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Lecturers' Aptitudes, Attitudes and Professional Development in Higher Education at University of Cuenca

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Abstract: Continuous changes in social demand and development provide an acute and continuous pressure on universities. The question is whether higher education institutions (HEI) in Ecuador deliver graduates with the competences to provide timely economic, ecological, and sustainable solutions. Additionally, HEIs should prepare graduates to find employment in a society characterized by greater uncertainty, extensive use of information technology, speed, risk, complexity and interdisciplinary work. To face this challenge, universities need lecturers to possess a mix of aptitudes, attitudes, and professional development in teaching, research, and services. Unfortunately, knowledge is sparse about the readiness of their pupils to function effectively in a rapidly changing and increasingly globalized environment. Accordingly, this study uses an explanatory sequential mixed-methods approach to explore the impact of lecturers' aptitudes, attitudes, and professional development on teaching and student learning at the University of Cuenca. Lecturers' perceptions about their aptitudes and their attitudes are higher than the students' perceptions. Faculty representatives believe that untenured lecturers have a better attitude and aptitude than the tenured lecturers. A third part of lecturers have achieved one of the required criteria in research development. Students from biological sciences are more satisfied with their lecturers and the competence development that they receive than the students from social sciences or engineering. Understanding the likely implication of the variables, aptitudes, attitudes and professional development, on the quality of teaching and learning is fundamental for the design and carrying out of educational reforms.

Keywords: *Higher education, aptitudes, attitudes, professional development.*

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Introduction

Since 2010, the Ecuadorian Higher Education system has undergone many changes. This has required Ecuadorian universities to adjust to the changes required by the government entities as well as those demanded by a globalized world. Due to these challenges, the University of Cuenca has envisaged the need to align itself to these trends and set the internationalization of the institution as one of its primary objectives.

What constitutes quality education around the world has been modified principally due to three factors. First, the internationalization of higher education institutions (henceforth HEI); second, the growing scope of educational fields and adjustments to graduate profiles; and finally, technological advances which quickly render established methodologies and educational content obsolete (Hénard & Roseveare, 2012).

According to United Nations Educational, Scientific and Cultural Organization (UNESCO, 2018) and its Member States, quality assurance of higher education has gained visibility worldwide during the last 20 years, and therefore, have driven the workforce towards guaranteeing quality in higher education, mostly in developing countries. UNESCO's strategy focuses on appropriate quality assurance systems and regulatory frameworks with the stakeholders' involvement and particular attention to higher education efficiency and accountability for delivering quality graduates. Consequently, higher education systems play a major role in the development and strengthening of any society and its economy to provide sustainable and decent standards of living for all. In this framework, the Ecuadorian higher education system has been exposed to many changes since 2010. The Academic Regime Council of Higher Education

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Regulations (2017), in Article 3, encompass three objectives regarding strategic elements towards focusing on the needs of transformation and social participation, fundamental to achieve well-being. These selected sections are stated as follows:

> b. Regulate academic-training management at all levels of higher education training and learning modalities to strengthening research, academic and professional training, and community outreach.
>
> d. Articulate academic and professional training, scientific, technological, and social research, and community outreach, within a framework of quality, innovation and pertinence.
>
> i. Promote integration of academic and research networks at national and international levels to develop knowledge production processes and professional learning. (p. 3)

It is for this reason that Ecuadorian HEIs have been engaged in transformations aimed at meeting the demands coming from both government entities and a globalized world (Palloroso Granizo & García Rondón, 2019). The aim of the study is to determine the impact of lecturers' aptitudes, attitudes and professional development on students' education related to their graduate profile.

Research questions

1. How do the perceptions of faculty representatives and students relate to lecturers' own perceptions of their aptitudes and attitudes?
2. Do lecturers meet the required criteria in research development?
3. Do opinions of engineering, social science and biological science students differ regarding the quality of instruction they receive from their lecturers?

Literature Review

Competence

The term competence is first used in education in 1973 to refer to the set of knowledge, skills and aptitudes needed to perform a certain task (McClelland, 1973; Ortega Navas, 2010). Bunk, (1994) adds that this set is necessary to perform a profession and solve professional problems in an autonomous way. González Maura and González Tirados (2008) broaden this definition by adding motives and values to this set. To sum up, the Tuning Project (2008) addresses the term competence as a "*dynamic combination of cognitive and metacognitive skills, knowledge and understanding, interpersonal, intellectual and practical skills, and ethical values*" (p. 147). Additionally, the Tuning Project (2008) encompasses two fundamental categories: generic and subject-specific competences. This categorization aims to provide teachers with tools to help students develop both their graduate profiles and their learning outcomes; and their ideal competences in terms of skills, knowledge, and content based on their study program (Guerrero Serón, 1999; Lévy-Levoyer, 2000; Mertens, 1996; Ortega Navas, 2010). Thus, Ortega Navas (2010) states that generic competences are subdivided in instrumental competences, which deal with linguistic, cognitive, information management methodology, problem solving, decision making, and technological abilities. Second, interpersonal competences, dealing with social abilities, cooperation, critical and auto-critical ability, and ethics. And finally, systematic competences, which have to do with abilities that encompass the combination of knowledge and its practical application.

In addition to competences outlined by Ortega Navas (2010), UNESCO and the Organization for Economic Co-operation and Development (OECD) have established that; i. Teaching should be oriented to what future professionals will need to apply in the workplace. ii. Raising awareness on the need for training the professionals of the future, who have to meet international standards. iii. The teacher's profile is made up of a set of competences that integrate knowledge, skills, abilities, aptitudes, attitudes and values of the teacher and which he will put into practice. iv. Student performance depends on family, personal, institutional, economic and social factors (Arias Gómez et al., 2018). In this context, the terms aptitudes, attitudes and professional development stem from the subdivision Ortega Navas (2010) presents, and thus, these subcategories need to be elaborated for the sake of this study.

Aptitudes

Pany (2013) states that an aptitude is a special skill that differs from the general intellectual skill to obtain the required level at the workplace. Research coincides (Rahman, 2014; Sajan, 2010) that the lecturer's aptitude is one of the main determinants of the effectiveness of the teacher as they correlate. Correspondingly, a biological definition considers that *"aptitude is something which comes naturally. It refers to those capabilities which are present in a person's DNA"* (Virender-Singh, 2017, p. 103). In addition, a study of some psychological correlates of successful teachers shows that there is a positive relationship between aptitude and success in teaching (Rahman, 2014). In accordance to what the theory states, an aptitude can be inferred as a set of capacities someone has been born with and that is developed throughout life to perform certain tasks.

Attitudes

Oskamp and Cameron, (1977) and Eagly and Chaiken (1993) have stated that an attitude is the cause of a person's behavior toward another person or an object either positively or negatively. Studies indicate that attitudes are basically dynamic, thus they can change over time as they are affected by contexts, people, and experiences (Adegbija, 1994; Herdina & Jessner, 2002). Conversely, negative attitudes regarding development and change hinder the efficacy of professional development protocols; however, those negative attitudes commonly arise from a lack of knowledge about the reason for change (Fernández Díaz et al., 2010). McGuire (2013) states that any institution may affect attitudes by their structures' determining the stimulus situations to which the person is exposed to, the level and type of motivation aroused. This study suggests that positive attitudes encourage change and lead to greater efficacy of faculty development programs. By definition an attitude is the behavior someone has and it can be modified either in favor or in disfavor towards a situation or a person over time. Likewise, Salami (2010) found out that both cognitive and affective variables influence students' achievements and attitudes, showing that the more a student shows emotional intelligence, the more motivated he or she will be to succeed in college.

Professional Development

Lecturers' professional development (PPD) is one of the fundamental pillars for the proper functioning of the teaching and learning process (Bozu & Canto Herrera, 2009). Authors (Tejada Fernández, 2013; Zuber-Skerritt, 2013) consider that PPD should be a voluntary, progressive, self-developed and institutional evolution towards professional and institutional strengthening. Nicholls (2014) remarks on the fact that PPD deals with the relationship between the individual's work environment and his perception of his role within it. Regarding PPD, Garbanzo Vargas (2007) points out that, in addition to personal and social considerations, institutional aspects can influence students' performance. Another lecturers' competence that UNESCO and OECD recommend is raising awareness on the need for training the professionals of the future, who have to meet international standards (Arias Gómez et al., 2018). Unlike teachers of elementary, middle and high schools, higher education lecturers must focus not only on teaching, but on other activities such as research (Campbell, 2013). Salanova Soria et al. (2005), after analyzing the benefits and the drawbacks of academic performance in higher education, through the analysis of information obtained from a focus group of students, conclude that a lack of PPD is considered an impeding factor in academic performance. Considering some of the latter statements, lecturers' professional competence to the present study, concerns the capability to get involved in permanent training process and the dedication of time to do research not only for fostering learning but for achieving academic promotion since it plays an important role in meeting international research standards. Nonetheless, HEIs, when trying to promote professional development through incentives, have created a competitive environment which undermines lecturers' academic performance, somehow. In this matter, Moher et al. (2018) argue that there is an increasing number of institutions that consider the system of faculty incentives and rewards not to be aligned to the needs of society. Similarly, Niles et al., (2019) surveyed academics from 55 different American and Canadian institutions in order to explore their perceptions towards review, promotion, and tenure (RPT). The surveyed lecturers indicated that the total number of publications per year and journal name recognition were the most valued factors in RPT out of other criteria. McKiernan et al. (2019) remark on the fact that the use of the Journal Impact Factor (JIF) is encouraged in RPT evaluations at American and Canadian research-intensive universities; however, they say there is work to be done to avoid potential misuse of the JIF. Therefore, Schimanski and Alperin (2018) strongly recommend HEIs should decrease pressure to publish in prestigious traditional journals. To sum up, HEIs ought to reflect on the fact that although research empowers education, teaching practices should also be considered as a fundamental pillar in higher education.

Revisiting the topic of competences, the subject-specific one is that mainly related to the ability to learn how to learn. This type of competence is considered fundamental to both the professional and formative profiles and it is characterized because it is transferable to different tasks, functions, and enables students to integrate successfully in work and social life. Also, Ortega Navas (2010) says that the subject-specific competence is based on the skills and knowledge applied in the position and the tasks one has.

Díaz et al. (2002) cited in Garbanzo Vargas (2007) argue that the academic performance of university students constitutes an essential factor in addressing the issue of the quality of higher education as it is an indicator that facilitates an approach to the educational reality. Therefore, concerns within the University of Cuenca have been raised regarding the response of lecturers and students to the changes that the Ecuadorian university has undergone. Due to these conjectures and presumptions expressed by the community, the objective of this study is to contribute to the generation of knowledge in relation to the impact that the skills, attitudes and professional development of the lecturers of the University of Cuenca have in the teaching and learning process.

Methodology

Context

In order to meet standards and reach a level of competence equal to that of other HEIs in the country, the region, and worldwide, educational reforms are currently occurring at the University of Cuenca, which is a public HEI founded in 1867 in Cuenca, Ecuador. The university commits to responding to economic, ecological and sustainable solutions for the problems that society is increasingly confronted with as stated in the 2017-2021 University of Cuenca strategic plan (2017). However, lecturers and students have raised concerns regarding changes at this Ecuadorian university.

Focus

The study adopted explanatory sequential mixed methods since the quantitative data supports qualitative data collection to provide more accurate information (Creswell, 2009) for the collection, analysis, and interpretation of a wide range of data collected from lecturers, undergraduates, and faculty representatives (mainly subdeans/associate deans).

Sample and Data Collection

The participants belong to four levels of the University of Cuenca, respectively undergraduate and graduate students, lecturers and faculty representatives. Retrospective data were collected from the university's questionnaire of lecturers' self-evaluation and students' evaluation of lecturers which included 2,184 students and 1,632 lecturers. This information belongs to the 2016-2017 and 2017-2018 academic years. A total of 1,011 undergraduates (221 from biological areas, 402 from social sciences, and 388 from engineering areas) provided information about their general satisfaction related to their general academic profile (sample taken from the term March to June 2019). Finally, 11 out of 12 faculty representatives participated in a qualitative interview carried out in July 2019.

Instruments

The following three instruments for data collection were applied: a questionnaire for lecturers' evaluation, a questionnaire for undergraduates, and an interview for faculty representatives.

The first instrument used was the *questionnaire for lecturers' evaluation from the Evaluation Department of the University of Cuenca*. According to the authors, this questionnaire has a >0.80 reliability and enough concurrent, predictive, and interobserver validity (Universidad de Cuenca, 2015). Out of the 74 questions, 19 questions related to the subject of this study were taken into account to contrast information regarding lecturers' self-evaluation (15 questions: two related to aptitudes, two related to attitudes, and 11 related to professional development). It also included students' evaluation of lecturers (four questions: two related to aptitudes and two related to attitudes).

The second instrument was the *questionnaire for undergraduates*, created and applied by this research team, an online survey with 18 items applied to obtain information about students' education related to their graduate profile. To measure the validity of the instrument, an Exploratory Factor Analysis (EFA) was applied for the questionnaire. This process permitted a reduction of the questionnaire to 13 questions, presenting a Cronbach's Alpha of .914 equivalent to "very high" reliability (DeVellis, 2016). The Kaiser-Meyer-Olkin KMO achieved is 0.918 equivalent to "excellent" and the level of significance of the Bartlett's test of sphericity is equal to 0.000. In order to know how many factors were to be extracted, the total variance matrix explained with two factors explains 59.08% of the variance, which is considered acceptable (Lovia-Boateng, 2018). To extract the factors, the Varimax (Maximum Variance) orthogonal rotation technique was conducted preferring factor load greater than .50, assuming that each factor is independent from the others (Tabachnick & Fidell, 2013). To assess the validity of the construct (Lovia-Boateng, 2018), the partial correlation coefficient was calculated taking into account the effect of the students' age, but no effect was found.

The *questionnaire for undergraduates* has been established with six items for the first dimension and with seven items for the second dimension to show factor load, based on the interpretation of factors that implies a theoretical and inductive factor name (Henson & Roberts, 2006). In this case, Dimension 1 has items related to their satisfaction with their general academic profile, henceforth called "general satisfaction", and Dimension 2 contains items related to students' practices according to the professional profile, henceforth called "competence development".

Table 1. Extraction with principal component analysis and Varimax rotation with Kaiser normalization to the questionnaire for undergraduates.

	Dimension	
	1	**2**
The knowledge I have learned, I think, allows me to solve practical problems.	.436	.518
Pre-professional practices are similar to what I should do in my professional life	.171	.818
Pre-professional practices strengthen my professional training.	.176	.858
The problems that the subjects address are contextualized.	.284	.639
My professional training is according to the labor demand.	.331	.631
The graduates from my program are competent in their field.	.402	.629
The graduates from my program are ethical professionals.	.465	.573
If I had the opportunity to choose where to study this major, I would do it again at the University of Cuenca.	.513	.450
My professors are prepared to give me good training.	.816	.284
The professors' training is useful for my professional training.	.785	.337
The professors' training is enough for my own training.	.787	.195
Professors have up-to-date knowledge of the subject.	.802	.303
The professors with the highest university education degree are the ones that contribute most to my learning.	.531	.205

The third instrument was an interview for faculty representatives, created and applied by this research team. It included 10 questions: three about lecturers' knowledge, one about lecturers' professional practices, three about lecturers' professional development, and three about lecturers' attitudes towards teaching (Table 2).

Table 2. Faculty representatives interview questionnaire.

Categories	**Questions**
Lecturers' knowledge	To what extend does the theory taught by your lecturers meet the criteria stated on the students' graduate profile?
	When a student graduates, does he or she have more theoretical or competence development?
	What criteria were applied to design the study programs curriculum?
Lecturers' professional practices	Apart from pre-professional practices, what other activities contribute to the students' graduate profile?
	To what extend are the lecturers at your school up-to-date?
Lecturers' professional development	Is the lecturers' training useful and sufficient to prepare students for their professional career and how does your school promote teaching staff professional development?
	To what extend do the training lecturers have and the research lecturers conduct and disseminate impact on students' learning?
Lecturers' attitudes towards teaching	Have the teachers had any kind of issue with the students? Is there any difference between the attitude of an untenured lecturer and of that a tenured one, and how have the faculty representatives solved these issues?
	Do you think that the relationship between teachers and students is cordial?
	To what extend does the need of being promoted impact on teaching performance?

To ensure the reliability of qualitative analysis, expert opinions were asked to build the questionnaire (Damaskinidis, 2017).

Analyzing of Data

It is important to state that the questionnaires used in this study do not belong to a single database, but to three different ones (see methodology section). In this sense, the quantitative and qualitative data are correlated to provide an interpretation of the results. The descriptive results of aptitudes, attitudes and professional development, as well as the opinion of the students of the University of Cuenca were processed with SPSS 25 (Field, 2018). In addition, contrast tests were carried out first to compare the lecturers' opinions about their own teaching and the students' opinions regarding their lecturers; the data followed a non-normal distribution, thus a non-parametric Mann–Whitney U test was applied. Secondly, to establish similarities and differences with respect to the three areas of knowledge such as social sciences, biological sciences and engineering via Kruskal–Wallis one-way analysis of variance. The point of view of faculty representatives' qualitative analysis of aptitudes, attitudes, and professional development was analyzed via Atlas ti 7 (Woolf & Silver, 2017). Fictitious names were used to keep interviewees' anonymity.

Results

Lecturers' Attitudes

The questionnaire of lecturers' self-evaluation and students' evaluation of lecturers included a question on the receptive attitude related to the attention of the lecturers to their students' requirements and motivations. The question corresponds to a Likert scale from 1 to 5. According to the self-evaluation, lecturers have an average of 4.98 points (SD=0.14) and, according to the students, their lecturers have an average of 4.50 points (SD=0.33). This is a statistically significant difference between both groups [U=74846,0; Z=-52.708; p=0.000]. Another question was about the lecturers' relationship with the students. The self-evaluation yielded an average score of 4.98 points (SD=0.16) and the student's evaluation resulted in an average score of 4.53 points (SD=0.32) which implies a significant difference [U=88111,5; Z=-52,310; p=0.000]. Based on both questions, lecturers are absolutely sure that they possess a very good attitude, but the students show some doubts.

Based on the responses to the interview held with most of the faculty representatives, it was possible to collect information about their perceptions of lecturers' attitudes regarding their teaching. Most of the faculty representatives consider that lecturers have a cordial relationship with the students and among one another. However, it was clearly seen a division in "attitude" between two groups of lecturers: those faculty members under a contract and those with a tenured position. The untenured lecturers are willing to teach any subject or to participate in any research team, since their aspiration is to get tenure. Nevertheless, when they obtain a tenured position, the perception is that they tend to devote their time to both research and administrative duties rather than teaching. Hereby, there is a faculty representative testimony that confirms the latter statement:

> *Tenured lecturers make their rights stand according to what is stated in the institution policy. On the other hand, untenured lecturers are the ones appointed with most of the teaching load. The institution policy establishes that untenured lecturers can get a load up to 24 hours of class time. The same policy states 16-20 hours of class time for tenured lecturers. Therefore, a clear difference exists* (Miguel).

Miguel's assertions are clearly seen on the Teaching Staff Workload Regulations of the University of Cuenca (2018), articles 8 and 10.†

Lecturers' Aptitudes

Regarding the questionnaire of lecturers' self-evaluation and students' evaluation of lecturers, there are two questions about the lecturers' aptitudes. The first question is about the didactic material (whiteboard, audiovisuals, Internet, models) used in support of the learning process. According to the lecturers' answers they "always" use this material (Mean=4.92, SD=0.28) but students' responses, on the other hand, state that they "almost always" use this material (Mean=4.49, SD=0.32). There is a statistically significant difference [U=244643,5; Z=-47,153; p=0.000]. The second question is related to the lecturers' use of appropriate and up-to-date bibliography. According to the lecturers' version, their references are always appropriate and updated (Mean=4.91, SD=0.28). However, the students' version states that it does not always occur (Mean=4.49, SD=0.32), and there is a statistically significant difference [U=279488,0; Z=-46,034; p=0.000. In conclusion, lecturers consistently rate their self-evaluation of their own aptitudes higher than students rate them as educators.

According to the questionnaire for faculty representatives, they believe that lecturers have aptitudes that improve their students' education, but these aptitudes have no relation whatsoever with their academic preparation. For that reason, interviewed faculty representatives said that the schools have implemented a training process in teaching methods to improve the lecturers' teaching aptitude. One faculty representative, Marco, said that *"despite the fact that some lecturers have reached a PhD level, there is a lack of teaching training. Being a qualified professional does not necessarily mean being a competent lecturer."* Faculty representatives stated that having a high academic degree does not necessarily make a skilled lecturer.

Another demand that might undermine lecturers' aptitudes is research. Most of the faculty representatives think that the university's rise in research capacity, in terms of quantity and quality undermines the teaching quality. Other faculty representatives said that "*more emphasis is given to research than to teaching*" (Angela). "*The research that is currently being conducted does not focus on students' needs*" (Carlos).

Romina's and Carmen's observations best summarize what has been previously said. "*The demand for research undermines teaching*" (Romina-faculty representative).

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† Article 8. *"Full-time tenured lecturers that are appointed 17 or more hours for research, will have 8 to 12 teaching hours a week. Those full-time tenured lecturers that are appointed 5 to 16 hours for research, will have at least 12 teaching hours a week at graduate or postgraduate levels."*

Article 10. *"Full-time untenured lecturers will be appointed 14 to 24 teaching hours a week, taking into consideration the Promotion Regulations. The remaining hours will be devoted to other activities related to teaching, research, community outreach, or administrative and academic management.*"

> *There is a strong overgeneralization that publishing articles helps you in every possible way; for instance, getting a position in a HEI, getting promoted within the institution, determining whether or not you are a qualified professional, among others. On the way to reach this research objective, teaching is being left behind.* (Carmen-faculty representative)

Since there are more benefits when doing research than when teaching, lecturers tend to become more research-oriented rather than teaching-oriented. Therefore, it is preferable to leave teaching behind because publishing papers helps to improve one's institutional position.

Lecturers' Professional Development

Based on the lecturers' self-evaluation and students' evaluation of lecturers' questionnaires, some information about the academic development surfaced. For example, 3.3% of the lecturers published a paper in the first quartile in ISI Work or Scopus. On the other hand, 4.8% published a paper in the rest of quartiles in ISI Work or Scopus; 8.6% of the lecturers published a paper in local or regional journals; 5.5% published a congress paper; 0.8% published a book in international editorials, 2% published a book in national editorials, 1.5% published a chapter in a book in international editorials, and 1.7% published one or more chapters in a book in national editorials; and 5% presented research findings in international certified conferences. Finally, 0.3% of the lecturers obtained a technological patent. Only 29% of the lecturers achieved one of the required criteria in terms of research development. Half of the lecturers who have participated in high-level events or publications remain at this level (correlation=.50; $p<0.05$).

With respect to the professional development all faculty representatives said that all faculty schools implemented trainings in teaching to contribute to the improvement of the lecturers' professional profile. The category Professional development encompasses the fact that the schools support their lecturers to participate in congresses, to attend teaching training, and to pursue a PhD or a post doctorate. The schools have implemented programs to help tenured lecturers; however, scarce help has been provided to those under a contract. This can be seen in the next quotation.

> *There are lecturers who consider the promotion process positively. Therefore, these lecturers commit themselves to publish, conduct research, and participate in community outreach projects. Meanwhile, other lecturers feel to be under pressure and being observed, because they have the impression of always being questioned and not being granted any rights to be promoted …. teacher training is useful, but it is not enough.* (Rosa)

It is important to mention that the faculty representatives also remarked that young lecturers are more interested in their professional development than senior lecturers.

Undergraduates' opinions on learning

In Figure 1, results of the students' opinion regarding the acquired competence development and their satisfaction with the undergraduate training are presented, considering the competence development and the general satisfaction dimensions, respectively in the fields of biological sciences, engineering and social sciences.

Competence development

To present the results, a transformation of factors was carried out by adding the items that belong to each of the factors. In the dimension known as competence development, based on the professional profile, an average sum of 19.53 (STD = 5.34) was found. Based hereon, the scores above 22 points can be considered the best evaluation and are situated in the 80th percentile of the general distribution, while the average level of 18 to 22 points can be classified as moderate (percentiles 30 to 75), while scores below 18 points are a bad evaluation located in a percentile equivalent to or less than 25.

A comparison among biological sciences, engineering, and social sciences shows that there are significant differences [Kruskal–Wallis (2gl) 36,548, p=0.000; eta squared= 0.022]. There are two groups according to the Mann Whitney U test. The highest level is 20.67 points (SD=5.46) equivalent to the 61th percentile. The other group involves the social sciences and engineering with an average of 18.72 points (SD=5.41) and 18.87 points (SD=4.90), accordingly, which is equivalent to the 35th percentile (Figure 1).

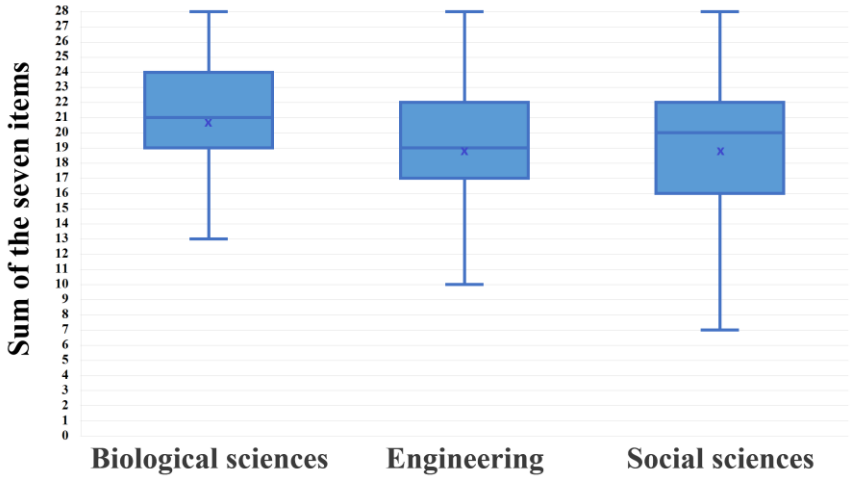

Figure 1. Box-Whisker plot of the undergraduates' evaluation regarding the dimension "competence development" in the fields of biological sciences, engineering and social sciences. The y-axis indicates the sum of the seven Likert items that corresponds to this dimension (from a minimum of 0 to a maximum of 28 points).

General satisfaction

The general satisfaction dimension with lecturers obtained an average sum of 16.85 (STD = 5.05). Scores above 20 points can be considered the best evaluation and are situated in the 80th percentile of the distribution. Scores from 15 to 20 points can be classified as moderate (percentiles 30 to 75), while scores below 15 points are a bad evaluation located in a percentile equivalent to or less than 25.

There is a similar situation in the general satisfaction dimension [Kruskal–Wallis (2gl) 23,163; eta squared= 0.014]. There are two groups according to the Mann Whitney U test. The highest mean belongs to the biological science with 17.92 (SD=5.29) equivalent to the 55 percentile, and the other two dimensions are social sciences (Mean=16.63, SD=5.14) and engineering (Mean=16.41, SD=4.73) equivalent to 59 percentiles, respectively (Figure 2).

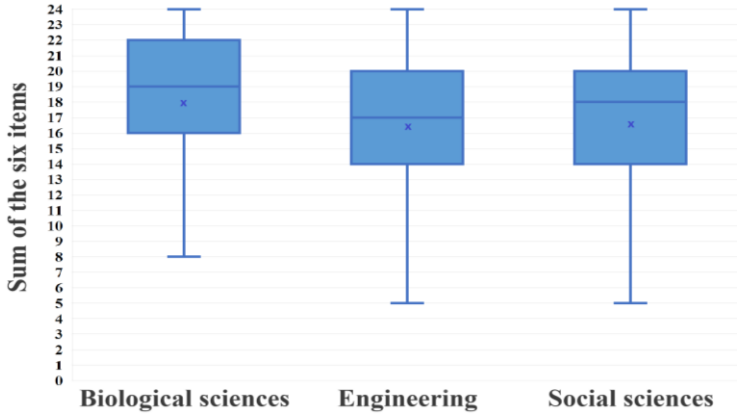

Figure 2. Box-Whisker plot of the undergraduates' evaluation regarding the dimension "general satisfaction" in the fields of biological sciences, engineering and social sciences. The y-axis indicates the sum of the six Liker items that corresponds to this dimension (from a minimum of 0 to a maximum of 24 points).

The two dimensions and the age of the undergraduates do not show a significant correlation.

Discussion

According to lecturers, their aptitudes and their attitudes towards teaching are always the highest; however, the opinions that their students have about these aptitudes and attitudes are not so high. Lecturers need to be equipped with knowledge, skills and competences in both teaching and research in order to offer quality education (Ramesh et al., 2019). Furthermore, it has also been shown that fostering good relationships depends on the attitudes of both the teacher and the students (Fassinger, 1996). On the other hand, a study suggests that students' satisfaction with their class and even with their HEIs depends not only on the ability of the lecturer with the subject and with ICT management in the classroom, but also on the lecturer-student interaction, which plays a preponderant role (Maceli et al., 2011), as McGuire (2013) points out that lecturers' positive attitudes stimulate effective university performance.

HEIs have a preeminent role in society as they are the ones to constantly rethink the way research and education is conducted (Kesten, 2019). In this regard, the Council of Higher Education has driven its efforts towards the creation of objectives that focus on the articulation of strategic elements (education, research, and community outreach) to achieve well-being (Academic Regime Council of Higher Education Regulations, 2017). For example, HEIs are generally more agile in taking advantage of technological advances, which fosters research competences in their students allowing both lecturers and students to work together in the identification of problems, searching, selection and use of information as well as experiencing teamwork (Ponce Escudero & Gómez Galán, 2017). In this context, the University of Cuenca has been motivating its workforce towards the promotion of these elements at all academic levels.

According to faculty representatives, untenured lecturers show better attitudes and aptitudes as their aspiration is to become tenured lecturers, having job stability and benefits. A study suggests that untenured lecturers feel less confident regarding their job stability and benefits, less perception of freedom, more rigorous evaluation, greater demand for excellence, among other aspects (Premeaux & Mondy, 2002). However, the perspective that untenured lecturers are substantially more devoted to their academic and administrative duties and have less political influence than tenured lecturers, according to some versions, is not fully proven (Mallon, 2009).

When teachers are researchers, learning improves because there is collaboration among colleagues that allows them to learn much more than just teaching (Watts, 1985). However, we uncovered the perception that the institution has approached research from the perspective of publishing for promotion opportunities rather than as an activity to improving teaching practices. Niles et al. (2019) state that lecturers value journal readership, prestige, and related metrics over and above the total number of publications per year in order to be promoted. McKiernan et al., (2019) remark that the use of the JIF is encouraged in RPT evaluations at many universities. Moher et al., (2018) have found that there are an increasing number of institutions that consider this system of faculty incentives and rewards not to be aligned to the needs of society.

According to faculty representatives, governmental academic requirements tend to promote professional development, research and the gaining of higher academic degrees as important factors in education, although these accolades do not necessarily lead to better teaching practices. Other studies suggest that research is indeed a factor in protecting the quality of teaching. However, what matters is not how much research lecturers do, but their intrinsic interest in both teaching and research, which might lead to the strengthening of such practices (Mägi & Beerkens, 2016). In this sense, faculty representatives might mistakenly allude to research as an issue when the problem stems from bureaucratic and/or political situations that are experienced within HEIs reforms. Schimanski and Alperin (2018) suggest the need to rethink the RPT practices in order to better reflect lecturers' work patterns and to reduce pressure on publishing in prestigious traditional journals.

University students' graduate profile competence development and general satisfaction is higher in biological sciences students than in social sciences or engineering students. However, some studies reveal that science and engineering students are usually less satisfied than those of social sciences (Campaña et al., 2016). Student general satisfaction is a multidimensional phenomenon made up of experiences that overlap and influence university life (Alfaro Inzunza et al., 2015). For higher education institutions, academic general satisfaction has become vitally important because students are the reason for their existence and maintenance. Academic general satisfaction has been described as a state of pleasure, the result of pursuing a career according to the vocation someone has, promoting willingness to perform a professional occupation (Bernal et al., 2016). Moreover, students who report high levels of academic general satisfaction and progress towards their academic goals, have positive expectations regarding the consequences of being a university student, promoting social support networks (Medrano & Pérez, 2010). Quispe Esquivel (2019) states that failure of universities to satisfy their students can generate frustration and problems such as school dropouts or complaints towards the institution itself.

Recommendations

Based on the results, it is important to create and to validate a single instrument to evaluate to what extent lecturers' competences support students to meet their graduate profiles in accordance to what society demands. This would also benefit from an analysis of graduate experience in the workforce in order to understand how well the graduate profile met with employers' needs. In addition, a deeper analysis of factors influencing the perceptions of students in the three areas to understand why biological sciences seems to provide better competence development to its students' competence development in order to emulate those practices in the other faculties at the University of Cuenca.

Conclusions

Lecturers tend to rate themselves more highly in aptitudes and attitudes than do their students. Faculty representatives, on the other hand, categorize lecturers into tenured and untenured, noting better attitude and aptitude in the latter. The suggestion here is that untenured lecturers have to try harder.

Despite the purported emphasis on research and professional development, few lecturers publish or present at conferences. Research within the institution has resulted in a greater number of publications, although many questions their value and impact on teaching. The University of Cuenca has yet to find ways to symbiotically converge research and teaching for the sake of education.

University of Cuenca official academic framework establishes teaching criteria for all its schools with clear competences to be obtained before graduating; however, it is clearly seen that biological science students show a higher level of general satisfaction that they are gaining these competencies through competence development compared to those students in social science or engineering.

These results will guide the University of Cuenca to set standards which meet the criteria of international educational policies related to teaching quality, promotion of professional training, and strengthening of academic performance.

Limitations

The main limitation of this study was the lack of a single instrument to evaluate how lecturers' attitudes, aptitudes and professional development influence students' perception of academic and professional performance. In addition, focus groups were planned to elucidate students' reasons for their levels of general satisfaction from the three areas of study. The pandemic (COVID-19) shut down the university and therefore it was not possible to identify the factors that influenced general satisfaction or competence development.

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