Professor’s Image as Viewed by Engineering University Students

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Abstract. The higher education image contributes to the attitude towards the country in the globalized world. This image is formed due to different factors, among them is a university professor’s image which is shaped by a variety of expectations from different social groups referring to the rights, obligations and standards such a professor is to follow. Although there is a lot of research done as for the professor’s image and expectations of different stakeholders, there is a limited number of works analyzing the students’ expectations. To bridge this gap, the paper aims at investigating the students’ views in regard of a professor’s image, comparing them with those of the other stakeholders and providing recommendations to follow. The paper uses both theoretical research methods based on the analysis of recent publications and discussions in the academic community and empirical methods in the form of a survey among students and its content analysis. The results show a mismatch between expectations of employers, community, professors and students as for the role of a professor in society in regard of their behavioral characteristics, research performance and leadership in teaching. The authors recommend that the professors prioritize the expectations from the students and teaching is the primary mission of the university. Further research could imply surveys among the employing university administrators and different societal groups.

Keywords: Engineering university · A professor’s image · Stakeholders’ expectations · Soft and hard skills

1 Introduction

Higher education is fundamental for society development, and universities contribute to supporting the progress of the country in its economic and cultural contexts. At the same time, the higher education image also shapes the attitudes toward the country in the globalized world. Therefore, it is important to examine the factors that contribute to the university image, thus bringing benefit to society by influencing these factors.

Different researchers have addressed the issues of higher education globalization and internationalization, highlighting their pros and cons, and analyzing their impact on the university image [1–4]. They state that multiple international rankings contribute greatly to the university image, and many of the indicators measured imply direct participation of the faculty members, including the number of publications in peer-
reviewed journals, citations, and even the academic reputation index. Thus, these academic rankings show that a university professor’s image is of a primary concern for the higher education system.

This image creates the public opinion and prestige rating of the university thus influencing its capacity to attract the best prospective students from different parts of the world [5]. A professor’s image is shaped by a variety of expectations from different social groups referring to the rights, obligations and standards such a professor is to follow.

The universities lay emphasis on the mission of discovery, learning and engagement while the community expects every professor to direct their life properly and to encourage others to behave in the same manner. The emphasis on research brought to the forefront at engineering universities can, however, separate a professor from students thus undermining the main university mission, teaching and learning. Therefore, there is a need for a professor to know the students’ views on her or his image so as to critically examine the practices involved and to adjust the strategies used to hold the students’ attention.

The purpose of the present study is to determine the preferences of engineering university students for the image of a professor. Under current transformative conditions of higher education, this image is reshaped by managerialism, ‘publish or perish’ performance expectations, and digitalization preferences. Professors often feel a mismatch between their teaching priorities and those of their employing universities focusing on publications, applied industrial research and cooperation with businesses in case of engineering degree programs. In this highly competitive engineering university environment, the opinion of students is often ignored thus creating a gap between them and professors. Therefore, the paper aims at investigating the students’ views in regard of a professor’s image, comparing them with those of professors and university administrators, drawing conclusions on an ideal professors’ image, and providing recommendations to follow for pursuing teaching excellence.

The hypothesis of the study is that engineering students have expectations regarding both professional (hard skills related to industrial experience and research) and personal (soft skills related to social values, sense of humor, and logical reasoning) characteristics of a professors’ image. These expectations strongly influence their attitudes towards a professor, and moreover, their progress in the academic course taught and learnt. Alternatively, a professor can influence students’ academic performance if he knows, recognizes and meets their expectations of her or his image, follows the practices preferred by the students and adjusts the teaching techniques properly. Thus, it is important to reveal students’ views on a professor’s image and use the revealed information for improving academic performance in engineering degree programs.

2 Methods

In order to get a better insight into the issue of a professors’ image, the authors analyzed the views on the professor’s identity, culture and role, as reflected in research literature including recent publications in research journals, conference proceedings,
and in discussions in academic community and general society occurring in a face-to-face format or on different web-platforms.

Based on these publications and discussions, the authors drew their conclusions on the attitudes towards a professor’s image from the perspective of the employing universities, civil society and academic community. The expectations of these various groups were summarized and categorized for a further comparison with students’ views.

The student population selected for the survey consisted of 120 MSc students in engineering degree programs. The reason behind this choice was that, firstly, these students already have an experience of dealing with different professors throughout their Bachelor’s and Master’s degree paths, and, secondly, at this stage of education, many students consider an opportunity of continuing their career at a university. Therefore, MSc students are capable of giving their opinions of a professor’s image based on good reasoning, but not only emotions.

The students participated in the survey by writing opinion essays to present their point of view on a professor’s image supported by reasoning and examples. The essay was part of the academic course in Psychology and Pedagogy of Higher Education. The essays were evaluated individually, and then compared using content analysis method so as to reveal connections and relationship. As a result, several patterns characterizing a professor’s image were distinguished and organized in categories. These categories were prioritized in accordance with the frequency of answers in the essays so as to get a general view of students on a professor’s image.

A generalized students’ view was compared to the above-mentioned expectations of various social groups. The comparison revealed a number of students’ expectations which were never expressed by other social groups. Based on the students’ expectations, the authors developed several practical recommendations for professors to follow in re-creating their image so as to serve as a role model for their students and to pursue academic excellence.

3 Results and Discussion

The research outcomes revealed a keen interest of different parties in shaping a university professor’s image while identifying different priorities. There is a lot of research relating to this topic focusing on professor role preferences, their culture, competencies and leadership qualities from the view of different stakeholders. This paper considers the views of the society, the employing universities, and the professors themselves through analyzing recent publications in research journals, and the views of the students through a content analysis of their surveys.

The general public representing the society as a whole usually have certain beliefs in regard of the universities which tend to result from their personal positive or negative experiences and information from other sources. The university image is made up by the university’s reputation, academic programs, employment of its graduates and professors who teach at the university [6]. A university professor’s image, in its turn, is usually rated by general public in terms of prestige.
In general, the occupational prestige of the university professors is high all over the world, despite the reforms and political decisions in some of the East European countries where the salaries for this category of employees are significantly lower than in many other countries. The research of Stevens et al. [7] shows that professors are in the top 7 list of occupations in the US according to the following factors: level of social standing, honesty and ethical standards, importance to society and the nation, and challenging as an occupation. Thus, the professors are in the same list along with the lawyers, bankers, doctors, pharmacists, dentists and clergy.

At the same time, the occupational prestige of the university professor implies certain obligations to the society members who want to see them following a certain lifestyle, demonstrating ethical behavior patterns and creating a positive environment around them [8].

Moreover, the society expects the university professor to perform the service role for the local community contributing to its development. The earlier research of the 1960s [9] also gave another role to university professors in society, that is, character building role. Although recent publications very seldom focus on this role [10], discussions in society still emphasize these issues.

In regard of the employing university, it is evident that there have recently been many changes in the roles and responsibilities of the university professors. A century ago, the main responsibility of a professor was to teach and to conduct research. Currently, there is a strong emphasis on publications and academic services.

Recent research of Macfarlane [11] summarizes the institutional expectations of the professors in the post-1992 universities. First of all, the employing universities expect the professors to occupy both teaching and administrative positions either a faculty- or a university-wide, which include heads of departments, deans, directors for research or other activities).

Moreover, the universities and their authorities expect the professors to be leading in several spheres simultaneously, including research, teaching and income generation, to influence public debate and work of the university, to be a role model and to represent the department in the university. The professorial expertise is made use of in developing external links, serving on university committees and mentoring inexperienced researchers and senior managers.

Other publications show that there is a visible mismatch between the expectations of the employing universities and professors themselves, who are, first of all, committed to upholding standards of scholarship, and helping other colleagues to develop. This mismatch of expectations leads to stress and priority of one role over the other, thus having implications on either research or teaching [12].

Thus, the employing universities expect their professors to be, first of all, capable of leading cutting-edge research and generating income through cooperation with industrial enterprises and granting foundations. The society, in their turn, expects professors, above all, to inculcate high moral standards through personal experience and personal contacts with students. As for professors, they give a high value to upholding standards of scholarship and helping colleagues to develop.

Overloaded with these different, and, sometimes, opposite expectations, the professors have to clearly understand their personal goals and relate them to the society and university priorities. Moreover, expectations of the students as for the professor’s
image, should also be taken into account. No matter how important the university service and publications for the society are, the universities can exist only through relationships between professors and students [13]. Trust and indirect socialization underly these relationships, and without meeting the expectations of students, the universities lose their role in the society.

In order to define and analyze the expectations of the students, the authors conducted content analysis of surveys in the form of opinion essays written by MSc students majoring in engineering degree programs. The degree program curriculum included an academic course in Psychology and Pedagogy of Higher Education. The students who participated in this course were given a task to write an essay on their expectations of the university professor. The essay was called “An Ideal University Professor’s Image”. In total, a population of 120 students took part in the survey.

The research question of the survey was to categorize the characteristics of an ideal professor. A detailed analysis of the written texts gave a number of specific words and patterns to characterize a university professor. Some of the word and patterns were found repeated by different respondents while other patterns could imply the same meaning.

All 120 respondents in their answers pointed out the importance of loving the profession of teaching and loving students. Some students expressed it explicitly in phrases like “a professor should love his work of teaching and students taught”, “a professor should love the things that he teaches and the students who study”, “he adores students”, “a professor who loves, or, at least, is interested in his course”, “a person who chose this profession because he loves it”.

Implicit phrases which highlighted the same characteristics were “a professor is bright-eyed when he communicates with students”, “a professor always finds an approach to each of the students”, “a person who puts his heart and soul into teaching students”.

Thus, the students’ essays revealed the most important characteristic of a professor either in an explicit, or in an implicit form, as love towards the teaching profession and students.

Further analysis showed that, in general, students wrote about two types of skills, soft skills and hard skills. Soft skills were classified into the following categories: teaching skills, communicative skills, digital skills, and adherence to social values. Hard skills were categorized into expertise in the course taught, research in engineering and hands-on-experience.

All survey participants in one way or another mentioned both soft and hard skills in their essays with a stronger emphasis, however, on soft skills.

Table 1 gives the summary of the most popular words and patterns used in the essays to describe soft skills. In total, all the respondents (100%) prioritized teaching skills, 97 respondents (81%) considered communicative skills as important, 85 respondents (71%) gave value to digital skills, and 75 students (63%) mentioned adherence to social values.

Surprisingly, “sense of humor” appeared to be the most popular word pattern in the essays followed by “a talent to teach”, “the use of computer during classes”, “a good speaker”, “a friend to students” and “a good person”. In regard of communicative skills, 7 respondents mentioned intercultural communication necessary to succeed in
making contacts with foreign students which is relevant for cross-cultural engineering projects [14].

These content analysis results prove the importance of ideas discussed recently at international conferences regarding the ideas of using active learning methods [15], significance of improving the teaching skills at an engineering university [16], and developing communication skills [17]. Although the essays were written long before the COVID-19 outbreak and distance learning practiced and all the universities, the respondents gave a high value to digital skills of professors in the context of digital economy [18].

Adherence to social values was implied in word patterns “a good person”, “good manners”, “helping others” and so on. Some respondents were very specific insisting on the importance for the professors to keep fit and not to smoke, which reflects the role model of the professors imposed by the society.

Table 1. Soft skills of a professor as viewed by students.

| Categories of soft skills       | Students’ expectations                                                                 |
|--------------------------------|--------------------------------------------------------------------------------------|
| Teaching skills                | Sense of humor (85), a talent to teach (72), a good speaker (68), inspiring students to learn (62), inspiring students to think (39), encouraging students to compete (28), readiness to learn from students (22) |
| Communicative skills          | A friend to students (67), ability to compromise (54), benevolent to students (43), face-to-face communication (41), story-telling (38), easy to contact (35), emotional contact (31), encouraging teamwork (27), creativity in communication (25), intercultural communication (7) |
| Digital skills                | The use of computer during classes (72), making and giving .ppt presentations (53), responding to e-mail messages (46), expertise in software (36), using digital communication tools (30), using social networks (25), using of visual aids (25) |
| Adherence to social values    | Being a good person (64), good manners (52), well-dressed (43), keeping fit (35), timeliness (25), helping others (24), trust to students (21), self-discipline (18), optimism (15), open to changes (13), no smoking (8), responsibility for the country (6) |

Table 2 illustrates the words and patterns used by the respondents to describe their expectations of the professors in terms of their hard skills. Overall, 100% of respondents mentioned the expertise of the university professors in the academic course that they teach. At the same time, only 86 respondents (72%) prioritized the importance of doing research in engineering, and even less than that, roughly half the number, 63 respondents (53%) emphasized hands-on experience in profession.

The most frequently used word patterns were “knowing the course content”, “ability to answer questions beyond the course taught”, “loving the course taught”, “leadership in course content” and “a broad professional outlook”.

All the respondents placed a premium on the expertise of the professors in the course taught meaning that they have a deep knowledge in the subject matter of the course and can present it to the students in the most appropriate form emphasizing the most essential information.

These ideas were expressed in both explicit and implicit phrases, e.g. “this person should know the course and all its details taught, and should answer the questions which the students might ask”, “to be a professional in the sphere of the academic course so as to answer all the questions from other professors and students”, “to be committed to the academic course”, “a craftsman in the academic course”.

Research in engineering was less highlighted in the texts of the respondents, nevertheless, the students outlined the importance of cutting-edge research and their respect towards those professors who have high ranking publications [19] and who can supervise students in their research [20].

Table 2. Hard skills of a professor as viewed by students.

| Categories of hard skills              | Students’ expectations                                           |
|---------------------------------------|------------------------------------------------------------------|
| Expertise in the course taught        | Knowing the course content (92), loving the course taught (63), leadership in course content (54), continuous development in the course taught (48), categorizing the essential information (36), deep knowledge of the course (27) |
| Research in engineering              | Ability to answer questions beyond the course taught (63), a broad professional outlook (52), leading specific research in his field (35), current trends in specific field of science (23), qualified in his field (17), achievements in research (11), interdisciplinary research (8) |
| Hands-on experience in profession    | Giving real life examples (46), knowing the practical application of the course (34), experienced in practice (32), demonstrating knowledge in practice (32), knowing what is happening in industry (16) |

Although hands-on experience in profession received the least attention in the students’ essays, some phrases were very appropriate to the topic, e.g. “have experience of not only teaching the academic course, but also working in this sphere”, “follow the progress in this sphere”, “no less than 3 years of professional experience in industry”. The students demonstrated that they value those who can share their practical experience and teach them to use modern devices and equipment [21].

Thus, in the view of the students, a combination of soft skills and hard skills make an ideal university professor. Such a professor can develop and teach innovative engineering degree programs [22], while these skills can also be applied in any other degree programs and their modules [23, 24].

In general, all the soft and hard skills that the students expect their professors to demonstrate imply metacognitive skills [25]. These skills refer to organizing, guiding and controlling your own processes of thinking, learning, and acting. Thus, the image
of a university professor can be completed by adding metacognitive skills to soft skill and hard skills.

When compared to the expectations from other stakeholders of the educational process, the professor’s image as viewed by the engineering university students does not include any publications or services to the academic community or society as a whole. However, these responsibilities make an integral part of any professor’s image which cannot be ignored. Therefore, the professors are challenged to meet all the expectations simultaneously which is very hard to implement. Nevertheless, the professors are urged to give priority to students' expectations as teaching has always been the primary mission of all universities.

4 Conclusions

The study showed that there are many factors that shape a university professor’s image. There is clearly a degree of mismatch between expectations of employers, community, professors and students as for the role of a professor in society in regard of their behavioral characteristics, research performance and leadership in teaching. While staying relevant to all stakeholders’ expectations, professors should always set priority to the views of their students, as teaching and learning is the main university and professoriate mission. Above all, students value enthusiasm in profession and sincere interest in improving teaching practice. A list of recommendations for professors to follow also includes high quality communication skills, digital competencies, and adherence to social values. A professor inspires students acting as role model, a mentor, an advocate, a guardian and an ambassador of good will.

In response to these findings, all stakeholders might take into account the expectations of other groups. Universities might develop mentoring programs for newly appointed and experienced professors aimed at improving their soft and hard skills in accordance with the views on a professor’s image from different groups involved.

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