

An Analysis Soft Skills Required in the Academic Faculty Positions

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Abstract

In the business world, it is known that there is an increasing demand for basic/soft skills that are outside the profession and job-specific skills, but are required for all professions. Among these soft skills, the most known and demanded social skills are: professional attitude, problem solving, critical thinking, business ethics, public speaking, professional writing, teamwork, digital literacy, leadership, and suitability for multicultural work environments. What the concept of soft skill should express precisely is one's ability to master controllable actions in certain subjects. The ambiguity of the definition of the concept also makes it difficult to use data-based methods to measure soft skills. There are studies in the scientific literature that see soft skills as a synergy of multiple competencies that can be acquired through experience and knowledge. This paper analyzed 718 academic job postings using the SkillNER software used to automatically extract soft skills from text and sought to identify social skills sought in academics. It was determined that there were 555 soft skills requests in 718 job postings. The most requested soft skills in these job postings were communication, leadership and suitability for teamwork, respectively.

Keywords

Faculty positions, soft skills, SkillNER, job postings

1. Introduction

The skills required in the employment are categorized as “soft” skills (related to interpersonal communication) and “hard” skills (related to technical abilities) (Lyu and Liu 2021). In recent years, business world and academia has shown an increasing interest in soft skills (Azim et al. 2010; Taylor 2016). Soft skills have been essential and critical in obtaining a position in the industry. The reason for this is that in order to work in a workplace, a person must have some qualifications beyond all technical knowledge (which is possible to correct the deficiencies in a relatively short time). For example, qualities such as the individual's ability to act in accordance with the environment in which he/she will work, to communicate, to work as a member of a team, to give confidence and to understand the cultural norms of the workplace. Even in very a technical field like engineering, being a good leader has been a non-technical (soft) skill that will be requested in many of the workplaces (Kumar and Hsiao 2007).

Although soft skills can be learned/taught, the findings show that even engineering seniors do not know about soft skills or ways to apply these soft skills through conflict resolution (Burrows and Borowczak 2017). One of the reasons why these skills, which can become a part of the education curriculum, have not yet been fully included in the education systems, perhaps is that there has not been a consensus on the definition of the concept yet. Each discipline, industrial sector and market or country may define soft skills by considering its own needs. For example, (Deming

and Kahn 2017) defines "soft skills" as associated personality traits such as conscientiousness and agreeableness, as well as personal qualities such as self-control and positive affect. Robles (2012) defines the term as "desirable qualities for certain forms of employment that are not dependent on acquired knowledge". Therefore, according to these definitions, soft skills are character traits, attitudes and behaviors independent of technique and knowledge. These skills are intangible and personality-specific skills such as leadership, facilitation, mediation, and negotiation.

On the other hand, little is known about the professional traits and personal qualities preferred by potential employers in entry-level faculty. In early studies on this topic (Burke 1987), it is found that general criteria frequently cited by academic selection committees included: personal connections, prestige of degree-granting institutions, letters of reference, personal reputation, quality of research, thesis. However, these criteria are purely technical, whereas for those who have passed this stage, presentation and interview skills (Carr and Tsai 1994) have been an important criterion in the second stage. Although not statistically significant, it is possible to see interpersonal skills and personal development among the most important candidate qualifications according to the general ranking (Moore et al. 1999). Although numerous works (such as: (Gruzdev et al. 2018; Shuman et al. 2005; Stewart et al. 2016; Succi and Canovi 2020) have been published on the subject of developing soft skills to university graduates, there is no study focusing on which non-technical skills are generally desired for academic job positions.

Therefore, the purpose of this study is to determine which social skills are included in faculty job postings. For this purpose, SkillNER software developed by (Fareri et al. 2021) was used. SkillNER was developed by training a support vector machine (SVM) on a corpus of more than 5000 scientific papers, and its main feature is that it can automatically extract soft skills from the text. It is possible to use the SkillNer software online, by copying the relevant job posting/adv to the text box at <https://mysterious-hollows-20657.herokuapp.com/>. For this study, a limited number of faculty position postings (723 postings) were collected from www.academics.com and www.jobs.ac.uk and put into SkillNer to list the soft skills in their texts. By focusing on the social skills mentioned in the advertisements, we attempted to find which social skills are in high demand for academic positions and which are neglected despite their importance.

2.Data Collection

We surveyed academic faculty jobs postings on the following online portals: www.academics.com and www.jobs.ac.uk. "jobs.ac.uk" is one of the leading international job board for careers in academic, research, science and related professions in UK and Europe. "academics.com" is one other leading job market and career coach service online for all those who enjoy scientific and research-related tasks in Germany, Austria, and Switzerland. Distribution of the dataset is as shown Figure 1: 12.5 percent from Germany, Australia and Switzerland (91 postings in English), 87 percent from UK (627 postings).

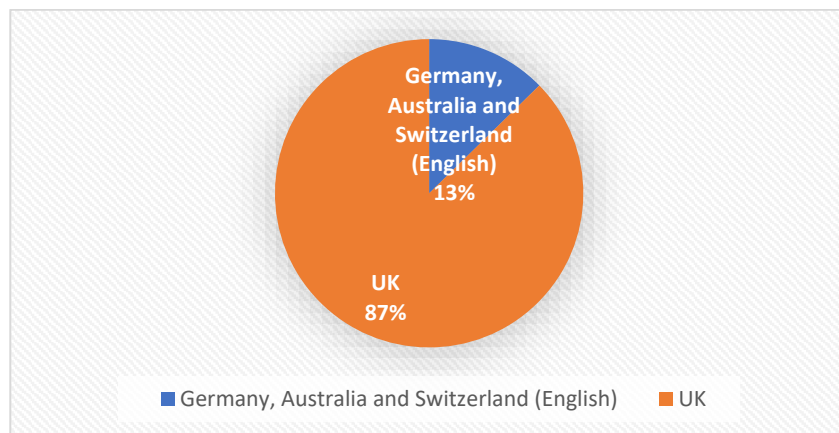


Fig. 1. Distribution of job postings under consideration

3. Analysis and Results

We have detected 555 soft skills at 307 job postings (%49 of all academic ads). %60 of academics.com jobs postings mention at least one soft skill while it is %40 percent of jobs.ac.uk. On average there is 0.88 soft skill per academic posting in the data set (627 postings). Table 1 lists the number of times that a soft skill is apparently stated in the

collected data. Summary of descriptive statistics for these soft skills are also given in Table 2. Approximately %50 of the postings mentions about communication related skills. It can be said that the “communication” has been most dominant soft skill asked in the job postings. We can see that average number of times a soft skill is requested is 10.53.

The most frequent soft skill stands out as communication and communication-related skills. In the educational process, communication can be as “the relationship between two people or two or more ideas” (Torkestani and Attarha 2022). Since a faculty member requires skills for teaching, research, and technology (Hamadneh 2015), communication can be powerful soft skill for each of these categories. As stated by (Ortlieb et al. 2010), it is important for faculty to develop positive relationships with other faculty members, seek partnerships for research, engage in a support network, develop faculty communities that encourage critical thinking and offer monthly support. In this respect, communication appears to be a reasonable skill requested by the universities.

The second ranked skill is leadership. Contrary to this, employees in the higher education system, usually ask autonomy since they require independence for executing their jobs. Given the setting and organizational conditions of colleges and universities, the characteristics of leadership may differ. We know that academics is expected to motivate, inspire, guide, and lead the faculty members toward a common goal (Siddique et al. 2011). An effective leader uses his motivating and persuasive abilities to help companies adjust to numerous changes that may occur within or outside the business. In most of the time, this expectation is not limited with the faculty members. Faculty members should lead students and research team members. Faculty members can learn to develop their own academic leadership skills using clinical techniques such as seminars, workshops, and seminars, and then apply the ideas through lectures, simulations, case studies, role playing, and action (Gmelch 2002).

Table 1-Lists of soft skills discovered at the job postings

Soft Skills	Frequency	Soft Skills	Frequency
communicate-communication	150	identify opportunities	3
leadership-lead	109	improve performance	3
teamwork-work as part of a team-work in a team	57	innovative thinking	3
planning	29	interpret data	3
responsibility-sense of responsibility	24	listening	3
interact	21	resilience	3
cooperate	12	share information	3
creativity	11	tutoring	3
guide	11	willingness to learn	3
problem solving	11	achieve goals	2
work independently	11	confidence	2
flexibility	10	decision making	2
written communication	7	demonstrate/show commitment	2
openness	6	experiment	2
time management	6	make decisions	2
persuade	5	oral communication	2
autonomy	4	work under pressure	2
motivate others	4	working with colleagues	2
provide guidance	4	assertiveness	1
working independently	4		

Table 2-Descriptive statistic of soft skills discovered at the job postings

Variable	N	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Soft Skills Detected	53	10,53	3,55	25,83	1,00	1,00	3,00	6,50	150,00

In the third place, there is the skill of “working in a team” or “being a part of the team”. A team may be viewed as a group of people who work together to attain the same objectives and goals in order to deliver high-quality activities. For all participants, multidisciplinary research teams that comprise academics, students, and volunteers may be hard and rewarding (Hall et al. 2005). Collaboration of professionals begins when they discover shared interests or when one develops problems that appear to require the assistance of others in universities and other organizations (Hagstrom 1964). Without a proper coordination scenario, group effort may actually constrain the process of creative thinking and analytical improvement due to inefficient interaction among group members (Bush and Hattery 1956). In addition, it can be difficult to foster significant collaboration and teamwork within a system that prioritizes individual faculty, especially when circumstances favor a tendency to act alone. On the other hand, aptitude for teamwork is an important soft skill for successful research teams in academia. Another issue is that faculty members guide the development of teamwork skills of undergraduate students as part of educational activities. College grads' ability to work in teams is becoming increasingly crucial.

As a result, college teachers must give opportunities for students to exercise collaboration (Burbach et al. 2010). Although it is possible to see papers on teaching teamwork in the class environment, it is noteworthy that there is no satisfactory study on teamwork among faculty members in the scientific literature.

Following the three most demanded soft skills (communication, leadership and suitability for teamwork), other remarkable soft skills has been “planning” and “responsibility” respectively. Educator are mostly agree that planning is an important part of teaching (Morine 1973). Planning is a soft skill that can be needed in many different ways depending on the content (such as planning course contents, planning the curriculum, planning the future of a program/department/faculty, planning research, planning responsibilities and authorities within the team). From the perspective of teaching, each course, as well as entire programs, should be planned with coherence and integrity in mind (Stark et al. 1988). On the other hand, research planning should include at least four separate steps: focus on knowledge production; determine the research topic; reviewing previous research on the subject; and finally creating relevant scenarios to develop your own approach. The request for the "responsibility" soft skill in faculty postings can be evaluated in a similar context to those in other professions. Faculty members have important professional and ethical responsibilities towards their community, institution, faculty, department, students, and research teams they work for. As a researcher, a faculty member is responsible to produce and disseminate knowledge in both the classroom and world at large (Cypres 2014). The goals of the individual institutions where they work, as well as the government, influence an academic's responsibilities (Sidek et al. 2012).

4. Conclusions

With the increasing competition, it is getting harder to work as a lecturer at universities. In addition to knowledge-based technical indicators (graduation school, published articles, number of citations received, etc.), it is revealed in this study that some personal soft skills are also expected from candidates. In this study, academic job postings were examined in terms of soft skills demands for a limited time. Key features sought were communication skills, leadership and suitability for teamwork. Although this study does not make any claims about the difference of the mentioned skills from other professional business areas, it can be stated that these social skills are valuable skills for all professions. Conditions within professors are not static, and to meet the educational demands of the global organization of the twenty-first century, individuals must strive towards professional development and training to continually update their skills. It is of course inevitable that the soft qualifications expected from graduates are expected from the faculty members who train them.

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