Engaging leaders from students' perspective and the impact of professors as role models

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ABSTRACT

Preparing students for the labour market is an essential part of education, and academic personnel usually influence this process. Students' experiences with leading figures, like supervisors and other professors, can affect their expectations about future leaders. For this reason, our research aims to assess students' beliefs and expectations and make suggestions for higher education representatives who can serve as a leadership model for them.

We conducted focus group interviews mostly with engineering students at a Hungarian technical university in spring 2022. Thirty students participated in our research and were assigned to the focus groups according to their work experiences. After coding interviews, we categorized their answers into three groups: leadership qualities and professional and social expectations. According to them, a leader must be competent, socially active, and have a good personality. His or her behaviour must reflect these qualities to be engaging and a good role model.

Our results showed that school and university experiences are a critical starting point and reference when students formulate their expectations towards future leaders. Therefore, it is important to raise professors' awareness about their leadership roles and develop their leadership skills to be good role models for young people.

In our study, we discuss leadership requirements and suggest developmental methods, respectively, to the university's characteristics. In addition, we recommend integrating leadership development programs into engineering education, from which both professors and students could benefit.

1 INTRODUCTION

1.1 Academic professors as leaders and role models

Considering leaders as role models have been investigated for many years since transformational leadership and charismatic leadership influence leadership theories. They emphasize the leadership role and define it based on behaviour and the effect of leaders on subordinates [1], and even on the leader's capability to transmit goals and values [2]. Although it seems easy to draw a parallel between leaders' behaviour and role modelling, we have to define role models in the broader sense.

Role models are associated with influence coming from one's position and being an ideal person or example someone wants to identify with [3, in 4]. This definition combines two different aspects, one of the identification theories and one of the social learning theories [4]. Gibson [4] broadens the definition and emphasizes the cognitive construction within the modelling process. According to him, individuals want to be similar to those representing social roles and their perceived positive attributes. On the one hand, this construct of role models differs from the mentor definition in terms of development because mentors are usually described from career and developmental perspectives. The mentor helps to learn and develop through involvement. On the other hand, the similarity between the cognitive and behavioural models is that both are based on learning, but the latter focuses on observation and accessibility [4].
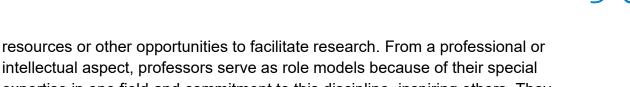
Uniting these developmental, behavioural, and cognitive aspects would be beneficial in leadership development since leaders are usually referred to as role models both in the business and the academic sectors [2, 5-8]. Therefore, it is important to raise professors' awareness about their modelling status because students learn from conscious activities where professors emphasize what to do and their observed behaviours, which students might unconsciously begin to copy and internalize [5].

In educational settings – especially in the academic sphere – leadership tends to be seen as a formal, managerial role, e.g., dean of faculty or head of the department. Still, leadership occurs informally, independently from designation [8]. We use the term "professor" in the broader sense, including academic personnel who teach and supervise without designation.

Academic leadership is "a process through which academic values and identities are constructed, promoted and maintained" [9, p. 3]. Educational leaders help colleagues or students to learn academic disciplines through empowering, mentoring, or even role modelling [9]. This form of leadership is usually associated with the work of supervisors because this leadership indicates that leaders guide and support colleagues to focus on research and develop professionally [8].

In his research, Macfarlane [6] summarized the qualities of intellectual leadership. Two main aspects among the six qualities have arisen, the interpersonal and the professional. From the interpersonal aspect, professors care and stand for younger colleagues and give protection and guidance to them. They even motivate students to take intellectual risks and use their hidden potential. Furthermore, they secure

resources or other opportunities to facilitate research. From a professional or intellectual aspect, professors serve as role models because of their special expertise in one field and commitment to this discipline, inspiring others. They express their engagement in the way they promote their subject and contribute to scientific development through editorial work and reviewing or as a keynote speaker representing a university at a conference [6].

Both of the above-mentioned leadership forms reflect on a leader as a role model to some extent, which is not surprising since professors, as informal leaders, give a part of themselves to students. At the same time, they educate, inspire, support, and lead them [2] or just fulfil other duties [5]. This indicates that teachers and academic professors can be leaders and role models worth following [2]. This distinction is needed because role modelling is a two-sided phenomenon. Some people are motivated to identify themselves with the exemplar, and others are decided to avoid being like the modelling person. To be effective role models, academics need to demonstrate competence in the desired field, teaching, and good personal characteristics [5].

1.2 Student engagement and expectations

Even though academic professors are usually not identified as leaders or role models explicitly by students, they affect students and their engagement [10-12].

Wright, Wong, and Newill [10] found that role models and their personalities – sometimes different traits or values from other models – and students' relationship to them influence students' career choices. According to their research, students consider important the attitudes of the modelling person, his or her compassion and enthusiasm for work, the integrity of his or her personality, and the ability to be objective and use the power of humour if needed. Above this, students expect these role models to be socially active, have good leadership and communication skills, be patient, conscience, and aware of their capabilities [10].

The strong association between career choice and role model is also supported by examining the engagement and retention of STEM (science, technology, engineering, and mathematics) students in their selected major with the help of role modelling [12]. Shin and her colleagues [12] found that stereotypes can determine engagement, and these can be modified or replaced with the help of role models, in their case, role model biographies. The exposure to hard work and success of those typically underrepresented in STEM majors strengthened students' interest due to perceived compatibility with models. Students reframed their stereotypes because counter-role models were considered competent and inspiring. Their success based on effort and hard work showed another feasible way to be outstanding within these majors [12].

Competence and inspiration are essential factors in the case of university professors too. Tam and his colleagues [11] examined what makes a good teacher, and their participants formulated important aspects and requirements. They identified two main categories associated with expectations. Teacher quality includes caring for

students, providing help and safety, having a democratic, humorous, open personality, and being competent, well-balanced, and knowledgeable. Appropriate use of assessment, student-centered and various teaching methods, openness to their opinion and feedback, and free choice in learning cover the category of teaching approaches. Favourited teachers served as role models thanks to their inspiring character and passion for teaching and learning. Students expect them to guide them and be available and open to the affective and social dimensions of education [11].

Cadwell and Anderson [2] highlighted seven factors influencing students' openness and willingness to learn from professors and achieve higher performance. Similar to Tam and his colleagues' results [11], if professors show inherent virtuousness and sincere feelings, they can reach students. Because students understand moral messages, realize how important it is to achieve more in life, appreciate support and care, and are aware of their role in changing the world and their moral responsibility [2].

All these results support that the influence of leaders is inescapable. Different leadership aspects brought different views and expectations. Still, they agreed that leaders – even teachers and professors – influence followers, which can result in identification with them as role models. Based on this influential relationship, our research aimed to understand the personal expectations towards leaders, especially how they can motivate and engage university students today.

2   METHODOLOGY

2.1 Participants

This research is part of doctoral research that aims to profile engaging leaders and the expectations of university students for leaders. We conducted focus group interviews in March and April 2022. Students mainly from a Hungarian technical university participated in focus groups. Some of them were offered to get extra points on a course for their contribution.

37 students applied for focus groups. From them, 30 students (20 women and 10 men) answered our questions. 17 are engineering students, and the others are studying economics, IT, or social studies. The youngest participant was 19 years old; the oldest one was 45, with an average of 23,9 years. 10 students are currently working for more than six months and spoke about their recent experiences with organizations, leaders, and work. Those with less than six months of experience or no experience answered our questions about ideal work, organizations, and leaders.

2.2 Procedure

Candidates were allowed to register on a Google Form after answering demographical questions. We assigned applicants into two groups based on their work experiences, considering whether they have been working for a company for more than six months or not. We decided to cut at this timepoint because it usually takes half a year to get acquainted with a new role, new group, and organization.

We worked with semi-structured interview questions. These questions were formulated considering the engagement influencing factors based on the results of Firouznia and her colleagues [13]. Our general questions were:

- What would you like to work in the future? In which position do you imagine yourself? or In which position and where do you work?
- What motivates you? What is your aim with this work or major you are learning now?
- What do you expect from work? How do you imagine your work, workload, and so on? (It was a question just for those who were currently not working.)
- What is your team like? How do you work together? or What kind of teams do you want to work in?
- What is your organization like? How do they motivate or engage you? or What kind of organization do you want to work at?
- What can or should the human resources department do for you to motivate and retain you for a longer period?
- What makes a good leader? How can they engage you? What characterizes them?

The personal interviews were recorded with a dictaphone, the online ones with the help of Microsoft Teams. We used online software to transcribe these interviews and corrected the transcribed text.

We used the desktop version of Atlas.ti 22 to analyse qualitative data. First, we generated a word list based on the interviews and listed words containing "leader" or "boss". After this selection, we searched through the text and generated automatic codes for phrases including "leader" and "boss". Second, we exported the labelled phrases into excel and categorized the answers into three categories based on the requirements of effective role models [5]. We also asked an independent leadership developer professional to assess and classify the responses from the focus group interviews. Finally, we compared the categorizations, and in case they were different, we consulted with the expert and decided on a category by common consent.

3   RESULTS

3.1 Frequency analysis

Frequency analysis showed that those with work experience used more words related to leadership.

The leadership code distribution of the documents is listed in Table 1.

Table 1. Distribution of "leader" and "boss" codes

Code	WE1	WE2	WE3	NWE1	NWE2	NWE3	NWE4	NWE5	TF
"boss"	4	8	42	10	3	18	2	8	95
"leader"	65	89	34	42	40	47	55	62	434
Total	69	97	76	52	43	65	57	70	529

Note: WE=group with work experiences, NWE=group with no or minimal work experiences, TF= total frequency
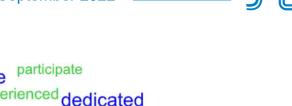
3.2 Text analysis

Our participants highlighted leadership, personal qualities, and professional and social aspects associated with leaders. Those expectations which appeared in more groups are marked in italic and presented in Figure 1.

The qualities of a leader should be: "a protecting wall", *a good judge of character*, *accepting*, an *authority figure,* authentic, *available*, careful, *charismatic*, *confident*, *consistent*, *dedicated* to working and subordinates, democratic, *determined*, *direct*, *empathetic*, engaged, *exemplary*, fair, goal-oriented, *good communicator and mediator*, *good in problem-solving*, *helpful*, *honest*, *humane*, *human-oriented*, humble, humorous, in a *positive* mindset, motivated and able to motivate others, *open* to new ideas and people, resilient, *respectful*, straightforward, *supportive*, the one who not just speaks but does things, *the one who sets the course*, *trustful*.

The professional expectations towards leaders are that they must: *admit mistakes*, be clear about *what (s)he expects in work* and this should be the same as *what (s)he did or does also*, be *clear and realistic about expectations and articulate them*, be competent both vocationally and to leadership, be *good, skilled, and experienced at what (s)he does*, coordinate and *delegate* tasks, emphasize common plans, goals, and development, focus on realistic goals, have *earned the leadership position*, have good time management, keep his/her word, make decisions about workload based on the skills of subordinates, *organize regular meetings*, *participate* in projects, *plan and allocate work rationally*, qualified and up-to-date in his/her field, so one can trust in him/her, *share information and knowledge*, *show the added value of one's work and its effect*.

The following criteria belong to the social expectations according to which leaders should: acknowledge and motivate team members, appreciate autonomy, ask and listen to the answers, be a *part of the team*, be an active participant who knows the inside jokes and stories, be like the team members, *be motivated to get to know better his/her colleagues*, be open to be friends and have programs together outside the workplace, be understanding and give comfort, *bring the team together*, *give feedback* and ask for it, give *individual attention* to everyone, have similar values and interests like the team, *involve* them and be open to ideas, *know the qualities and skills of team members*, organize programs and facilitate common experiences, protect and serve others, show *mutual trust and respect*, *stand for the team*, support learning and *development*, *treat everyone equally*.

Fig. 1. Students' expectations in a word cloud

Some groups mentioned experiences with teachers or professors in association with leadership experiences. We cite them:

"- And then I come to work and do the same as in elementary school and high school. (…) And the leader is similar to a class teacher in this way, and I think the class teacher has had five years to get to know the students, and I guess everyone gets along well with their class teacher in the fourth year and the fifth year. And I think it needs to develop with the time in a workplace too.

- I would say that my bosses are not class teachers but rather practicing teachers who come to us, who don't fully know what team dynamics are like, but they try to recognize it as well as possible, and they evolve with the team."
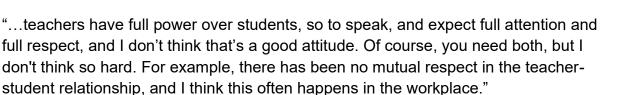
"When I went to college, and the teacher didn't even introduce herself, she was already telling me about an 80 percent dropout rate for a subject."

"It's even quite an interesting experience to go out with a professor for a beer outside of class and then get to know him from a completely different side. You see someone standing at the chair and just giving a lecture, and you are sitting at the table together. It is completely different when you are having a beer in the city and then talking about something completely different from the material in school. You get to know a completely new side of your professor."

"There should be no collective punishment. I always hated to get the punishment because others were stupid. (…) they're not motivating me by punishing me; they motivate me by acknowledging me for performing well. It's a problem going back to school. And it left a strong effect on me."

"Don't always stand behind me to see if I'm doing the job well. And stare. I don't know, for example, when you write an essay and then write and think. And then the teacher goes round and round. (…) So, I didn't like it that way, but the occasional feedback here is critical. But not by standing behind you and staring."

"…teachers have full power over students, so to speak, and expect full attention and full respect, and I don't think that's a good attitude. Of course, you need both, but I don't think so hard. For example, there has been no mutual respect in the teacher-student relationship, and I think this often happens in the workplace."

"And this attitude that the bell is ringing for me. So, if there is one thing that is true for everyone. Then why would it be true just for one person, regardless of whether he or she is in a leadership position? So that's so unfair."

4   SUMMARY

The role of education is to show students alternatives to thinking and views and teach them acceptable values and behaviours [14]. In this process, academics play an enormous role as leaders or role models. There has been little research on academic leadership. Still, some researchers have already emphasized the importance of leadership in education, independent of whether it is a formal position or an informal, supervisory relation [6, 8].

The expectations towards leaders, especially academics, were usually grouped into two categories, i.e., personality and relationships [10] or teacher quality and teaching approaches [11]. Macfarlane [6] brought the professional and interpersonal aspects together, and Cadwell and Anderson [2] highlighted the personality of a teacher and the responsibility and capacity of students. Our results indicate that three categories could describe better good and influential leaders and professors because personality, professionality, and even social skills and intentions are equally important for students, which are consonant with the criteria of effective role models [5].

The answers of university students from Hungary overlap to some extent with previous results [2, 6, 10-11]. Furthermore, they give new perspectives on these three categories. Appreciated leadership qualities are directive (e.g., determined, direct, the one who sets the course), practical (e.g., goal-oriented, exemplary), and emotional characteristics (e.g., empathetic, resilient, positive mindset). Rationality (e.g., rational plans, realistic goals and expectations), presence (e.g., participate, organize meetings), and experience in a broader sense (e.g., earned leadership position, expects what (s)he did or still does) are additional demands of students. Finally, university students wish leaders to be socially active (e.g., active participants, open to having programs outside the workplace), be team members and leaders or facilitators at the same time (e.g., part of a team, mutual trust, and respect, organize common programs), be good reading people (e.g., know better colleagues, know the qualities and skills) and be personal support (e.g., individual attention, give feedback, support learning and development).

Our results highlight that positive and negative role models can influence later expectations and relationships with leaders. Although they are congruent with previous results, we worked with a relatively small and diverse sample which does not allow us to draw an extensive conclusion. Even though we tried to ensure objective categorization, other independent raters could have secured a higher

validity of our results. Additionally, more extensive research involving different universities, majors, and students could give us better insights into the expectations associated with leaders and let us understand better and compare the academic and business characteristics.

Taking everything into account, theory and practice are key elements to the successful education of young engineers or other professionals. But we should not neglect the influence of academics who support and guide them. For this reason, we recommend that universities promote leadership development which might be helpful and fit both professors and engineering students. Since role modelling can be experienced on formal, informal, and hidden, institutional levels, interventions would be needed not just on a personal but on an institutional level too to ensure leadership development and through this positive role modelling [5].

5   PRACTICAL IMPLICATIONS

There was a shift from basically research-oriented education to applied science and practical engineering [15]. It requires leadership skills from engineering students who can learn these from practicing those skills [16] and internalizing the behaviour of role models, mostly their professors. Professors are expected to be researchers and leaders simultaneously, which requires different skill sets [6]. Sometimes, their job description does not clarify the variety of tasks and emphasizes the managerial part of their work [8]. This entails that they do not usually get prepared or just too little for their career as an intellectual leader [17]. Because of this, we would suggest a complex developmental program that aims at all the three levels of modelling influence defined by Cruess and her colleagues [5] to raise professors' awareness about their influential power and modelling status and help them develop leadership skills.

First, academics need to acknowledge the importance of leadership development [15] on an institutional level and facilitate cooperation between faculties and departments to raise awareness about the importance of non-technical, interpersonal competencies [15-16]. A developmental program could effectively reach its goal in such a supportive culture with clear expectations about leadership.

Second, we suggest a reform of the curriculum too. Farr and his colleagues [16] emphasized that building in some new topics or methods is easier than creating a specified course for them. Engineering curricula and even Ph.D. curricula should be revised and extended to leadership theories and practice. Engineers at our university have mandatory psychology lectures without practicing social skills, which could be incorporated. The Doctoral Student Union provides optional workshops for Ph.D. students about academic, business, financial, and psychological topics. Professors are also allowed to participate in these workshops. This training could be built into the education regularly, not occasionally, and optionally.

If the university supports leadership development and the curricula are revised, then the informal level should be addressed intensively with the help of training and workshop series. Based on the developmental program of Rutgers Leadership

Academy, the series should cover organizational and leadership theories, the development of social skills and leadership competencies, and specifics of higher education [17]. The awareness of one's leadership function can increase with the help of projects, interactions, and reflections on teamwork [16-17]. These contribute to developing the most important engineering leadership skills (i.e., communication, teamwork, cultural awareness, and ethics) [15].

Although these suggestions are made on a theoretical basis and need to be tested and examined widely, they can contribute to the preparation and development of professors for formal and informal leadership roles. This is important because they can significantly influence students besides soft skill training and theoretical education. Professors should set an example that engages students, helps them internalize leadership skills, and prepares them consciously or unconsciously for their future leadership position, which usually comes fast in the case of successful graduate engineering students.

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