	95
	excellent	0	0	4	9	13
Total		2	15	31	101	149

Table 8 shows that the majority of examinees regularly enrolled at the subsequent years of study, and the least number of examinees repeated several years. It is discernible from Table 8 that the majority of examinees marked the overall satisfaction with the student life as very good, and the least number of examinees marked it as sufficient, regardless of the studying regularity. Not a single examinee marked

the overall satisfaction with the student life as insufficient. Analogous to the aforementioned, two more variables were analysed. Table 9 shows that Pearson's correlation coefficient amounts to r = 0.351, which means that there is weak positive correlation between the overall satisfaction with the student life and the learnt material quality, and that Pearson's correlation coefficient amounts to r = 0.157, which means that there is weak positive correlation between the overall satisfaction with the student life and the faculty success rate.

Table 9: Value, the direction and intensity of Pearson linear correlation coefficient

VARIABLES	VAULE OF THE COEFFICIENT	DIRECTION AND THE INTENSITY
Learnt material quality	0,351	weak positive correlation
Faculty success rate	0,157	weak positive correlation

Based on the performed analysis, the decision was made to *accept Hypothesis* H_5*: The greater the overall satisfaction with the student life, the greater the student performances.*

H_6: The greater the satisfaction with multiculturalism, the greater the satisfaction with the faculty

This hypothesis will aim to determine the effect of the satisfaction with multiculturalism on the satisfaction with the faculty, i.e. the influence on 3 variables observed through the category of the faculty. Table 10 illustrates that Pearson's correlation coefficient amounts to r = 0.152, which means that there is weak positive correlation between the satisfaction with multiculturalism and the teaching quality; Pearson's correlation coefficient amounts to r = -0.090, which means that there is weak negative correlation between the satisfaction with multiculturalism and the teachers' knowledge and Pearson's correlation coefficient amounts to r = 0.054, which means that there is weak positive correlation between the satisfaction with multiculturalism and the teachers' knowledge.

Tablica 10: Value, the direction and intensity of Pearson linear correlation coefficient

VARIABLES	VAULE OF THE COEFFICIENT	DIRECTION AND THE INTENSITY
The quality of teaching	0,152	weak positive correlation
Knowledge of the professors of subjects they teach	-0,090	weak positive correlation
Regularity of classes	0,054	weak positive correlation

The effect of the satisfaction with multiculturalism on the satisfaction with the faculty has different impact on the observed variables. The conclusion of the performed analysis is that the greater satisfaction with multiculturalism influences the greater satisfaction with the teaching quality and the teaching performance satisfaction, whereas the greater satisfaction with multiculturalism leads to the reduced satisfaction with the teachers' knowledge of their respective courses. Based on the performed analysis, the decision was made to *partially accept Hypothesis* H_6*: The greater the satisfaction with multiculturalism, the greater the satisfaction with the faculty.*

CONCLUSION

After analysing the results, we can say that the students at the department of the Faculty of Economics in Aveiro, Portugal, are satisfied with the faculty, student life and life in general. Also, the research has shown that their satisfaction with these items positively affects their performances. When we conducted the research of satisfaction with the student life with respect to gender, not a single examinee, regardless of the gender, marked this variable as insufficient. Among the male examinees, the majority (61.02%) marked the satisfaction with the student life as very good, and not a single examinee marked it as sufficient or insufficient. Among the female examinees, the majority (64.84%) marked the satisfaction with the student life as very good, while the least number of female examinees (5.49%) marked it as sufficient. The research has also determined that the total amount of average monthly income does not affect a better score during studying. The conducted research has revealed the extent to which certain variables, such as faculty bodies, teaching quality, library, accommodation etc. affect the achievement of students' satisfaction and performances and eventually the extent to which they influence the overall life

satisfaction. This research can be useful not only for the institution where it was conducted, but also for other educational institutions as guidelines for service provision. The said examination determined the current status, students' opinions and future expectations. These data can be useful for the educational institutions to better understand the students' needs, desires and expectations. Also, the fact that the students' expectations tend to change does not mean that the educational institutions are not up-to-date with that trend which largely influences students' satisfaction. This paper can also be used as a contribution to the subject of whether the universities have to follow the trends and expectations among the students or they should uphold their own standards and "conservative" principles. Labour market is increasingly demanding, competition is fierce and it is expected that the students' expectations with respect to the institutions they are attending will change accordingly. Our recommendation is to conduct the research at the level of the entire university, and eventually in the entire educational sector in Portugal in order to gain information regarding the direction in which education as a whole should evolve and to rectify the hitherto errors and avoid any potential future errors.

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QUALITY IN VIRTUAL EDUCATION: THE QUALITY EVALUATION MODEL FOR EDUCATIONAL ACTIVITIES IN VIRTUAL INSTITUTIONS

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Abstract: This study investigated to presents a conceptual model to evaluation of elements and components in the educational activities in virtual institutions. For this purpose, the previous studies and proposed framework proposed by researchers and experts in the field of virtual education were examined then were identified based on elements of virtual education. Among the proposed models ,the framework by Khan(2005) chosen as the base model because of greater compatibility with cultural, social and educational conditions in Iran .so, the basic model in the form of 8 main factors were presented as (institutional, management, instructional, pedagogical, resource support, ethical considerations and evaluation factor) and 35 sub-components. The primary model has given to 200 outstanding teachers who were in virtual education and their views was measured about the main components and sub-components of each of the eight factors .based on the empirical finding, the conceptual model to evaluation of educational activities in virtual university of Iran design and confirmed.

Keywords: Evaluation, quality, virtual education, Model, institution.

Introduction

The purpose of virtual training is to provide the possibility of free and equal access in different courses and create a uniform learning environment for different groups .The virtual training is a kind of non-verbal form of education in which the web, electronic course content and learning management software is used to perform the learning process. Learning through virtual space is one of the new methods of ICT-based education that can cause the change on all forms of education and learning in the 21st century and end to the challenging of the social demand rate for education and the lack of adequate educational resources (Mills, 2009,p.23).Experts believe that there different learning paradigms ,it is necessary to measure the level of learning by learners used the methods and tools by each paradigm and assessment methods should be used in virtual training that is commensurate with the nature of this type of training and the environment because there are many factors that complicate the structure of virtual training for teachers and learners (Liang & Krizi, 2004,p.4)

Hence many universities and educational institutions around the world regarded to design and deliver programs and e-learning courses to meet the growing demand for training enthusiasts .(Betts,2009,p.23).For this reason, it has begun the design of the evaluation system for virtual education by many instructional designers and IT professionals in recent years (Magalahaes & schiel, 1997,p.76).

Therefore, as the development of virtual education at the university level become more important subject of evaluation and quality assurance Teaching - Learning Process and the need to meet and influential in the educational process (Clark, 1994,pp.64-71).Evaluation is a process that there would be analyzed and interpreted within it which is about a phenomenon or collected data. Then, judgment is made based on that interpretation. It must be careful to chosen samples and study tools in order to collect information on the evaluation process. The data collected will be analyzed by using qualitative or quantitative methods so that we can judge the worth or importance of a phenomenon .So, the educational evaluation is a process that admitted to the judge and to improve their quality or provide correction by gathering information about the features of the educational system (inputs, processes and outputs and their the requirements and standards for the design, development and implementation of e-learning in higher education because any assessment and evaluation considered as the fixed part and parcel of the educational system among the activities main objectives are the comparison of one program with other programs, the improvement of the current program and determine its efficiency and effectiveness (Bazargan, 2001,pp.365-372)

Up to now, different approaches to the evaluation of virtual training and e-learning programs have been carried out by experts that their certain aspects and components of the educational process in virtual environments have been placed under evaluation such as studies by Hughes & Attwell, 2007 that provided a framework for the evaluation of e-learning which were considered variables such as learning, learning environment and technology underlying factors and educational variables.

Trowler (1998) regarded components such as suitable design for learning, curriculum standards, and compliance with standards of quality of content and how to organize it, use of backup resources of learners, web design and provide resources for supporting teacher for the quality of virtual education

Synytsya &provinsky(2004) in order to assess the quality of courses, virtual learning objectives of the course regarded to the needs of professionals and teachers, the target audience, learning environment(directories, utilities tools, evaluation and feedback) and learning resources .

Elissavet & economides(2003) paid attention to the quality of technology and learning tools in shaping the content of training and interaction between teacher and learner .They believed that assessing the quality of virtual education is a function of the quality of the four elements of content, design factors, updating and technical support and technological tools.

Southern regional education boards (2006) in order to help develop and validate continuous learning have been set a framework for evaluating the quality of e-learning courses. In this context, the role of technology in shaping the quality of the elements is important .Based on this framework, the architectural design of the course, how users interact, meet the technological needs of learners ,ability to access and technological support is a prerequisite for quality improvement of other elements of the course.

According to the idea of lanzilotti & ardito & costabile (2006) to assess the quality of education in terms of quality electronic should be considered to four main factors of technology, interactivity, content and services and their constituent factors. Technological factors as the most important factor consist of the ease of access, the use of high technology, compatibility with various operating systems functions, and access to software and hardware system integration technology. The interaction components consist of attention to how provide educational materials, tools, services and activities to encourage interaction between learners and teachers. The content refers to the appropriateness of the quality education plans, strategies and development of learner-centered educational process. Self-assessment tools, support services, access to search engines and ease of use of tools is concerned and services factor is concerned to develop new tools and features continuous support of learning, communication tools, self-assessment tools, support services, access to search engines and ease of use of tools.

Hao& borich (2010) presented a model to evaluate e-learning courses by using a comprehensive systems approach .According to this model to evaluate e-learning environment should be assess inputs, activities and outputs or transactions. Inputs are electronic learning environment learners, teachers, and technology tools .The characteristics of stakeholders (including the characteristics of learners, educators, technologists, and managers) factors related to the period (such as finance) and environmental factors are created such as infrastructure, technical and cultural issues such as adherence or non-adherence to copyright law restrictions on transactions and activities. These limitations include the learner's readiness to enter the electronic periods, the readiness of the teacher to teach in a virtual environment - organizational , technical and pedagogical support and Virtual Learning Environment outputs based on this model involves the acquisition of knowledge and skills by learning, mental models for interpreting new information and high-level intellectual skills.

Seok & Meyen (2006) elements of teaching effectiveness, effectiveness of learning - engaging, design teaching, information resources, evaluation and IT support as indicators that should be considered when evaluating e-learning, were expressed.

There have seen the development of virtual education in our higher education institutions in recent years in Iran and higher education institutions and universities have started investments in the field of virtual education and several studies on the factors influencing the implementation of virtual training courses have been conducted, but unfortunately due to initial concerns such as infrastructure and technology, designing courses and educational content less attention has been paid to the issue of virtual training courses. Since e-learning and virtual education is in most countries, especially new and emerging third world countries and has not been given practical and widespread use of this training method. So, the use of this type of education as well as other emerging technologies in developing countries such as Iran faced with some uncertainties and challenges and only through a rigorous evaluation system and regular can be identified complex problems associated with this type of learning.(Montazer, 2007,pp.1-25).However, due to the lack of a comprehensive framework and tools for evaluation of Iran's virtual education, it is necessary to develop evaluation criteria that is based on scientific and valid standards and this matter reveals the importance of addressing the issue of evaluating and developing a comprehensive model for evaluating the educational processes in institutions where offering this type of training in Iran. One of the most important challenges in evaluating virtual learning system is multiplicity of factors ,variables and various categories in this field that from different views and the different situations and cultural

factors has been the aim of this study that is done by reviewing earlier studies based on models of e-learning as well as some indicators by researchers, experts and successful cases of host universities of this type of education in virtual learning to identify the constituent elements of infrastructure and present the basic principles of component-based framework for evaluating learning in primary and secondary schools and institutions .So, regarding the different perspectives and approaches , the electronic evaluation will be presented as initial conceptual framework and will be evaluated from the views of virtual model experts and also will be proposed an appropriate statistical methods and validate it. Thus, the main question of this study is that what are the main components and sub-components of quality evaluation of virtual education?

Virtual Evaluation Models

Although e-learning growth accelerated by the development of networks, knowledge about the effectiveness of this new approach to education is limited due to lack of scientific evaluation .By reviewing performed literature review in different countries, the researchers introduce some of the terms used in the evaluations that are summarized in Table 1.

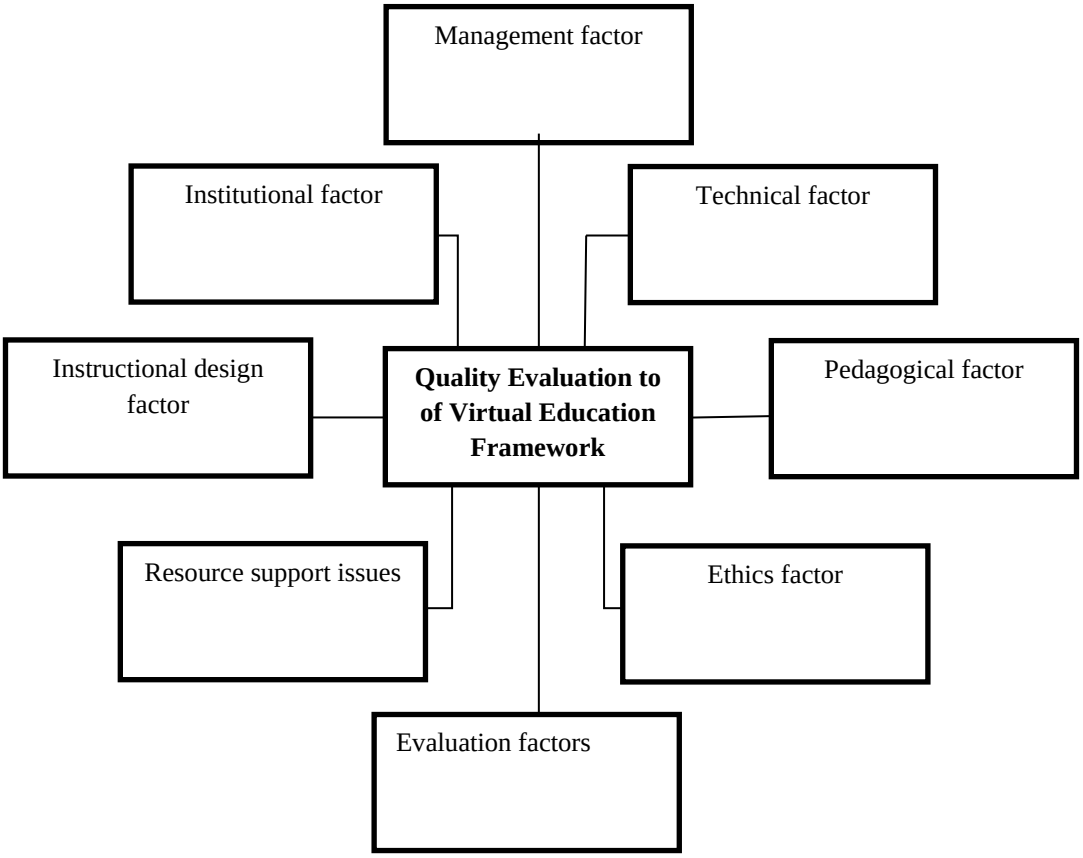
Table 1.Virtual Evaluation Models

Model Provider	Factors and Virtual Education Components
Higher Education Policy Institute,2000	Organizational support, Development course, Teaching – Learning process, Student support, teachers Support, Assessment and evaluation
Khan, 2005	institutional, management, instructional design factor, technological, pedagogical, resource support, ethical considerations and evaluation factor
Gavind Osami, 2002	Organizational support, Development course, Teaching and learning, Course structure, Student support, teachers Support, Assessment and evaluation
Ferzen, 2005	Organizational factors, Technology factors, Factors related to teacher, Factors related to learning, Instructional Design factors,pedagogical factors
Shao, 2006	Organizational support, Course development and instructional design, Teaching and learning, Resources and structure of the course, Support students and teachers, Assessment and evaluation, Use of technology, Products and services E-learning
Oliver, 2001	teacher expertise ,student readiness ,faculty support ,student support ,evaluation ,evaluation and assessment
Insung Jung, 2010	Interaction, staff support ,institutional mechanism ,institution credibility, learner support, information and publicity ,learning tasks
Mc Gorry, 2003	Flexibility, responsiveness and support, learning participation , interaction, usefulness case of use technology, overall satisfaction
Zaho, 2003	Course effectiveness, adequacy of access, interns of technology infrastructure, student satisfaction, institutional factors, technology factors, lecture factors, student factors, pedagogical factors
Husson, Moretti & Pawlowski, 2006	Course delivery services (student support, staff support) ,curriculum design, management (institutional strategies)
Masoumi , 2012	Institutional factor, technological factor, instructional design factor, evaluation factor, pedagogical factor, student support, faculty support & Lindstrom

As previously mentioned, evaluation process of virtual education systems depends on a variety of factors and variables, so this study aims to examine previous studies and based on the experience of successful models of

learning and universities and agencies that provide this type of conceptual model would be present an essential element for evaluating the quality of the components and provide virtual training. Therefore, the proposed evaluation frameworks in this area mentioned in Table 1 were studied. After reviewing numerous existing models of research and interviews with experts in the field of virtual education and also with regard to socio - cultural - educational and technology in Iran Khan model 2001chosen as the theoretical framework and based on the components of this model was presented the elements of the original research. Then, the presented model from assessed by the experts of virtualization education and validate it. Finally, the proposed model to evaluate virtual education in universities offering this type of training was introduced in the country.

Figure 1.Initial Framework of Evaluation in Virtual Education based on the Proposed Model by Khan 2005



The evaluation of virtual education model is constructed on two levels, including “factors" and "sub factors” (i.e. best practice), which characterize and exemplify the sub-factors and factors. For further elaboration, these factors and sub-factors are briefly described based on their literature review .As pointed out, the framework is divided into eight main factors and 35 sub-factors. What follow is an outline of framework with underlying assumptions and a brief description of factors and sub-factors.

Describes the Components of the framework

Institutional Factor

This factor concerns how well the virtual institutions pursue their mission and goals and to what extent they take advantage of their diverse resources in terms of managing and organizing various recourses. (Berge, 2001; Khan, 2005; McKinnon, Walker, & Davis, 2000; Novak, 2002)

Management Factor

This factor refers to managing various stages of E-learning processes including planning, design, production, evaluation, delivery and maintenance. (Khan, 2005,p.43)

Resource support factor

This factor examines the online support and resources required to foster meaningful learning environment. (Fulcher &Lock 1999, p.313)

Technological Factor

This factor addresses technical infrastructures and assets that form the backbone of an e-learning entity. The technological infrastructure is viewed as the ensemble or 'web' of equipment, techniques, applications whose efficiency can be characterized in terms of availability and reliability, the adequate functionalities, usability and integration into the existing infrastructure (Guribye, 2005, p.10).

Instructional Design Factor

Instructional design is an iterative process that refers to the structuring and arranging of resources and procedures used to promote learning in an institution (Gagne´, Wager, Goals, & Keller, 2005; Laurillard, 2002, p.54).

Pedagogical Factor

This factor, which addresses the process of learning and teaching in terms of how learning and teaching is carried out (communication, collaboration and interaction), is at the core of e-learning environments. Accordingly, the pedagogical factor is considered to be most critical when constructing a high quality e-learning. (Chickering & Ehrmann, 1996,p.22; Cohen & Ellis, 2004,p.51; Fresen, 2005,p.86; Marshall,2006,p.19; Swedish National Agency of Higher Education, 2008; Volery & Lord,2000,pp.216-223).

Ethical Factor

This factor consideration of E-learning related to social and political influence, cultural diversity, bias, geographical diversity, digital divided, etiquette and the legal issues. (Khan, 2005,p.119).

Evaluation Factor this factor centers on examining the effectiveness of the institution, program and course (how and to what extent learning objectives are met), as well as its cost effectiveness from both institutional and educational perspectives. It also addresses the immediate stakeholders' satisfaction (students and teachers) with and standpoints concerning the services constructed and received. (Barker & Wendel, 2001, p.51; Holsapple & Lee-Post, 2006, p.pp.67-85; Institution for Higher Education Policy, 2000; Khan, 2005, p.230; Moore, 2005, p.29).

Methodology:

In this research, some studies, e-learning models and some indicators presented by the researchers, this type of training in the analytical method - is considered descriptive around the world. Also according to back up for scientific models and their features and availability of their data has been identified the main elements of virtual training assessment. In the next step, due to validation by using the opinions of experts, Masters Managers and planners in the areas of information and communication technology, educational technology a, IT management and e-learning systems in higher education, the basic framework of the conceptual model was designed based on the factors and elements that have the greatest emphasis on their agreement. The participants included all experts, professors, professionals, managers and planners of virtual training who were working in higher education institutions in Iran. The purposive sampling method (based on their expertise in the field of virtualization) 200 of them were chosen as the model for validation.

The instrument for collecting data in this study was a questionnaire made by the researcher that made valid regarding the models in education Virtual education and interviews with experts and visits to the databases. To assess the validity of its content the questionnaire was laid to the 10 prominent scholars in the field of virtual education and they were asked to express their comments of final .The final questionnaire were made based on the model proposed in 8 main areas of management, training, design and education, ethical issues, technical issues, and pedagogical support services and 35 sub-components. In order to determine the reliability of the questionnaire, it was conducted on a sample group of 30 experts and the reliability was 87% for it the Cranach's alpha method. In the final step, after receiving the questionnaire to assess the appropriateness of the model structure of each component of the primary and secondary statistical analysis methods were calculated by using SPSS software and components that had more value were introduced as a key component of the proposed model.

Data analysis:

To investigate the structure factors of the proposed model, the correlation of each of the primary and secondary components was determined that the majority of them have had significant correlation. In addition, the calculation of many experts' opinions showed that in most of them the important components and sub-components of the proposed model evaluated as too high and high. It should be noted that few of the sub-components that have had no significant correlation or their importance was too low or too high was excluded from the proposed model. On the other hand, in order to calculate the reliability of the proposed model, the internal consistency of the main component was measured by using Cranach's alpha that their values are shown in Table 2.

All in all, it can be concluded that the proposed model framework for assessing the quality of virtual training in universities of Iran is appropriate from the perspective of experts.

Table 2. Cranach's alpha for Scales of 8 Factors of Virtual Education Model

Components	Number of item	Alfa
Institutional factor	3	%72
Instructional design factor	5	%71
Technology factor	3	%84
Pedagogical factor	8	%85
Management factor	3	%84
Resource Support factor	3	%91
Ethics factor	7	%91
Evaluation factor	3	%70

To establish the reliability of the scales for the factors and assess their internal consistency, Cornbrash's alpha was calculated. These evaluate how well the items of scale measure a single dimensional latent construct. A high value indicates that the items included in the scale can measure the same underlying structure and thus form a reliable factor. As shown in table 2 all components of present model high value of Cornbrash's Alfa.

We have tested every component of research model and have used Factor Analysis. Bartlett's test of sphericity finds out whether the correlation Matrix is in identity, indicating that the variables are unrelated .the significance test gives the result in very small values(less than 0.05.for our model it is 0.000),indicates a significant relationship among different variable. We have used Coefficient of KMO and Statistic's Bartlett's. The Bartlett's statistic is equal to 2436.676; showing significance at the 0.05 level. Further we have selected 8 components of evaluation of virtual education with Eigen value over 1, according to rotation Method (varmix with Kaiser Normalization). The varmix method indicates that the 8 components measure 0.66 of the total Variance.it shows 0.34 of variance related to components lesser than this couldn't measure with factor analysis.it is thus found that these components of research model are confirmed. Table 3 shows the components selected for research model.

Table 3. Rotated components matrix related to present model

Row	Factor	Component	Load
1	Institutional factor	Affairs academic	./558
		Administrative affairs	./648
		Student services	./729
2	Instructional design factor	Page and site design	./317
		content design	./564
		Navigation	./448
		Accessibility	./667
		Usability testing	./766
3	Technological factor	Software	./851
		Hardware	./753
		Infrastrucre planning	./572
4	Pedagogical factors	Content analysis	./566
		Audience analysis	./828
		Goal analysis	./768
		Media analysis	./761
		Design analysis	./593
		Organization	./850
		Instructional strategies	./760
		Blending strategies	./652
5	Management factor	People – process and product	./689
		Management team	./682
		Managing – E - learning	./796
6	Resource Support factor	Online support	./653
		Online resource	./596
		Offline resource	./666
7	ethics factor	Social and political influence	./706
		Cultural diversity	./774
		Learner diversity	./575
		Digital divide	./735
		Etiquette	./593
		Legal issues	./704
		Geographical diversity	./663
8	Evaluation factor	Evaluation of content	./656
		Development process	
		Evaluation of program and institutional levels	./720
		Evaluation of learners	./625

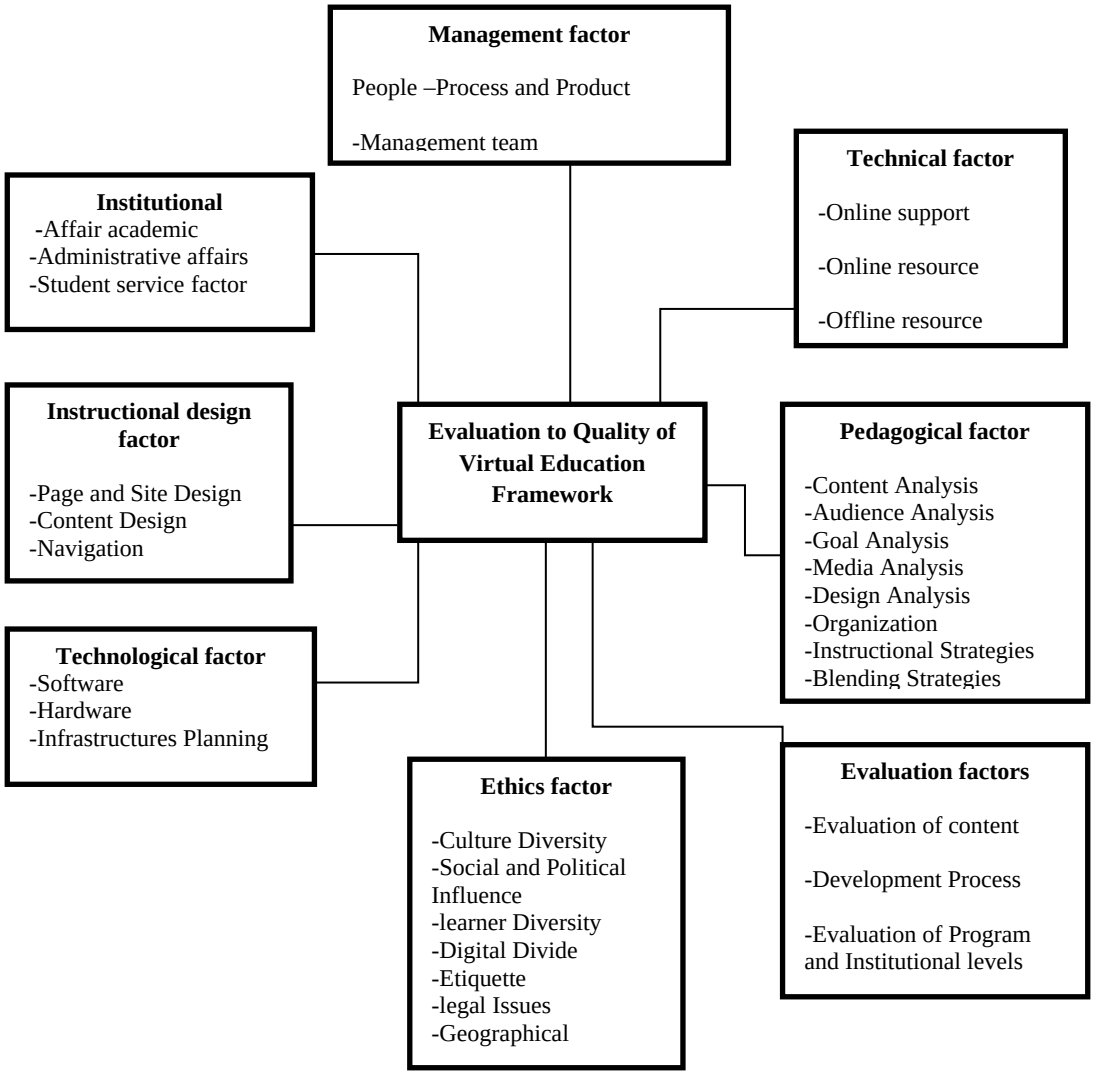
Table 4 indicates the factor Showed Pearson correlation is a measure of liner association between all components of the present model. The value of the correlation range from -1 to +1.The absolute value of the correlation indicate the strength with larger absolute values. Indication stronger relationship between each components of model.

Table 4. Correlation between 8 factors measuring evaluation of virtual education quality.

Factors	1	2	3	4	5	6	7
1	-						
2	./638**	-					
3	./648**	./815**	-				
4	./624**	./739**	./748**	-			
5	./605**	./532**	./627**	./637**	-		
6	./621**	./632**	./626**	./663**	./599**	-	
7	./595**	./504**	./511**	./609**	./603**	./478**	-
8	./490**	./539**	./627**	./671**	./590**	./634**	./590**

Based on the results of our study, the conceptual Model as it shown in figure 2 .It is evident from the figure that for evaluation of virtual education all the components drawn in research model related together.

Figure2. **Amended Model to Evaluation of Virtual Education**



Conclusion:

With the development of Internet and provide access to it, the virtual university are expanding in the field of education in the country. However, this growth was more quantitative and ensuring about their quality needs accurate and reliable assessment framework so that the assessor can be used this framework to help improve the quality of education in virtual universities. Therefore, in this study regarding the importance of quality assessment activities in virtual training, and some challenges in this regard, it has identified the need to design and provide a conceptual framework for evaluating virtual education universities in Iran. This study presents a conceptual model of elements and components that is discussed in the evaluation of virtual training. For this purpose, at first the previous studies and proposed framework proposed by researchers and experts in the field of virtual education were examined then were identified based on elements of virtual training. Among the proposed models ,the framework by Khan(2005) chosen as the base model because of greater compatibility with cultural, social and educational conditions in Iran and the researcher identified the components of the primary elements within the valuation model virtual training with the experts in this field and the basic model in the form of 8 main factors were presented as (institutional, management, instructional, pedagogical, resource support, ethical considerations and evaluation factor) and 35 sub-components.

In the next step, the primary model has given to 200 outstanding teachers who were in virtual education and their views was measured about the main components and sub-components of each of the eight factors and presented in the final evaluation of virtual training for agencies providing this type of education in Iran. The obtained conceptual model in this study provide the basis for designing and developing the final framework and appropriate means of evaluation activities in the virtual training and the existence of such a model in this field and use it to evaluate the quality of universities and higher education institutions providing this type of education in the country can help to do present and future plans effectively. The advantages of this model is that it includes all the elements of an effective virtual training system and that framework is the native framework and also is based on the conditions, characteristics and requirements of higher education in the Iran's cultural environment.

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QUALITY OF STUDENTS ENROLLED IN VETERINARY EDUCATION IN SUDAN

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Abstract: This study was carried out to compare the traits of undergraduate students of four veterinary faculties in Sudan; namely of universities of Khartoum (U of K), Sudan (SUST), Bahari (U of BH) and Butana (U of B). Additionally, the study draws the attention of specialists in the field of higher education; veterinary educators and those interested in veterinary education to the importance of these traits when admitting students to this vital specialization. A simple closed ended questionnaire was distributed to 525 undergraduates of the aforementioned faculties to give their age, gender, high school they attended, the frequency they took high school certificate (HSC) exams, the percent that qualify them to enter the faculty and their type of admission. The number of accurately filled questionnaires recovered was 394 (75% recovery rate). The results of this study showed that the students' traits vary significantly ($p<0.001$) with faculty. In conclusion the quality of undergraduate veterinary students in Sudan varies with faculty. Thus it is expected that these faculties graduate veterinarians of varying quality; whatever the academic and material potential of these faculties are similar or not.

Keywords: Education; quality; students' traits; veterinary.

Introduction

As a result of the unprecedented boom in the field of veterinary education that prevails in many countries of the world; especially the western countries; it is very necessary that the Sudanese ministry of higher education (MHE) as well as the veterinary educators pay attention to the quality of students admitted to veterinary colleges and the veterinary education they offer. There are many quality standards and regulations that must be applied before recruiting veterinary students. Most importantly; those interested in veterinary education should pay attention to the critical traits of the newly admitted students such as age, high school background, frequencies of taking high school exams, high school certificate as well as admission policies. Furthermore, they should evaluate and update the veterinary curriculum until the educational outputs commensurate with the diverse, renewable and infinite needs of the veterinary labour market. Quality assurance in veterinary education has become a vital and very important issue all over the world. Unfortunately, assessing the quality of veterinary education in Sudan is entirely dependent on the traditional method, which relies only on assessing the educational programs provided by colleges. With the expansion of higher education in the Sudan at the end of the twentieth century; so called higher education revolution (HER); many veterinary faculties have been established. This situation entails admission of many students with varying capabilities and different traits to veterinary education. Therefore, it became necessary to conduct continuous, comprehensive evaluation and accreditation processes for all veterinary faculties as well as other higher education institutions in the Sudan to ensure similarity of level and quality of graduates. The evaluation should include the personal and academic traits of students to ensure the similarity of students' quality. Thus this study aims to compare the traits and quality of students enrolled in some Sudanese veterinary colleges. Furthermore the study is intended to highlight the serious catastrophic effects of admitting students of minimum academic standards on the quality of the veterinary profession in the future.

Previous studies

The percentage the student obtains in the high school exam (HSC) exams and qualifies him for admission to the faculties of veterinary medicine is detrimental to the quality of veterinarian upon graduation. The HSC performance is widely used as criteria for admission to university colleges in many countries, in the United Kingdom (Foy and Waller, 1987) and in South Africa (Swart, 1999). This is practised because the most detrimental factor for university student quality is his prior academic performance in HSC or equivalent (Staffolani and Bratti, 2002; Frischenschlager et al. 2005; Geiser and Santelices , 2007). In a study carried by

Anderson et al. (1994) he found that the most determinant of success in university colleges is the grades the student obtained in HSC. However, the academic performance prior to university (HSC) was found to has no effect on academic performance at the university and it cannot be used as academic performance predictor (Huws et al., 2006).The age of student is also known to affect the student performance in the university. Mature students are known to perform better than immature students (Richardson, 1994). Mature students are defined as those students whose age was greater than 21 years on their first day at the university. While young students are those whose age on their first day at the university is 21 years of age or less? Gender influence on academic performance has been investigated in many studies and cannot be ignored. Research has shown that men perform better than women in certain settings while women outperform better than men in other settings (Haist et al., 2000). Borde (1998), on the other hand, found no evidence of academic performance being influenced by gender. Woodfield and Earl-Novell (2006) analysed data of close to two million graduate students and found that female students outperformed male students. Students admitted to veterinary education come from different school back grounds. The school background is known to influence the student performance at the university (Ali et al. 2013; Crosne and Elder, 2004). Also admission policies are known as an important factor for success in the university (Ali et al. 2013; Mlambo, 2011). Furthermore students' selection was confirmed to influence the student performance in the university (Obeyesekere, 2004).

Methodology

Personal and academic data of 394 students from four different Sudanese faculties of veterinary medicine; namely faculty of veterinary medicine university of Khartoum, Faculty of Veterinary Medicine University of Sudan, Faculty of Veterinary Medicine University of Bahri, Faculty of Veterinary Medicine University of Butana; were collected by a questionnaire. The collected data were the age at time of admission; gender; type of high school attended; frequency of taking high school exams, qualifying percent and type of admission. The data were subjected to ANOVA or Chi $\times^2$. High school percent and age of admission are presented as means ± SE of the mean. The probability was set at $p<0.05$.

Results

Admission percentage

From table 1 and fig. 1 ANOVA and LSD test showed high significant ($p<0.001$) differences between the admission percentages of the different faculties. The mean admission percent to U of K is 82.9 ± 0.22; SUST 80.7 ± 0.42; U of BH 76.9 ± 0.56 and U of B was 72.3 ±0.51. The maximum admission percentages are 88.7; 87.0; 85; and 82 while the minimum percentages are 70; 68; 56 and 59 for U of K; SUSET; U of BH and U of B respectively.

Table (1) Multiple Comparisons (ANOVA & LSD test) results for qualifying percentages

(I) Faculty	(J) Faculty	Mean Difference (I-J)	SE	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Khartoum	Sudan	2.20686*	.57325	.000	1.0796	3.3341
	Bahari	5.92457*	.50965	.000	4.9224	6.9267
	Butana	10.61026*	.56122	.000	9.5067	11.7138
Sudan	Khartoum	-2.20686*	.57325	.000	-3.3341-	-1.0796-
	Bahari	3.71770*	.62882	.000	2.4812	4.9542
	Butana	8.40340*	.67129	.000	7.0834	9.7234
Bahari	Khartoum	-5.92457*	.50965	.000	-6.9267-	-4.9224-
	Sudan	-3.71770*	.62882	.000	-4.9542-	-2.4812-
	Butana	4.68570*	.61786	.000	3.4708	5.9006
Butana	Khartoum	-10.61026*	.56122	.000	-11.7138-	-9.5067-
	Sudan	-8.40340*	.67129	.000	-9.7234-	-7.0834-
	Bahari	-4.68570*	.61786	.000	-5.9006-	-3.4708-

*. The mean difference is significant at the 0.001 level.

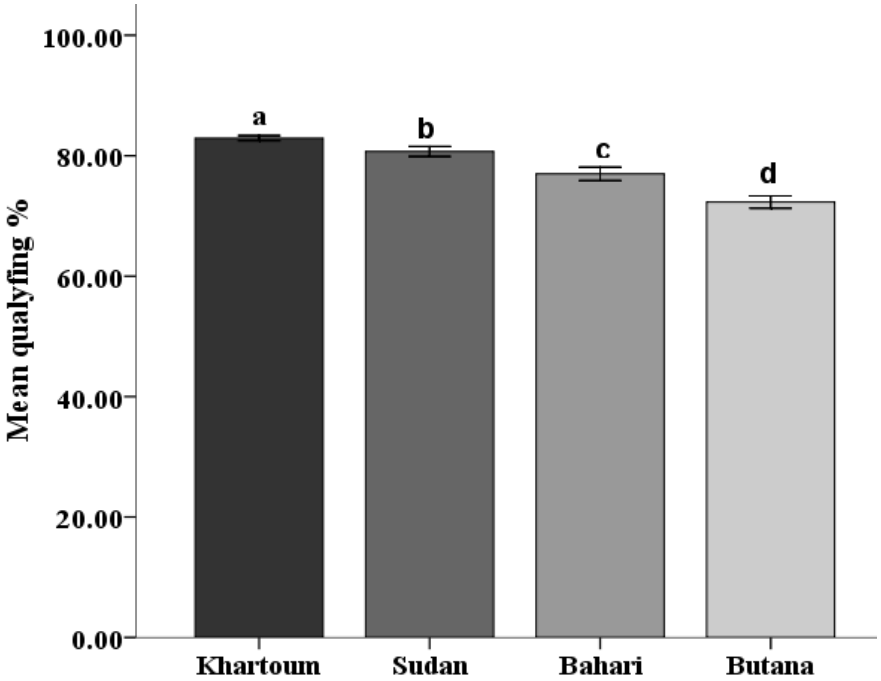

Fig. (1) Means of qualifying percentages. [a, b, c, d] $p<0.001$.

Frequency of taking HSC exams

As in table 2 and fig. 2 high percentages of students enrolled in veterinary education took HSC exam more than once. The overall percentages of students

Who took the exams twice and more is 54.8%; 60%; 46.7%; 74.0% for U of K, SUST; U of BH and U of B respectively. The highest percent is that of U of B followed by SUST U; U of K and U of BH. The percentages of those who took the exam once are similarly high in U of K, SUST and U of BH.

Table (2) Frequency of taking HSC exams among surveyed faculties students

Exams	Faculties of veterinary medicine				
frequency	U of K	SUST	U of BH	U of B	Total
Once	71 (45.2%)	26 (40.0%)	42 (43.3%)	19 (26.0%)	158 (40.3%)
Twice	75 (47.8%)	36 (55.4%)	51 (52.6%)	48 (65.8%)	210 (53.6%)
≥Thrice	11 (7.0%)	3 (4.6%)	4 (4.1%)	6 (8.2%)	24 (6.1%)
Overall	157 (100%)	65 (100%)	97 (100%)	73 (100%)	392 (100%)

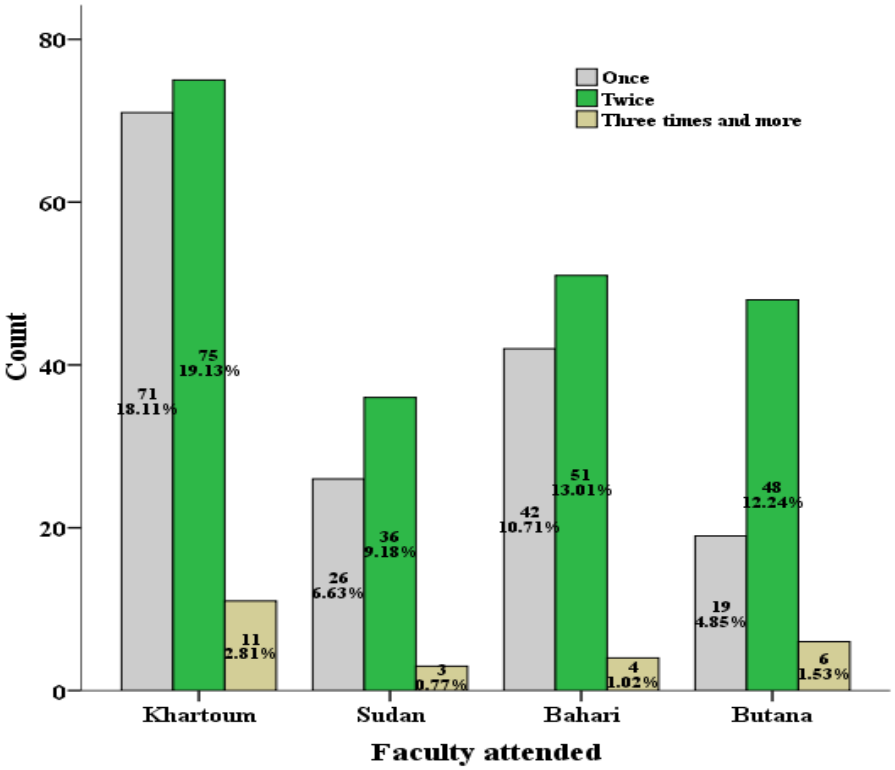

Fig. (2) Counts and percentages of students in each HSC exams frequency group.

Students' age at admission

As in fig. 3 the mean admission age of veterinary students varies significantly ($p<0.05$) with the college. The mean admission age for students enrolled in faculty of veterinary medicine U of K was 18.13 ± 0.08; Sudan University of Science and Technology (SUST) was 18.35 ± 0.25; Bahari University (U of BH) was 18.76 ± 0.14 and that of Butana University (U of B) was 20.18 ± 0.25 years. Also the admission age differs significantly ($p<0.001$) with gender. The mean admission age of female students was 18.76 ± 0.14 and that of male students was 19.42 ± 0.16 years. As in table (3) the percentage of boys admitted at an age of 16-19 years old is high ($P<0.05$) in U of K and SUST compared to other faculties. While in the faculties of veterinary medicine of U of BH and U of B the percentage of boys admitted at an age of 20 years or above is higher ($p<0.01$). The distribution of the different groups of ages for females is almost similar in three faculties of U of K, SUST and U of BH. The maximum admission ages were 21.6; 31.6; 22.6 and 26.6 years for U of K; SUST, U of BH and U of B, while the minimum admission ages were 16.19; 16.2; 16.16 and 15.6 respectively.

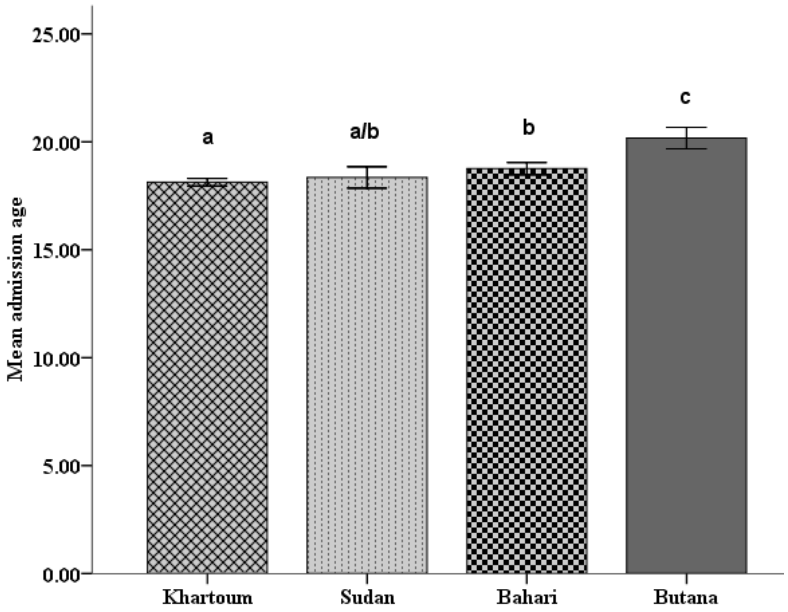

Fig. (3). The mean admission age of students in the different faculties. [a, b, c] $p<0.05$.

Table (3). Distribution of the surveyed students to the different age groups.

Gender	Age group	Surveyed students (Count/%)				Total
		U of K	Sudan	Bahri	Butana	
Male	16-17	6 (14.0%) [a]	5 (17.9%) [a]	1 (2.5%)	6 (8.2%)	18 (9.8%)
	18-19	30(69.8%) [b]	16 (57.1%) [b]	17(42.5%) [b]	26(35.6%) [b]	89 (48.4%)
	≥ 20 and	7(16.3%)	7 (25.0%) [b]	22(55%) [b]	41 (56.2%) [b]	77 (41.8%)
	Total	43 (100.0%)	28 (100.0%)	40(100.0%)	73 (100.0%)	184 (100.0%)
Female	16-17	16 (14.7%)	6 (16.2%)	10 (17.2%)	0 (0.00%)	32 (15.7%)
	18-19	73 (67.0%)	28 (75.7%)	37 (63.8%)	0 (0.00%)	138 (67.6%)
	≥2 0	20 (18.3%)	3 (8.1%)	11 (19.0%)	0 (0.00%)	34 (16.7%)
	Total	109(100.0%)	37 (100.0%)	58 (100.0%)	0 (0.00%)	204 (100.0%)

* $p<0.05$;** $p<0.01$.

The proportion of male students to female students surveyed

The ratio of male students to female students differs significantly ($p<0.001$) with faculty. Among the students of faculty of veterinary medicine surveyed no female students (0.00%) were found in U of B. The ratio is almost similar for SUST and U of B. The highest female to male ratio (71.5:28.5) is recorded in U of K followed by university of BH (59.2: 40.8), SUST (56.9: 43.1) while among students surveyed in faculty of veterinary medicine U of B no females were observed (Table 4).

Table (2) Female to male ratio of the surveyed samples

Gender	Faculties of veterinary medicine in*				
	U of K	SUST	U of BH	U of B	Total
Male	45 (28.5%)	28 (43.1%)	40 (40.8%)	73 (100%)	186 (47.2%)
Female	113 (71.5%)	37 (56.9%)	58 (59.2%)	0 (0.0%)	208 (52.8%)
Total	158 (100%)	65(100%)	98 (100%)	73 (100%)	394 (100%)

*The proportion of male students to female students differ at p<0.001

Type of admission in veterinary education

Table (4) shows the different types of admission in veterinary education. The general admission represents the higher percentage. In U of K surveyed students 142 students (89.9%) were admitted under general admission, in SUST 45 students (69.3%), in U of BH 77 (78.6%) and U of B were 65 (89.0%). The remaining types of admission represent the remaining percentages.

Table (4) Counts (%) of students admitted under different types of admission

Type of admission	Faculty of veterinary medicine admitted to N(%)			
	U of K	SUST	U of BH	U of B
General	142 (89.9%)	45 (69.3%)	77 (78.6%)	65 (89.0%)
Sons of workers at HE	1 (0.6%)	1 (1.5%)	4 (4.10%)	3 (4.10%)
Private	12 (7.6%)	19 (29.2%)	15 (15.3%)	5(6.80%)
Less developed areas	3 (1.9%)	0 (0.00%)	2 (2.00%)	0 (0.0%)

Type of high school attended

From table 5 and fig. 4 it is clear that acceptance of students from less developed region is the least (p<0.001) in all faculties. In faculty of veterinary medicine U of K the percentages of students of the remaining 3 school backgrounds are almost similar. While in SUST and U of BH the percentages of those who come from model school are high. Percentage of students who come from a regular governmental school in U of B is the highest (57.5%).

Table (5). High school attended (number and % of students surveyed

School type	Faculty of veterinary medicine				Total
	U of K	SUST	U of BH	U of B	
Regular	51(32.3%)	13(20.0%)	22(22.4%)	42(57.5%)	128
Model	55(34.8%)	32(49.2%)	44(44.9%)	9 (12.3%)	140
Private	48 (30.4%)	20 (30.8%)	31(31.6%)	21(28.8%)	120
Others	4(2.5%)	0 (0.0%)	1(1.0%)	1(1.4%)	6
Total	158 (100%)	65(100%)	98(100%)	73(100%)	394

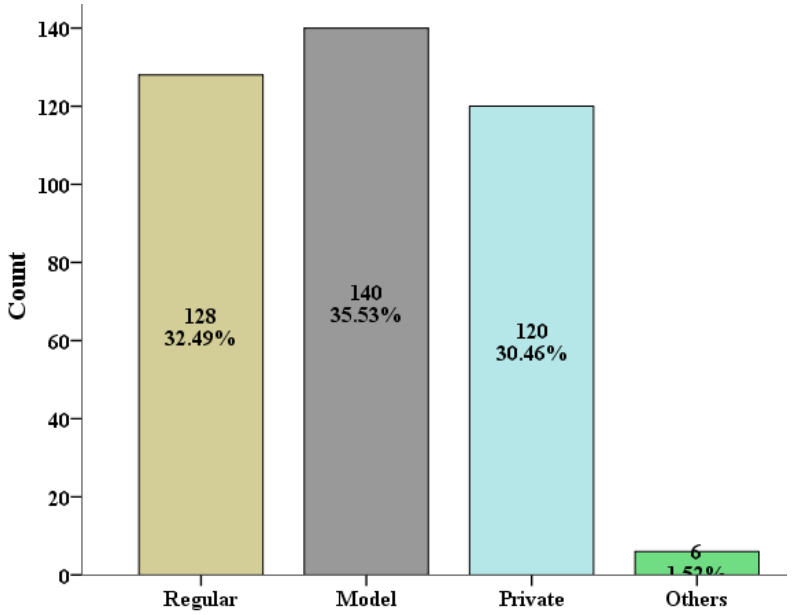

Fig. (4) Counts and percentages of surveyed students enrolled in veterinary education from different schools background.

Discussion

Qualifying percent

This study illustrated great differences in the qualifying percentages for Sudanese faculties of veterinary medicine. Despite the fact that this finding is well known because the MHE has fixed the HSC percent that qualify students to enrol in veterinary education; the qualifying percent should be taken as a critical predictor for graduate quality. The attendees of veterinary education who are admitted with high percentages in HSC exams are expected to have a better performance in veterinary profession after graduation. The HSC performance is widely used as criteria for admission to university colleges in many countries (Foy and Waller, 1987; Swart, 1999). This is practised because the most detrimental factor for university student quality is his prior academic performance in HSC or equivalent (Anderson et al. 1994; Staffolani and Bratti, 2002; Frischenschlager et al. 2005; Geiser and Santelices , 2007). Although all these studies substantiated; by all the odds; that the better predictor for student performance in university college is his performance in HSC; some authors claimed that it cannot be used to predict academic performance at the university (Huw et al., 2006). However, Huw et al. admitted that it has small effect on university performance. In this study many students who enrol in faculties of veterinary medicine are admitted to these faculties despite the weak percentages they have achieved in the HSC exams (less than 65%). This leniency in accepting these students casts negative impacts on the veterinary profession that takes care of the large national herd, which represents a real pillar of the Sudanese economy. In addition, graduates lose the preferential competitive characteristics enjoyed by their predecessors from the mother faculty of veterinary medicine, in the local and regional labour market. Furthermore, this leniency will lead to graduation of veterinarians of different qualities.

Student admission age and frequency of taking HSC exams

This study emphasized large differences in admission ages of students who undertook veterinary education in Sudan and most of the students are accepted at an age less than 18 years old except those of faculty of veterinary medicine of Butana who are admitted at an age more than 20 years. The recent changes in Sudan educational policies and the attitude of parents towards their children led to admission of an increased number of young-age students in university colleges. A large proportion of undergraduate students are admitted at 16-17 year olds. Mature students are known to perform better than immature students (Richardson, 1994). The definition of a mature student varies with country where 21, 22 and 25 year old students being classified as mature students in the United Kingdom, United States of America and Australia, respectively (Trueman and Hartley, 1996). Mature students are defined as those students whose age was greater than 21 years on their first day at the university. While young students are those whose age on their first day at the university is 21 years of age or less? In Sudan mature students in the university are either students whose parents insist to admit them to primary school at the age of 7 years or more and/or those who repeat in primary and secondary schools and/ or those who failed more than once in HSC. Unfortunately many mature students who attain university colleges

after one or more failures in HSC are known to have some difficulties. The students who are admitted at the age more than 18years are expected to perform well. The age is very critical for gender since females can attain maturity at lesser age than males due to their physiological differences. Consequently when females and males are admitted at equal age the females are expected to outperform males. This is not due to their high IQ but it is merely a physiological difference that can be overcome by admitting males at an older age than females. Unfortunately, from the results of this study as high as 45% of students enrolled in veterinary education took the HSC exam more than twice. In particular this percent reached 60% in faculty of veterinary medicine of SUST and 74% in faculty of veterinary medicine university of Butana. This has a positive effect on students whose age is below 17 years when they took the HSC exam for the first time. However, the students enrolled in veterinary education after taking the HSC exam more than twice are expected to have a weak academic performance which is augmented by the difficulties of veterinary sciences that covers wide spectrums of animal species.

Student gender

Except the faculty of veterinary medicine university of Butana; where no female students were admitted; the remaining faculties admitted as high as 52% females. The proportion of females in the faculties of veterinary medicine continues to increase, especially in the faculty of medicine university of Khartoum, where the proportion of females amounted to more than 70%. This situation entails that in the future the female veterinary teaching staffs and veterinarians will dominate in Sudan since females can outperform male. This is attributed to fact that female students are more conscientious and physiologically mature, thus less likely to miss lectures when compared to male students (Woodfield and Earl-Novell 2006). The age and gender interactions are very crucial in determination of the academic performance at the university. Thus when females entered the university they are usually mature and are expected to perform well. Consequently the majority of veterinarians will be females. As the veterinary profession is practiced in very harsh areas of the states of Sudan; the veterinary profession needs a greater number of males than females, which cannot be avails under this situation.

Type of high school attended

From this study students of the different veterinary faculties came from different high school backgrounds. After the HER and the change in the general education policies many different types of high schools are established. Among these schools are many elite private and governmental schools (model schools) that admit students of high quality only. Students from elite schools and/or model schools are expected to perform well (Ali et al. 2013). These elite schools are usually very rich in resources and facilities. The ownership and the funds available are the most powerful factors that influence the performance of the student and consequently their future university performance (Crosnoe and et al. 2004). The elite schools (private and model governmental schools) have good funding, higher level of discipline, and are very selective when choosing students. Students from such schools tend to have higher end of school scores (Considine and Zappala, 2002). Private and model government schools that have better funding, fewer students per class, serious administration and better financial resources are expected to graduate good quality students than public schools. Consequently the faculties that admit students from such schools are expected to have good graduates. The veterinary students come from different high school background and are enrolled in veterinary education with varying HSC percentages. This situation also aggravates the condition and helps in graduating veterinarians of varying quality.

Admission policies

After HER the Sudan ministry of high education adopted different admission polices regardless of the HSC results. Thus it is very obvious from this study that many students are admitted to veterinary education with low qualifications. Student admission to university colleges and institutes is based on a number of different qualifications (Ali et al. 2013; Mlambo, 2011). Since learning is a cumulative process, thus a student recruited with higher entry requirements will be well prepared for the course material compared to a student admitted based on bare minimum qualifications. In the Sudan before the HER students are admitted to veterinary education under certain known and fixed admission requirements based mainly on HSC performance and a certain percentage achieved by the student. In the past there is a single veterinary college at university of Khartoum. But currently there are additional 5 colleges (total= 6 colleges). Consequently the admission policies adopted differ. The minimum required percentage in HSC obtained by the student enrolled in veterinary education differs. Additionally there are different categories of students' admission: general admission based on academic qualification in HSC, admission on private expenses based on the ability of the student to pay certain fees, admission of sons of workers in high education and other categories including students who have HSC from Arab countries. These different admission policies lead to graduation of veterinarians of varying quality. Under the current admission system there is no method of evaluating either student's interest in the subject or

their aptitude for it. Consequently, many students enter the faculty of veterinary medicine because of a lack of choice. Without interest and aptitude, the output will be of low quality. This system of selection tends to produce professionals who lack special interest in a career in veterinary medicine (Obeyesekere, 2004). The cost of training a veterinary graduate is much higher than that of training a graduate in a non-clinical or nonmedical field. The veterinary faculty's limited finances and resources, as well as the student's valuable time and effort, would have been more economically, efficiently, and productively spent had these students initially entered a field of their choice. In contrast, in many other countries veterinary science is a sought-after career that is competitive and difficult to enter (Obeyesekere, 2004). To become a member of the profession requires dedication and serious commitment and is considered a privilege. Therefore in some western countries students enrol in veterinary education after completing a science college.

Conclusion and recommendations

The quality of students enrolled in veterinary education in Sudan varies with faculty. Therefore the following is recommended:

There must be a defined, unified and accredited minimum percent for admission to similar veterinary colleges. This percent must be authorized by the veterinary commission; educators; labour market as well as the ministry of higher education.

When admitting students to veterinary education the student age, gender and the frequencies of taking high school exams must be taken into account as an important variable that affects the quality of future veterinarians..

The general education institutions; especially high schools; must be of a single integrated style to graduate students of similar levels.

The public and higher education policies that allow the admission of students under the legal age must be reviewed, rectified, amended and earnestly implemented.

The higher education policies that allow admission of students with low academic standard must be halted and replaced by adopting strict admission policies to ensure graduation of veterinarians of homologous quality.

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SERVICE QUALITY AT BUSINESS SCHOOLS AND ITS CORRELATION WITH STUDENTS' SATISFACTION AND ENTREPRENEURIAL SELF-EFFICACY

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Abstract: The quality of higher education is increasingly becoming an important issue as the socio-economic development of a country owes much to it. The objective of the study is to measure quality of services being provided at business schools in Pakistani public and private sector universities on SERVQUAL model and students' perceived level of entrepreneurial self-efficacy on Entrepreneurial Self Efficacy model and to further prove any correlations between both. The Data was collected from MBA students of four universities, two from public and two from private sector. The data was analyzed using SPSS. The results revealed that private sector university students are quite satisfied from the services of their universities and their perceived entrepreneurial self-efficacy level is also higher. The students of public sector universities are dissatisfied and their perceived entrepreneurial self-efficacy level is lower. Furthermore, Quality of services of universities has positive impact on students' satisfaction and perceived entrepreneurial self-efficacy level.

Introduction

Quality of higher education has become a point of grave concern in recent decades. Globalization, swift technological advancements, knowledge based economies and intense competition in market put heavy responsibility on higher educational institutions to deliver quality services to satisfy customers and stakeholders for larger public interest. Moreover, the socio-economic development of a country owes much to the quality of its higher educational institutions. Ideally, higher educational institutions should respond proactively to the changing environment which ultimately enables them to transform youth into a valuable human resources to build a nation, equipped with knowledge, skills and abilities demanded in market. Evidence exists that business schools have not responded proactively to adapt to the changing environment (Butt & Rehman, 2010; Muller, Porter, & Rehder, 1988). Recently, recruiters and business managers have also shown dissatisfaction from business graduates for lacking innovative thinking and being too restricted to their field (Macy, Neal, & Waner, 1998). The ultimate goal of business schools should not only be to enable students to serve business organizations efficiently but also to instil entrepreneurial spirit that will ultimately lead them to embark upon the journey of starting a business venture, to be self-employed and to create more employment opportunities for society at large. But unfortunately, the reality is dismal in Pakistan where students are found searching meagre job after graduation from business school instead of starting a small business. Until 1980, total number of universities in Pakistan was 20. To deal with the problem of availability of educational facilities for growing population, government enacted new laws and motivated private

sector to invest in educational sector. Initially there was some hesitation but in last decade of 20th century educational sector was fully commercialized and witnessed a mushroom growth of private educational institutions in the country. Now, in Pakistan, there are two parallel types of education systems as public and private from grade one to university stage. There is a considerable gap of learning facilities between both types of institutions. A primary goal of any of educational facility is to make student more curious and creative. Creativity have a direct positive relationship with entrepreneurship but unfortunately during school level education in Pakistan, creativity is mostly discouraged and education is mainly based on the reproduction of already learned knowledge. In higher secondary schools and degrees colleges, students are primarily prepared to get a good job, not to be self-employed. Only in few of higher education institutions, mostly reserved financially for elite class, students are taught about innovation, creativity and leadership. This phenomenon raised serious concerns about the quality of education. The problem of availability has been almost solved but question regarding the quality of education is yet to be answered.

Global Entrepreneurship Monitor is the largest consortium in the field of entrepreneurship established in 1999 as a joint effort between London Business School, UK and Babson College, USA. The prime objective was to evaluate the level of entrepreneurial propensity and associated reasons in member countries. Third and most recent GEM Pakistan report was published in 2012 that highlights people having positive attitude towards entrepreneurship in Pakistan is less than the average of other factor driven economies and Total Early stage Entrepreneurial Activity (TEA) rate in Pakistan is also lower (11.57 %) as compared to factor driven economies (23.68%) (Qurashi & Mian, 2012).

Entrepreneurship has gained wider attention of diverse stakeholders including academia, researchers, students and economic policy makers round the globe in recent years. Entrepreneurial activity has become the best determinant of economic performance and it widely assesses the future potential of an economy. According to Schumpeterian school of thought, entrepreneurship is the engine of economic growth and entrepreneurial activity increase healthy competition in economy as the number of businesses increase, and this competition leads economy towards growth. Entrepreneurial activity is panacea for ailing under-developed economies. But why entrepreneurial activity is lower in some countries as compared to others? Research results states that entrepreneurial propensity is the factor of numerous interlinked and interlocked variables including family background, attitude toward risk, business and entrepreneurship education, prior work experience of business students, economic and cultural factors (María-Soledad Castaño, 2015) and more significantly gender. Numerous studies concluded that men are more entrepreneurial as compared to women (Kourilsky & Walstad, 1998; Sasu & Sasu, 2013; Shinnar, Hsu, & Powell, 2014). The importance of entrepreneurship has been empirically proved to be very significant for the economic growth of a country (Toma, Grigore, & Marinescu, 2014; Van Stel, Carree, & Thurik, 2005), its ability to create new jobs in an economy (Tether, 2000) and its contribution towards lowering unemployment (Faria, Cuestas, & Mourelle, 2010). The entrepreneurs with clear vision and courage can tap previously untapped business sectors and can commercialize innovative ideas into manufacturing of new products or delivery of services with innovation. While number of factors affect negatively or positively on entrepreneurial propensity in a society, we will

specifically study service quality at business schools and students' satisfaction from business education and their correlation with entrepreneurial self-efficacy in Pakistani students.

Although there is much debate on the issue that whether entrepreneurial spirit is born or it could be developed in the students (Merle Küttim, 2014), yet there is complete consensus among researchers that with quality education, entrepreneurial spirit can be motivated in students (Drucker & Noel, 1986; Kuratko, 2005; Varadarajan Sowmya, Majumdar, & Gallant, 2010). Business School at universities are charged with the prime responsibility of creating innovators and entrepreneurs for the economy who can materialize the dream of sound economy and can prove to be the "job inventors" not "job seekers" (Schulte, 2007). Conclusively, the target of business education is to make students more entrepreneurial.

Numerous studies measured quality of higher education and its correlation with customers' satisfaction (Aldridge & Rowley, 1998; Athiyaman, 1997; Oldfield & Baron, 2000; Yousapronpaiboon, 2014). Measuring quality of services provided by universities has become a pivotal issue for all stakeholders in recent years (Leonard & Sasser, 1982; Newman, 2001; Sureshchandar, Rajendran, & Anantharaman, 2002). Quality has been defined as meeting or exceeding customers' requirements. Recent decades have seen development of numerous models to measure quality including, but not limited to Functional and Technical Quality model by Christian Grönroos (Grönroos, 1984), Attribute Service Quality model by Hay-wood Farmer (Haywood-Farmer, 1988), Attribute and Overall Affect model presented by Pratibha A Dabholkar (Dabholkar, 1996), Synthesized Service Quality model by Andrew A. Brogowicz (Brogowicz, Delene, & Lyth, 1990), Perceived and Expected service quality Gap Model devised and refined by Parasuraman (A. Parasuraman, Zeithaml, & Berry, 1985) and PCP Attribute model presented by Philip and Hazlett (Philip & Hazlett, 1997). But the model devised and further refined by Parasuraman in his series of articles (Arun Parasuraman, Berry, & Zeithaml, 1991; A. Parasuraman, et al., 1985; Arun Parasuraman, Zeithaml, & Berry, 1988; Ananthanarayanan Parasuraman, Zeithaml, & Berry, 1994) is widely believed to be the robust tool to measure service quality of any organization (Charles & Kumar, 2014; Yousapronpaiboon, 2014). It uses five dimensions of quality namely: Tangibility, Reliability, Responsiveness, Assurance and Empathy. Each dimension has its sub-dimensions and respondents are required to rate their perceived and expected service quality level on a likert scale. The mean difference of perception and expectation (P-E) of all dimensions determines the overall quality of services. A positive difference indicates customers are satisfied while negative difference indicates dissatisfaction.

Self-Efficacy is the perception of one's own abilities, skills and the inner belief that he/she can effectively and efficiently use those skills for performance of a specific task. The higher self-efficacy one has, the higher are his chances for success. Research indicates that perceived self-efficacy is more important for inventions and venture creation as compared with outward realities (Markman, Balkin, & Baron, 2002). But is there any association exists between quality of business education with entrepreneurial self-efficacy? Entrepreneurial self-efficacy is the firm belief of a person to successfully perform leadership and managerial practices and tasks required to start and run a

new business. To measure entrepreneurial self-efficacy, the most comprehensive and widely used tool is entrepreneurial self-efficacy devised by Jeffrey E.McGee, (McGee, Peterson, Mueller, & Sequeira, 2009). It asses entrepreneurial self-efficacy with six dimension of entrepreneurial behaviour namely Searching, Planning, Marshalling, Implementing People, Implementing Financials and Overall Venture Behaviour.

Lack of entrepreneurial spirit in business graduates of Pakistani universities, as suggested by GEM Pakistan Report (Qurashi & Mian, 2012) served as a motivation factor of this study. The prime objectives of this study are to evaluate the followings:

1. To what extent students of public and private sector universities are satisfied from the quality of business education in Pakistan?
2. Whether satisfied students have higher entrepreneurial self-efficacy than dissatisfied?

The data for study was collected from MBA students of four universities in Pakistan namely Punjab University, Government College University, University of Central Punjab and Superior University (hereinafter referred to as PU, GCU, UCP and SU, respectively). Former two are public sector universities and latter are from private sector. Satisfaction level of students is measured with SERVQUAL measure and entrepreneurial self-efficacy with Entrepreneurial Self-Efficacy measure.

The remainder of this paper is constructed as such. First, methodology used for data collection and to draw results is described. Second, the results of the study are presented followed by a section on discussion on those results. Fourth section elaborates conclusion. Fifth section summarizes some policy recommendations and last section indicates limitation of the study and future directions.

Research Methodology

A questionnaire was designed for data collection according to SERVQUAL and Entrepreneurial Self-Efficacy dimensions with a five point Likert scale with 5 denoting strongly agrees and 1 as strongly disagrees. The instrument was pre-tested to check its reliability and validity. In first part of questionnaire, respondents were asked to provide their demographics information including age, gender, name of institution and year of business education. Second part of questionnaire records expectation of services provided by university and perceived satisfaction of services of respondents on 5 SERVQUAL dimensions and it's 17 sub dimensions as Tangibility (4 sub-dimensions), Reliability (3 sub-dimensions), Responsiveness (4 sub-dimensions), Assurance (3 sub-dimensions) and Empathy (3 sub-dimensions). As social, economic and institutional conditions vary among countries and regions, a model devised in a specific country or environment may not work well in another. Therefore, instrument was slightly modified from original version proposed by Parasuraman (A. Parasuraman, et al., 1985) to properly assimilate with local educational context. Third part of questionnaire includes questions recording response of students about their perceived level of entrepreneurial self-efficacy to start a business venture as proposed by (McGee, et al., 2009). Using this questionnaire, data was collected from PU, GCU, UCP and SU. We distributed our questionnaire to randomly selected 100 students of MBA from each university and received back 336 questionnaires. Elimination of

incomplete and/or invalid questionnaires left us with 323 questionnaires. Ethical considerations were taken into account while collecting data. The participants were assured about informed consent, confidentiality, and anonymity of their responses. Response rate remained 84%. SPSS version 22 was used to analyze data and draw results. Cronbach's Coefficient Alpha, developed by Cronbach Lee J (Cronbach, 1951) was calculated to determine the internal consistency and reliability of data. A score of 0.70 or higher is considered to be good. For this study, Cronbach's Coefficient Alpha was found 0.78, 0.81 and 0.77 for perceptions, expectations and entrepreneurial self-efficacy, respectively. Independent sample T-Test was used to determine demographics variable results and One sample T-Test was used to measure the perceived satisfaction of students from business education. One-way ANOVA with post-hoc analysis was run to determine the variance of perceived satisfaction on the basis of institutions.

Results

Demographic variables of respondents include gender, age and year of business education. Table 1 indicates that 45.5 % of the respondents are male and 54.05 % are female. Furthermore, 83% respondents were between 20 to 23 years in age followed by 15.2% between 24 to 28 years. 46.7% students are in their 3rd year of business education followed by 2nd year students at 23.5%, 14.9 % students were in their 1st year, 13.6% in their 4th year and only 1.2% students have taken more than five years business education. Average years of business education remained 2.6.

Table 1 Demographics Variables of Respondents

Variable	Group	No.	%
Gender	Male	147	45.5
	Female	176	54.5
Age Structure	20-23	268	83
	24-28	49	15.2
	29 and Above	6	1.9
Year of Business Education	1st Year	48	14.9
	2nd Year	76	23.5
	3rd Year	151	46.7
	4th Year	44	13.6
	More than Five Years	4	1.2

Table 2 highlights Overall mean scores of Perception (P), Expectation (E) and their difference on SERVQUAL dimensions. The difference of mean scores of Perceptions and Expectations (P-E) determines the level of satisfaction or dissatisfaction of students. A positive score indicates satisfaction meets or exceeds expectation while negative score highlights dissatisfaction from quality of services.

Table 2 Overall Satisfaction Level of Students

SERVQUAL Dimension	Sub-Factor	Perceptions of Students (P)			Expectations of Students (E)			Difference (P-E)
		Mean	S.D.	Sig.	Mean	S.D.	Sig.	
Tangibility	Modern Equipment	3.899	1.2039	.000	3.551	1.0073	.000	0.348
	Provision of Physical Facilities	4.137	1.2269	.000	3.252	1.005	.000	0.885
	Well-Dressed Staff	4.322	1.3093	.000	3.251	0.855	.000	1.07
	Comfortable Accommodation Arrangements	3.254	1.3444	.000	3.025	0.6985	.000	0.229
	Total	3.903	1.2711		3.27	0.8914		0.633
Reliability	Fulfillment of Promises	4.233	1.2616	.000	3.811	0.9676	.000	0.422
	Sympathetic Staff	3.456	1.1672	.000	3.848	0.99	.000	-0.392
	Efficient and Effective Record Maintenance	3.524	1.2189	.000	4.164	0.6648	.000	-0.64
	Total	3.737	1.2159		3.941	0.8741		-0.204
Responsiveness	Communication of time for Services	4.212	1.2113	.000	3.021	0.9409	.000	1.191
	Delivery of Services in First Attempt	4.322	1.2314	.000	3.607	0.9817	.000	0.715
	Willingness of Staff for Help	4.252	1.2432	.000	4.295	0.7151	.000	-0.04
	Quick Response of Staff	4.322	1.2331	.000	3.021	0.6859	.000	1.301
	Total	4.277	1.2298		3.486	0.8309		0.7917
Assurance	Trustable Staff	3.857	1.2109	.000	3.256	1.16	.000	0.601
	Safe Enjoyment of Services	4.024	1.2015	.000	3.842	1.1542	.000	0.182
	Knowledgeable Professors	4.254	1.1572	.000	3.322	0.7514	.000	0.932
	Total	4.045	1.1899		3.473	1.0219		0.572
Empathy	Individualized Attention	4.237	1.17	.000	3.986	0.6315	.000	0.251
	Understanding of Specific Needs by Professors	3.985	1.1881	.000	3.78	1.2227	.000	0.205
	Convenient Timing	2.824	1.2671	.000	3.656	1.2322	.000	-0.83
	Total	3.682	1.208		3.81	1.029		-0.13
	Grand Total	3.9288	1.2294		3.596	0.9294		0.332

Difference of mean score of perception and expectations of services is positive in 3 dimensions (Tangibility, Responsiveness and Assurance) and negative in 2 dimensions (Reliability and Empathy) of SERVQUAL. Overall P-E is positive (0.332), which indicates that students are satisfied from services of their respective universities. The total mean score of all five dimensions of service quality remained 3.9288 for perceptions and 3.596 for expectations. The difference of P-E is 0.332, which means that students are satisfied from services provided by universities. But the satisfaction level is relatively lower. Moreover, students were found dissatisfied in dimensions of Reliability and Empathy as P-E for these dimensions is negative (-0.204 and -0.13 respectively). The difference of mean scores of Tangibility, Responsiveness and Assurance is positive (0.633, 0.7917 and 0.572 respectively) which indicate students are satisfied in these dimensions. Highest mean score in expectations were given to the dimension of Reliability (3.941) followed by Empathy (3.81). Mean scores of Tangibility, Responsiveness and Assurance were found to be 3.27, 3.486 and 3.473, respectively. In Perceptions, mean score of Responsiveness was found to be highest (4.277) followed by Assurance (4.045). Tangibility, Reliability and Empathy got 3.903, 3.737 and 3.682, respectively. Well-dressed staff, sub-dimension of Tangibility, delivery of services in first attempt and quick response of staff, which are sub-dimensions of Responsiveness got an equally high score (4.322), while Convenient timing, sub-dimension of Empathy was given the lowest (2.824). Similarly in expectations, willingness of staff for help, sub-dimension of Responsiveness was given the highest score (4.295) and communication of time for services and quick response of staff, which are sub-dimensions of Responsiveness were equally given lowest (3.021)

Table 3 summarizes results of one way ANOVA with post hoc analysis. Out of four universities, students of one public sector university (GCU) are dissatisfied, while students of other three universities are quite satisfied from quality of services. Overall, students of private sector universities were found more satisfied (0. 2379 and 0.0669 for UCP and SU respectively) as compared to public sector university students (0.0898 and -0.0394 for PU and GCU respectively).

The results also indicate considerable difference of perception and expectation of service quality level on institutional basis. Students of both public sector universities (PU and GCU) were found dissatisfied in dimensions of Responsiveness (-0.0121 and -0.0128 respectively) and Empathy (-0.2689 and -0.6261 respectively) contrary to students of private sector universities (UCP and SU) for Responsiveness (0.0636 and 0.0609 respectively) and Empathy (0.3835 and 0.1723 respectively). In sub-dimensions of SERVQUAL, mean difference of comfortable accommodation arrangements and quick response of staff is negative for all four universities. Students of both private sector universities were found dissatisfied with the sub-dimension knowledgeable professors. While in the same dimension students of both public sector universities are satisfied. It indicates that material resources are better available in private universities but they lack knowledgeable staff that is at the heart of the whole learning process. At the same time, both public sector universities students showed dissatisfaction from quick response of staff. So, there is a clear difference of satisfaction level of students of public sector from their academic and non-academic staff. Moreover, students of both public sector universities are dissatisfied and private sector universities are

satisfied from individualized attention and understanding of specific needs by professors. Mean difference of both public sector universities (PU and GCU) is higher for Reliability dimension (0.3883 and 0.462 respectively) than both private sector universities (UCP 0.3564 and SU 0.1293).

Table 3 Institutional Variance of Satisfaction Level

		Mean Score of Perception (P)				Mean Score of Expectation (E)				Difference (P-E)			
		PU	GCU	UCP	SU	PU	GCU	UCP	SU	PU	GCU	UCP	SU
Tangibility	Modern Equipment	3.965	3.875	3.875	3.221	3.252	3.328	3.221	3.021	0.7133	0.5467	0.6539	0.2
	Provision of Physical Facilities	3.995	4.211	3.986	3.897	3.904	3.916	3.958	3.861	0.0918	0.2954	0.0279	0.036
	Well-Dressed Staff	4.123	3.985	4.322	4.235	4.072	4.084	3.655	4.151	0.0509	-0.099	0.667	0.0839
	Comfortable Accommodation	3.888	2.783	2.972	2.895	4.265	4.277	4.113	4.163	-0.3776	-1.494	-1.140	-1.2675
	Total	3.9928	3.714	3.789	3.562	3.873	3.901	3.737	3.799	0.1196	-0.1877	0.0519	-0.237
Reliability	Fulfilment of Promises	4.231	3.89	3.885	4.023	3.964	3.819	3.606	3.826	0.2673	0.0705	0.2789	0.1975
	Sympathetic Staff	3.255	3.754	4.002	3.885	3.022	3.232	4	3.721	0.2331	0.5226	0.0021	0.1636
	Efficient & Effective Record Maintenance	3.846	3.897	3.887	4.353	3.181	3.104	3.099	4.326	0.6646	0.7929	0.7884	0.027
	Total	3.7771	3.847	3.925	4.087	3.389	3.385	3.568	3.957	0.3883	0.462	0.3564	0.1293
Responsiveness	Communication of time for services	3.785	3.655	3.635	3.745	3.723	3.615	3.221	3.023	0.0623	0.0403	0.4141	0.722
	Delivery of Services in First Attempt	3.756	3.625	3.746	3.047	3.024	3.251	3.323	3.19	0.7328	0.3739	0.4224	-0.143
	Willingness of Staff for Help	3.977	3.836	3.875	4.023	3.651	3.253	3.541	3.021	0.3253	0.5829	0.3333	1.0021
	Quick Response of Staff	3.108	3.241	3.366	3	4.277	4.289	4.282	4.337	-1.1687	-1.0482	-0.9155	-1.337
	Total	3.6566	3.589	3.655	3.454	3.669	3.602	3.592	3.393	-0.0121	-0.0128	0.0636	0.0609
Assurance	Trustable Staff	4.164	3.993	3.875	3.745	3.759	3.771	3.023	3.245	0.4052	0.2214	0.8514	0.5
	Safe Enjoyment of Services	3.178	3.512	4.022	4.032	3.023	3.111	3.124	3.142	0.155	0.401	0.8975	0.8897
	Knowledgeable Professors	4.552	4.423	4.023	3.885	4.374	4.422	4.409	4.337	0.1788	0.0014	-0.3854	-0.452
	Total	3.9648	3.976	3.973	3.887	3.719	3.768	3.519	3.575	0.2463	0.2079	0.4545	0.3124
Empathy	Individualized Attention	3.875	2.831	4.232	3.991	3.995	3.868	3.817	3.791	-0.1198	-1.0362	0.4146	0.2005
	Understanding of Specific Needs by Professors	2.892	2.795	4.322	3.888	3.687	3.639	3.732	3.581	-0.7951	-0.8434	0.5891	0.3061
	Convenient Timing	3.843	3.544	3.541	3.79	3.735	3.542	3.394	3.779	0.1083	0.0014	0.1468	0.0105
	Total	3.536	3.057	4.031	3.889	3.806	3.683	3.648	3.717	-0.2689	-0.6261	0.3835	0.1723
	Grand Total	3.790	3.638	3.856	3.744	3.700	3.677	3.618	3.677	0.0898	-0.0394	0.2379	0.0669

Table 4 presents results of Entrepreneurial Self-Efficacy level. Highest perceived ESE level was reported by students of a private sector university UCP (3.1810) followed by students of a public sector university PU (3.0155). ESE level of students of GCU and SU were found almost equal (2.9618 and 2.9651 respectively). No significant variance was found in any sub-dimension of ESE in any public or private sector university's students.

Table 4 Entrepreneurial Self Efficacy

ESE Dimensions	PU	GCU	UCP	SU
Searching	3.012	3.3373	3.152	2.9767
Planning	3.115	2.7711	2.986	2.9535
Marshalling	3.0482	2.8795	3.0282	2.9186
Implementing People	2.9157	2.9398	3.452	2.9651
Implementing Financials	3.123	2.8434	3.256	3.0349
Overall Venture Behaviour	2.8795	3	3.212	2.9419
Total Mean Score of ESE	3.015567	2.96185	3.181033	2.965117

Table 5 Correlation level of SERVQUAL and ESE

University	Mean Score of SERVQUAL	Mean Score of ESE
PU	0.08985	3.015567
GCU	-0.0394	2.96185
UCP	0.237976	3.181033
SU	0.06698	2.965117

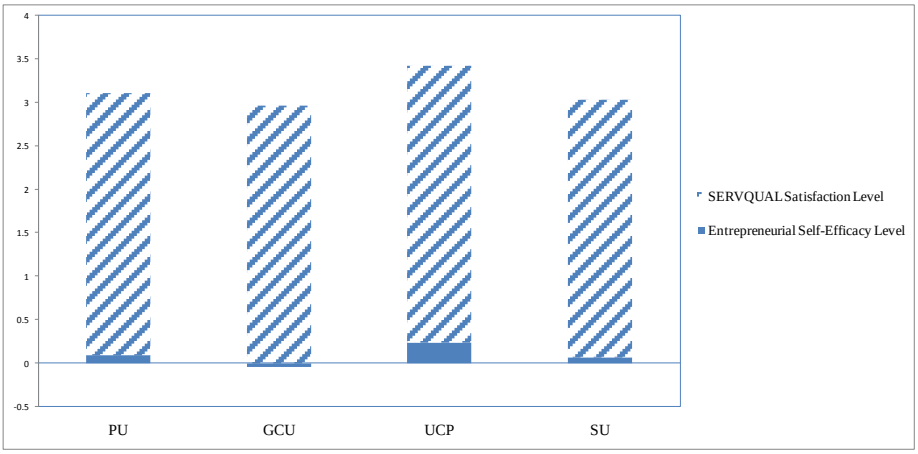

Figure 1 Correlation of Level of ESE and SERVQUAL Satisfaction

Finally, fig. 1 depicts the correlation of satisfaction from quality of education with entrepreneurial self-efficacy. Students of UCP reported highest level of satisfaction on SERVQUAL and their perceived level of entrepreneurial self-efficacy is also the highest (3.181033 and 0.237976 respectively) followed by students of PU (3.015567 and 0.08985 respectively). Mean score of ESE of GCU and SU is almost the same (2.96185 and 2.965117 respectively) but SERVQUAL satisfaction level of former is negative and latter is positive (-0.0394 and 0.06698 respectively).

Discussion

SERVQUAL model with its five dimensions was used to measure service quality and satisfaction level and Entrepreneurial Self-Efficacy model with its six dimensions to measure entrepreneurial self-efficacy of students. The results revealed that students of private sector universities are quite satisfied while students of public sector universities are not much satisfied and are even dissatisfied from quality of services. Moreover, satisfaction level of private sector universities' students is higher as compared with public sector universities' students. A possible reason of higher level of entrepreneurial self-efficacy of private sector universities' students might be wealthy family background that makes their risk orientation much different from their counterparts included in the study. PU is among one of most prestigious public sector universities in Asia established in 1882 and ranks among the top three public universities in Pakistan but its sheer positive value of SERVQUAL (0.08985) puts a big question mark on the quality of services of the remaining public universities, especially those working in remote areas with less human and physical resources. The results of this study corroborate the findings of a previous study conducted in Pakistan to measure satisfaction of students of 8 business schools in 2010 (Zeshan, Afridi, & Khan, 2010) but another study conducted in 2006 found students dissatisfied with higher education (Abdullah, 2006). This phenomenon leads us to believe that quality of higher education is improving gradually but slowly in Pakistan. Surprisingly, students of both private sector universities were dissatisfied by lack of knowledgeable professors. This could be due to the practice of private universities mostly hiring fresh graduates on temporary contracts to increase their profits. Butt examined the satisfaction level of students of Pakistan in both type of universities on the factors of teachers' expertise, courses offered, learning environment and overall classroom facilities provided by universities. The results proved that all these factors have significant positive impact on the overall satisfaction level of students of both genders and both type of institutions. However, teachers' expertise is the factor most influential on the satisfaction level of students (Butt & Rehman, 2010) and the results of this study corroborated it to an extent. Study showed that accommodation arrangements of both type of universities are not good and students are dissatisfied with it. Dormitories lack basic living facilities and students unions formed on political and even religious basis exists. The possible reason of poor accommodation arrangements might be lack of funding and greed of profit maximization in public and private sector universities, respectively. Students of both public sector universities are dissatisfied in dimensions of Responsiveness and Empathy. These two dimensions of SERVQUAL mostly deal with behaviour of staff of an organization with its customers and in public sector organizations; behaviour of staff is not very polite given the lower level of accountability, lack of motivation, and shabby working conditions. In contrast, private higher educational institutions provide best available physical resources with excellent working environment and hire self-motivated and dedicated staff to satisfy their customers. Customers' satisfaction increases their overall repute in society, university's ranking and profits.

Conclusions

Quality of services of higher educational institutions is imperative to facilitate the students for learning. The objective of the study was to empirically measure the perceived level of satisfaction of public and private sector university students from quality of services being provided by their universities and their perceived level of entrepreneurial self-efficacy. The results proved that quality of business education is quite higher in private sector

universities and lower in public sector universities in Pakistan. Resultantly, satisfaction level of students of private sector universities is higher and public sector is lower and this dissatisfaction is negatively affecting students' self-efficacy in their respective fields. The students are most dissatisfied in the fields of Reliability and Empathy and much satisfied in the fields of Responsiveness and Tangibility. Furthermore, significant room for improvement exists in higher educational institutions of Pakistan, though the areas of improvements are different in public and private sector universities. Private sector universities are in need to improve intangible resources to create a true learning environment and public sector universities need to improve physical and tangible resources to facilitate students. The study also shed light on correlation between satisfaction level and perceived entrepreneurial self-efficacy. Students of private sector universities are more satisfied from quality of services and their perceived entrepreneurial self-efficacy level is higher. The relationship is proved to be *positive* as perceived level of entrepreneurial self-efficacy of satisfied students is higher (UCP and PU), while perceived level of entrepreneurial self-efficacy of dissatisfied students (GCU) is lower.

Policy Implications

Government should invest more in public sector universities to build tangible facilities with a positive learning environment. Non-academic staff of public universities should be accountable on clear service benchmarks to evaluate their performance which would in turn drive up students' satisfaction. Clear regulatory policy should be issued for appointment of academic staff in private universities. Small and Medium Enterprises Development Authority (SMEDA)[1] should collaborate closely with business schools to facilitate and inculcate entrepreneurial spirit in business graduates.

Limitations and Future Directions of the Study

All four universities included in this study are situated in Lahore, provincial capital of most developed Punjab province of Pakistan. Geographical proximity of sample universities is a limitation. Business education is not the sole factor affecting entrepreneurial propensity. Numerous other personal, social and economic variables should also be taken into account.

For future research, a comprehensive set of variables should be taken into account. It includes, personal psychological and social factors that affects positively or negatively on entrepreneurial propensity of an individual. Additionally, rule of law in society, economic and political stability in the country and availability of competitive jobs in market should also be considered. Within research methodology, a diverse population and heterogeneous sample should be selected for future research.

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