

## Impact of students' feedback on their engagement towards online classes during COVID-19 pandemic

Ildikó Rudnák<sup>1,2</sup>, Khadija Aya Hamza<sup>1</sup>, Ayman Alshaabani<sup>1</sup>, Judit Garamvölgyi<sup>2</sup>

<sup>1</sup>Doctoral School of Economic and Regional Sciences, Hungarian University of Agricultural and Life Sciences (MATE), Gödöllő, Hungary

<sup>2</sup>Department of Agricultural Management and Leadership Sciences, Institute of Agricultural and Food Economics, Hungarian University of Agricultural and Life Sciences (MATE), Gödöllő, Hungary

### Article Info

#### Article history:

Received Aug 29, 2023

Revised Mar 24, 2024

Accepted May 7, 2024

#### Keywords:

COVID-19

Online teaching

Student engagement

Student feedback

Teaching effectiveness

### ABSTRACT

With the emerge of COVID-19 pandemic in Hungary, Hungarian universities have decided to opt for online teaching methods even for foreign language courses. This sudden change has required a better understanding of students' behaviors in classes also to view the importance of their feedback to enhance teaching quality and teachers' effectiveness. The purpose of our study was to focus on students' feedback and its impact on their engagement in the context of online classes, by considering the mediating role of teaching effectiveness in that relationship. Structural equation modelling was used to examine our primary data, which has been collected from a distributed online questionnaire dedicated to 222 students enrolled in Hungarian language courses at MATE University. The findings reveal that students' feedback has a direct, significant, and positive effect on students' engagement in online classes and teaching effectiveness, which itself plays a mediating role in that relationship.

*This is an open access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.*



### Corresponding Author:

Judit Garamvölgyi

Department of Agricultural Management and Leadership Sciences, Institute of Agricultural and Food Economics, Hungarian University of Agricultural and Life Sciences (MATE)

2100 Gödöllő, Páter Károly str. 1., Hungary

Email: [garamvolgyi.judit@uni-mate.hu](mailto:garamvolgyi.judit@uni-mate.hu)

## 1. INTRODUCTION

The sudden spread of COVID-19 was considered a noticeably big, hard, and challenging change for everyone all over the world. As a response to this huge spread and to avoid people's contacts and interactions, lockdown was a shared struggle that has been faced by all people during corona time [1]. So that, most of the offices, universities, and institutions decided to close and keep to remote work.

From this perspective, the interesting part of this change was the increasing move towards online teaching in higher education. As an action towards the crisis, most of the universities decided to rethink, revamp, and redesign teaching and learning methods. Earlier, online learning and distance education were mostly considered as an aspect of non-formal education. However, as of now, it seems that it will gradually replace the traditional, formal education system if the circumstances will persist over time. Other researchers added that because of the COVID-19 crisis teachers and students found themselves in a situation where they should completely follow the innovative changes. This could explain that educational institutions are now facing a very big challenge to adapt themselves and choose the right technologies and approaches for teaching and engaging their students.

In accordance with these facts, most of the previous studies were mainly focusing on students' satisfaction [2]–[4] and students' motivations towards learning [5], [6] that mostly are affected by students'

feedback and teaching effectiveness. Following this reflection, it has also been widely mentioned that students' feedback is considered as one of the best tools for quality teaching and learning process [7]. Many researchers insisted on this fact like Eng *et al.* [8], who reported that students' feedback was a main factor to improve performance in course material, assessment techniques, classroom organization, and classroom interactions. Butt and Rehman [9] also confirmed from their results that teachers' expertise and effectiveness are the most influential factors, representing a significant and positive impact on students' satisfaction, and motivation. These two researches highlighted the different aspects of students' satisfaction such as teacher knowledge, content, attitude, skills, and learning environment.

However, limited research touched these aspects during the pandemic and this concentration on only satisfaction and motivation has generated a theoretical and empirical gap in the scientific research regarding students' engagement towards learning through students' 'evaluation of teachers' effectiveness in COVID-19 context, where all teaching practices and students' perceptions have been changed. Additionally, most of the actual researchers are mainly focusing on COVID-19 circumstances and effect on teaching style and students' attitudes as well as the challenges of online learning integration for institutions, teachers, and students [1], [10]. Therefore, the major purpose of our quantitative study is to examine the impact of students' feedback on teaching effectiveness and students' engagement with the change from the traditional teaching style to the new online learning system and determine to what extent could the teaching effectiveness play the mediation role in that relationship within Hungarian higher universities in the time of COVID-19.

This research is then organized as follows. First, we will go through the literature review containing the definition of the research variables and clarification of the links between them. Then, we will try to describe the study's methodology, show, and discuss the results of the data analysis, and finally, we will present the theoretical and practical contributions plus the limits, and the study's future perspectives.

## 2. LITERATURE REVIEW

### 2.1. Students' feedback and students' engagement

Nowadays, receiving feedback from students is considered a very important part of universities' life [11], especially during change circumstances. Several explanations were used to define the concept of feedback and many authors tried to touch different aspects of it [12]. Some of them consider it as information gained from learners' performance [13]. Others characterize it as an interchange between learners and teachers. Recent approaches contemplate feedback as a process where teachers collect back information from learners to improve their performance [12].

Scholars have mentioned that student feedback refers to the concentration on students' opinions about their beliefs concerning the quality enhancement of academic teaching and learning in universities [2]. The reason behind this commonly used exercise is to improve the teaching quality, where instructors can know what their weaknesses are and what they should improve. In their study, Kember *et al.* [14] enumerated six factors of students' feedback which are learning outcomes, interaction, individual help, organization and presentation, motivation, and feedback.

In previous studies, the concept of engagement has always been determined by the time and effort allocated by students to do their activities and reach some specific outcomes [15], where researchers suggested three types of engagement: behavioral engagement, emotional engagement, and cognitive engagement [16]. Behavioral engagement consists of students' involvement and efforts. As for emotional engagement, it concentrates on students' reactions to others like teachers and peers, and cognitive engagement, states the application of the necessary efforts to understand complex ideas [16]. A positive significant relationship between students' engagement and the quality of learning outcomes and achievements was reported in anterior studies [17], which explains that an increase in the performance, retention, persistence, and experience of teachers is followed by an increase in students' engagement as well.

Students' engagement has always been described and studied in terms of students' levels of usual and active involvement, like for example the share of their feedback about universities' systems, teachers' competencies, and performance. Many studies emphasized the use of assessment and feedback in a process of continuous improvement which can increase students' engagement thereafter [18]. Price *et al.* [19] stated that one most important key factors of students' engagement are the share of good values between teachers and students during learning. Therefore, students' involvement in the learning process and evaluation should be an indicator and a booster for their engagement [20]. Keeping with the same thoughts, Hyatt [21] highlighted the importance of increasing the dialogue method when students are in the process of giving feedback to ensure their engagement. In addition, Chinn and Brewer [22] reported in their study that feedback can be considered as a social procedure that goes with engagement process showed in students' choices and actions.

Literature about students' feedback and engagement [23], stated that in a turbulent and uncertain environment, innovation is recognized as a key success factor of performance and competitive advantage, due to the vast spread of COVID-19, most of the universities decided to close and adopt the advanced new technology to enable effective online learning [24] and avoid learning interruptions [25]. In their study, Wu *et al.* [26] stressed the importance of student innovativeness which includes their flexibility and problem-solving capabilities in hard times. In this line, several universities started to concentrate on how to best provide good online courses, and what they should do to engage learners through their feedbacks, ratings, and evaluations regarding the new online teaching style [24]. From this perspective, we can conclude our first hypothesis: Students' feedback has a significant positive effect on students' engagement towards learning in the time of COVID-19 pandemic (H1).

## 2.2. Students' feedback and teaching effectiveness

Literature review on higher education reveals that teaching effectiveness is a censorious factor leading to a variation in students' achievements and has a great influence on their performance [27]. Klassen and Tze referred to it as "the aggregated effects of a complex set of in-classroom teacher behaviors on students' learning, typically operationalized as measured student achievement or evaluations of observed teaching performance." However, some authors stated that teaching effectiveness concept is still not that clear [28]. It is for that reason, they hardly focused on understanding the factors that could contribute to increasing teaching effectiveness to improve educational outcomes, students' motivation, satisfaction [2], and engagement [17]. Klassen and Tze [27] have mentioned some of teachers' characteristics that can have a huge effect on their effectiveness such as their personality and motivation. In his study, Barr [29] highlighted that teachers' personality was highly connected with teaching success. Regarding the motivation factor, many studies and frameworks were applied to link motivation and teaching effectiveness [30], engagement [27], and achievement goals [31], and cultural adjustment and cultural intelligence level [32].

Previous studies related to education insisted on mentioning the significant role that students' feedback variable plays in improving and increasing teaching quality as well as students' level of satisfaction [2], attention should also be paid to differences in social contexts and personal factors [33]. In this line, study by Cruz *et al.* [34] highlighted that if teachers possess the lead over subjects and managing classes in a sufficient way it is obvious that students will feel satisfied and provide a high level of feedback. Furthermore, Eng *et al.* [8] mentioned that students' feedback has the huge power to improve teachers' performance in creating the course materials and assessment techniques as well as organizing classes progress and interactions.

In addition, good teachers are those who possess the abilities of good memory, willpower, and kindness [2]. Education field researchers reported some qualities of effective teaching style, where they spotlighted that teachers should have a major commitment to their profession, be humane, can provide a good consultation for students, and investigate their time to the adequate organization [2]. Regarding students' feedback effect on teaching effectiveness, Jimaa [35] confirmed that collecting students' feedbacks is advantageous for the learning process, critical thinking, and independent learning.

E-learning incorporation in the education system during the pandemic is seen as a perplexing phenomenon because teachers and students are still attached to the old pedagogies and practices and it is hard for them to adjust themselves to the new innovative learning techniques [36]. However, other researchers reported that some of the students and instructors are very satisfied with the new online learning because it gives them the ability to increase students' participation, support teachers' effectiveness, and increase the communication between them [37]. From this perspective, we can suggest our second hypothesis: Students' feedback has a significant positive effect on teaching effectiveness in the time of COVID-19 pandemic (H2).

## 2.3. Teaching effectiveness and student engagement

Literature on students' motivation and engagement contributed to researchers' understandings of effective teaching practices [38]. Many theories related to motivation and satisfaction have been used to frame how teachers engage students such as motivational theories, self-determination theory [39], expectancy-value theory [40], and goal theory [41]. Self-determination theory stated that teachers' effectiveness, competencies, and supportive practices, can increasingly engage and motivate students [38]. It is then assumed that positive and effective teaching practices can boost all types of engagement [42].

COVID-19 circumstances have generated unpredictable challenges requiring teachers and students to adapt themselves to the new online teaching methods [43]. Previous teaching style was characterized by formal classes where students are required to listen to their teachers, work individually or in groups, and must reproduce the acquired knowledge in the exams, assessments, and assignments. Conversely, nowadays universities moved completely to the use of new technology, where teachers had to change to online teaching, requiring them to use various digital tools to solve problems and implement new approaches. As a response to the big change, teachers were also required to stay in contact with their students to increase their social integration [43], [44] and maintain their continuous engagement. To keep on this strategy, online

teaching needed a vast high-tech transformation process in the educational systems [45]. It is obvious, that during COVID-19 context teaching effectiveness had a lot of interest by researchers, where they stated that in this situation, teachers must engage a range of coherent knowledge and skills to manage teaching challenges in COVID-19 time [43]. In response to the increasing significance of technology transformation in educational systems [46], teachers' performance and effectiveness are now measured through their ability to master the challenges associated with using sophisticated tools in teaching and learning. Furthermore, the COVID-19 situation requires not only knowledge and skills but also a big trust regarding success in online teaching. In this line, many researchers focused on teachers' self-efficacy as one of the most important aspects in teaching effectiveness [47]. Rudnák *et al.* examined the possible roles of conflict management climate and intercultural adjustment [48]. According to Bandura *et al.* [49], teachers' self-efficacy is about their abilities to reach success in some specific and challenging situations. It is then about their ability to influence and how long they may resist to positively impact their students' engagement. From this perspective, we can suggest our third hypothesis: Teaching effectiveness has a significant positive effect on students' engagement toward learning in the time of COVID-19 pandemic (H3).

Evaluating teachers' effectiveness in their education practices has become a routine in several universities and colleges. Many studies stated that most universities adopt the strategy of students' ratings or student feedback to reach teaching effectiveness [50]. In this line, universities orientation to student evaluations of teaching effectiveness has many reasons which are: providing feedback to the faculty to improve teaching quality, subjects' content, and structure, provide a summary about teachers' effectiveness for promotions decisions, provide information to students [51] and finally increase students' satisfaction and engagement. Regarding students' engagement, researchers confirmed that it includes active learning and collaboration of students in increasing teachers' effectiveness. This explains that, when students participate in class discussions, presentations with their instructors, they can develop their knowledge and skills [52] as well as their engagement. From this perspective we can suggest our fourth hypothesis: In the context of COVID-19, teaching effectiveness mediates the link between students' feedback and students' engagement (H4). This hypothesis binds all three previous hypotheses together as it can be seen in Figure 1.

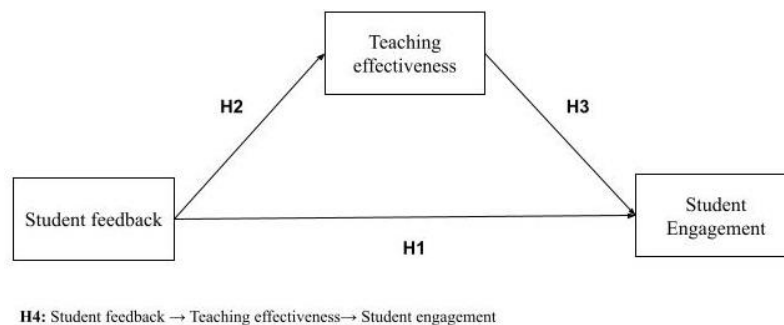


Figure 1. The study's model

### 3. METHOD

#### 3.1. Sample and procedures

The questionnaire was distributed to the international master and bachelor students of different departments who were participating in the Hungarian language course at Hungarian University of Agricultural and Life Sciences (MATE). The course took place in the first semester of the academic year 2020-2021. The students took their course online due to the COVID-19 pandemic as it was ordered by the Hungarian government [53]. Self-administrated e-questionnaires were sent online to the emails of the students. The total number of students who were taking the course was 244 students. Participation in the questionnaire was done on a volunteering basis, and the representativeness of the questionnaire was anonymous. The questionnaire was sent in two phases to the students, during the last month of the semester, the first phase was at the beginning of the last month, then the second one at the end of it, as a reminder [54]. Baruch and Holtom [55] stated the response rate (91%) is considered a very good response rate. Table 1 presents the participants' characteristics. The table shows that male is the prevailed gender between the students (57.2%). Age groups were mainly close to each other except 3.6 % of the students were older than 35 years old. Besides, as it could be noticed that Asian students occupied the highest percentage compared to other ethnicities while Arabs and Africans are the second and third, respectively.

Table 1. The sample characteristics (N=222)

Variables	Dimension	No.	%
Gender	Male	127	57.2
	Female	95	42.8
Age	18-24	108	48.6
	25-34	106	47.7
	35-44	8	3.6
Ethnicity	Arab	46	20.7
	African	44	19.8
	Asian	74	33.4
	Turk	15	6.8
	Latin American	24	10.8
	European	19	8.5

### 3.2. Measures

Previous studies were used as a base for building the standard questionnaire. The study included three different sections; the first one consisted of 15 items for student engagement in class. The items were adapted from the previous study [17]. A sample of items is “I spend enough time and make enough effort to learn”, “My teachers respect me as an individual.” The second part was related to perceived teaching effectiveness and consisted of 10 items adapted from Aregbeyen [56]. Two examples of the items are “My lecturer emphasizes conceptual understanding”, “My lecturer seems to enjoy teaching”. The last section was related to student feedback and consisted of 12 items adapted from Kember *et al.* [14], a sample from the construct items is “I have understood the subject matter taught by the staff member”, “The feedback from the staff member was helpful and constructive.” All constructs used 5 points Likert scale scales where (1 totally disagreed and 5 totally agree). Table 2 shows the descriptive statistics of the study’s variables and the correlation between them.

### 3.3. Common method bias

Bagozzi and Yi [57] stated that common method bias is the “variance that is attributed to the measurement method rather than to the construct of interest.” Having this bias threatens the validity of the research results [58] therefore, the researchers used Harman’s one-factor test to investigate the presence of common method bias. For that purpose, the researchers loaded all the studied variables into an explanatory factor analysis (EFA) by restricting the number of extracted factors to one, with no rotation factor solution usage. The Harman test results indicated that one-factor solutions accounted for only 43.8% of explained variance, which was much less than 50%, which is usually the maximum variance that is accepted by the common method variance for Harman’s one-factor test [59]. This indicates the revealing of no potential threat for this study of common method variance.

### 3.4. Validity test

Construct validity was tested through using EFA by use of the SPSS v25 package. The principal components method was used associated with using varimax rotation. The model extracted eight factors explaining 67.7% of the variance with loadings above (0.3). Further observation of the EFA results showed that the value of Kaiser-Meyer-Olkin was (0.918), with approximate chi-square (4,071.59, df=351), Bartlett’s test of sphericity was significant ( $P < 0.001$ ) all these results were within the accepted results [60]. After conducting a constructive analysis, two measurements for data validity were used, the first one is the assessment of validity analysis which involves testing the outer loading values of the items and the average variance extracted (AVE). As was mentioned by Hair *et al.* [61], weaker outer loadings indicators can be preserved if other indicators with high loadings explain at least 50% of the variance. Based on this as it is presented in Table 3, excluding item SE5, the AVE values for all other constructs were found to be suitable and no items needed to be deleted from any of the constructs.

The second measurement of validity was composite reliability (CR) following the suggestions of Hair *et al.* [61], composite reliability (CR) was assessed as a measure of internal consistency. Composite reliability (CR) for a measurement scale with a value above 0.7 as the minimum limit for each of the constructs is considered as satisfactory [62]. The results presented in Table 3 reveal that CR values for all the constructs were above the minimum value of 0.7.

### 3.5. Reliability test

Before starting the analysis of the results, the reliability test was conducted to test the value of Cronbach’s alpha which assesses the internal consistency of the constructs of the study. The values of Cronbach’s alpha were for all constructs exceeding 0.6, indicating an appropriate reliability level [63]. Table 3 introduces the Cronbach’s alpha values of each variable.

Table 2. Correlations and descriptive analysis

Variables	Mean	SD	1	2	3
Student feedback	4.30	.82	-		
Teaching effectiveness	4.49	.58	.612**	-	
Student engagement	4.29	.55	.475**	.654**	-

\*\* P&lt;0.001

Table 3. The constructs' validity and reliability

Variables	Items	Loadings	CR	AVE	Cronbach $\alpha$
Student feedback	SF1	0.726	0.94	0.60	0.853
	SF2	0.783			
	SF3	0.695			
	SF4	0.759			
	SF5	0.745			
	SF6	0.849			
	SF7	0.728			
	SF8	0.829			
	SF9	0.865			
	SF10	0.756			
	SF11	0.821			
	SF12	0.686			
Teaching effectiveness	E1	0.733	0.91	0.5	0.928
	E2	0.700			
	E3	0.645			
	E4	0.705			
	E5	0.665			
	E6	0.688			
	E7	0.743			
	E8	0.694			
	E9	0.699			
	E10	0.720			
Student engagement	SE1	0.634	0.95	0.55	0.936
	SE2	0.675			
	SE3	0.739			
	SE4	0.705			
	SE5	0.408*			
	SE6	0.725			
	SE7	0.774			
	SE8	0.804			
	SE9	0.785			
	SE10	0.858			
	SE11	0.724			
	SE12	0.737			
	SE13	0.831			
	SE14	0.831			
	SE15	0.826			

\*Deleted

### 3.6. Model fit

As it was suggested by Hair *et al.* [64], diagnosing the model goodness of fit indices is required before building conclusions. The most commonly used indices involve the model's Chi-square ( $X^2$ ), degree of freedom of the model (df), comparative fit index (CFI), Tucker-Lewis's index (TLI), root mean square error of approximation (RMSEA), and the standardized root mean residual (SRMR). According to research by Hair *et al.* [64], to meet the good model fit accepted values of mentioned indices are required, and their suggested maximum values are  $X^2/df \leq 3$ ,  $RMSEA \leq .08$ ,  $SRMR \leq .06$ ,  $CFI > 0.9$ ,  $TLI > 0.9$  [64]. Therefore, assessing the model goodness fit is important before proceeding to the final analysis. In Table 4, the key diagnostics are presented which supports the model fit of the dataset. Table 4 shows the results which indicate a good fit for each construct. This provides the basis for testing the hypothesis of this study.

Table 4. The goodness of fit statistics

Variable	$X^2$	df	$\chi^2/df$	TLI	CFI	RMSEA	SRMR
Student engagement	90.288	30	3.009	.91	.96	.07	.04
Student feedback	241.537	82	2.946	.90	.93	.08	.05
Teaching effectiveness	100.523	34	2.956	.90	.94	.07	.04
Full model	149.444	38	3.933	.91	.94	.06	.03

## 4. RESULTS AND DISCUSSION

### 4.1. Data analysis

Structural equation modeling (SEM) analysis was used to test the formulated hypotheses by using AMOS 22 package. SEM is used for determining the relationship between the independent variable over the dependent variables by using a covariance matrix. SEM is also used for evaluating the independent variables' weight and the dependent ones. Besides, it will help to predict what influence does the independent variable has over the dependent one. The main advantage of SEM analysis is the ability to conduct confirmatory factor analysis (CFA) and in regression analysis simultaneously which helps testing mediation or moderation relationships [61], [65]. The reason for using SEM in this study is that SEM has advantages over regression analysis: i) it is more powerful in controlling for measurement errors compared to regression analysis; ii) SEM can deal with different dependent and independent variables at the same time which regression analysis usually does not provide; iii) SEM provide more flexibility in analysis and provide more accurate results compared to regression analysis [66].

### 4.2. Hypotheses test

To test the hypothesized mediated relationship, the researchers used a method of mediation with a two-steps process using SEM [64]. The first step of the mediation analysis involves testing the significance of both the direct effects (student feedback  $\rightarrow$  student engagement), and indirect (mediation) effects (student feedback teaching effectiveness  $\rightarrow$  student engagement) [64]. For this purpose, techniques of path analysis of SEM were used. According to Hair *et al.* [64], if both paths (a: SF  $\rightarrow$  TE; b: TE  $\rightarrow$  SE) were significant, while (path c: SF  $\rightarrow$  SE) was not significant then the mediation is considered full mediation. Whereas, if paths a, b, and c were significant but  $b < c$ , then there is partial mediation. While anything else there is no mediation relationship.

The results of the analysis, standard regression estimations, are presented in Table 5, which indicates that student feedback positively predicting the teaching effectiveness during the online classes ( $b=0.432$ ,  $p<0.001$ ). similarly, teaching effectiveness was positively predicting student engagement ( $b=0.552$ ,  $p<0.001$ ) however, student feedback in the presence of teaching effectiveness was not predicting positively student engagement (path c) ( $b=0.079$ ,  $p=0.066$ ). Whereas in the presence of teaching effectiveness it was significantly predicting students' engagement (path c) ( $b=0.317$ ,  $p<0.001$ ). Therefore, based on the recommendation of Hair *et al.* [64], we could conclude that teaching effectiveness positively mediates the relationship between student feedback and student engagement and this mediation is a full mediation.

Table 5. Regression weights and square multiple correlations

Path coefficient	Estimate	SE	CR	Sig
Student's feedback $\rightarrow$ Student's engagement	0.079	0.043	1.838	0.066
Student's feedback $\rightarrow$ Teaching effectiveness	0.432	0.038	11.515	***
Teaching effectiveness $\rightarrow$ Student engagement	0.552	0.061	9.104	***
R <sup>2</sup>				
	Teaching effectiveness			0.375
	Student engagement			0.436

\*\* P<0.001

Table 6 presents the analysis of the indirect effects of the student feedback on student engagement through the teaching effectiveness, the results showed that student feedback has a significant indirect positive effect on student engagement. when students have positive feedback perceptions, the teaching effectiveness will be enhanced which in turn will be reflected positively in the engagement of the students in class. Figure 2 previews the paths and the standardized estimates. Based on this the fourth hypothesis was supported except for the teacher's organization and presentation.

Table 6. Mediation analysis of overall student feedback

Path coefficient	Indirect estimate	SE	Lower bound	Upper bound	P-value
Student feedback $\rightarrow$ teaching effectiveness $\rightarrow$ student engagement	0.238	0.063	0.125	0.369	***

\*\*\* P<0.001

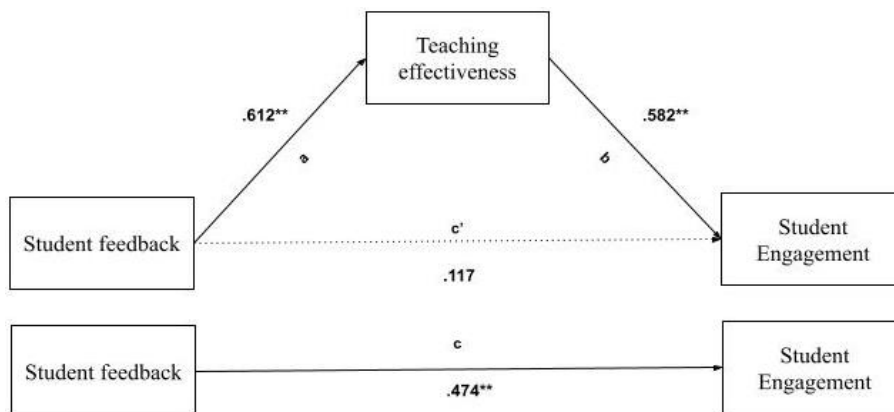


Figure 2. The standard coefficients of the model source: own editing

### 4.3. Discussion

The purpose of the research was to examine the effect of students' feedback on students' engagement and to point out the impact of teaching effectiveness between them during the COVID-19 pandemic, where classes were conducted online. In this line, the research tried first to investigate the link between students' feedback and student engagement in its first hypothesis. According to the findings, we were able to confirm the significant and positive direct effect between the two stated variables, which corroborates other studies [18], [20], who emphasized that students' engagement has always been described and studied in terms of students' levels of usual and active involvement with explaining that students' involvement in learning process and evaluation should be an indicator and a booster for their engagement. It also goes in line with the same idea [21], [22], who reported that feedback can be considered as a social procedure that goes with engagement process shown in students' choices and actions. This explains then, that, during COVID-19 pandemic when teaching style faced a sudden change, several universities started to concentrate on how to best provide good online courses, and what they should do to engage learners through their feedbacks, ratings, and to successfully reach their engagement [24].

Second, we were also able to confirm the second hypothesis, stating the significant and positive effect of students' feedback on teaching effectiveness. Indeed, this corroborates previous studies [2], [8], who spotlighted that students' feedback variable plays an important role in improving and increasing teaching quality as well as students' level of satisfaction. They also have shown that students' 'feedback has the huge power to improve teachers' performance in creating the course materials and assessment techniques as well as organizing classes' progress and interactions.

Third, we also confirmed our third hypothesis, showing the significant and positive effect of teaching effectiveness on students' engagement, where this finding falls in line with studies [38], [67], [68], who with the stress on self-determination theory, stated that teachers' effectiveness, competencies, and their supportive practices, can increasingly engage and motivate students. They also have emphasized that students' 'motivation and engagement are highly related to different teaching practices. It is then assumed that positive and effective teaching practices boost all types of engagement.

Finally, regarding the fourth hypothesis related to the mediation role played by teaching effectiveness, we were able to confirm that student's feedback direct effect on student engagement be marginalized when it is assessed with strong teaching effectiveness. Which is reveals that teaching effectiveness mediates the relationship between students' feedback and students' engagement during the online classes of foreign languages. This also was confirmed in other studies [50], [51], who reported that universities orientation to students' evaluation of teaching effectiveness has many reasons which are providing feedback to the faculty to improve teaching quality, subjects' content, and structure, provide a summary about teachers' effectiveness for promotions decisions, provide information to students, and finally increase students' satisfaction and engagement.

### 4.4. Research implications

Using feedback theory and student engagement theory [69], the main purpose of our research topic was to show that students' feedback is a key factor in promoting teachers effectiveness, improving teaching quality, and ensuring students' engagement. However, objectivity is key when it comes to student feedback: the result is objective if and only if a high percentage of students give feedback. Since the teacher-student



relationship is hierarchical, the evaluation can slip either positively or negatively if the respondents are under emotional influence. For this reason, making feedback on essential questions compulsory for all students could be one way to achieve objectivity.

Along with this, we were able to confirm that in the actual hard conditions caused by COVID-19, most of the universities decided to opt for online learning [24] in which receiving feedback from students is considered as a very important part in universities' life [11], so that instructors could know their weaknesses and strengths and increase their students' engagement [18]. It has been also confirmed that providing feedback can improve the subjects' content and their structure which can increase student satisfaction [51]. This fact hugely demonstrates the effective mediating role of teaching effectiveness in the link between the two important variables which are students' feedback and students' engagement in the foreign language courses. The current study also validated a questionnaire for testing the student feedback with its six dimensions.

In addition to the theoretical contributions, this research has several interesting practical implications as well. First, we were able to show that universities' administrations should insist on the importance of students' feedback and try to organize a rating system for each semester where students can participate to evaluate their teachers' performance, implication, and effectiveness. In addition, we highly focused on demonstrating that students' engagement during online classes is not that easy to reach that is why, nowadays universities should reconsider this and try to provide some engagement programs that could be done online as well to keep all the students satisfied and motivated.

This research is marked by some limitations that should be taken into account in future research. First, we were not able to avoid the risk of bias in the causal relationships, despite the estimation of the full collinearity and the confirmation of the causal links between variables according to the literature. To consider this issue, future studies could use longitudinal research to analyze better the active links between variables and provide more solid results about their causality. Second, this study was performed in Hungary, within specific campuses, and considered only the Hungarian language classes which could decrease the generalizability of our research, because of the limited sample size which has resulted in the difficulty of obtaining sufficient responses, that is why future investigations could improve this issue by surveying on a larger scale, using probabilistic sampling method and reproducing the study's model in other countries and other campuses considering different classes as well. Third, we suggest also integrating other variables in the research model as mediators or moderators between students' feedback and students' engagement like for example trust, knowledge sharing, culture, and students' autonomy. Finally, future researchers can enlarge the study by adopting both quantitative and qualitative research, which helps in providing more reliable findings and results.

## 5. CONCLUSION

The study is considered as one of the few studies that have tried to emphasize the impact of students' feedback on their engagement through online classes during the pandemic. The current study was aimed to determine the effect of student feedback, through its six factors, on student engagement and the role of teaching effectiveness between them in the context of the Hungarian higher education system during the time of COVID-19. The findings indicate that students' feedback in Hungarian language online classes is significantly important in predicting teaching effectiveness and associated with a high level of student engagement. The results also revealed that teaching effectiveness mediated positively the effect of student feedback on the student engagement. Therefore, at the time of COVID-19 and in the online teaching context direct feedback from students has extra importance to enhance their engagement if teachers have a high teaching quality and are effective in delivering course materials and content.





## REFERENCES

- [1] A. K. Mishra, K. K. Sahu, A. Lal, and J. Sargent, "Patterns of heart injury in COVID-19 and relation to outcome," *Journal of Medical Virology*, vol. 92, no. 10, p. 1747, Oct. 2020, doi: 10.1002/jmv.25847.
- [2] N. Channa and A. B. Kazimi, "The Influence of Student feedback on Teaching Effectiveness and Students satisfaction at Higher Education level," *Academic Journal of Social Sciences (AJSS)*, vol. 4, no. 3, pp. 498–523, Nov. 2020, doi: 10.54692/ajss.2020.04031074.
- [3] I. M. S. Weerasinghe, R. Lalitha, and S. Fernando, "Students' Satisfaction in Higher Education Literature Review," *American Journal of Educational Research*, vol. 5, no. 5, pp. 533–539, 2017.
- [4] K. R. Jung, A. Q. Zhou, and R. M. Lee, "Self-efficacy, self-discipline and academic performance: Testing a context-specific mediation model," *Learning and Individual Differences*, vol. 60, pp. 33–39, Dec. 2017, doi: 10.1016/j.lindif.2017.10.004.
- [5] I. Ahn, M. M. Chiu, and H. Patrick, "Connecting teacher and student motivation: Student-perceived teacher need-supportive practices and student need satisfaction," *Contemporary Educational Psychology*, vol. 64, p. 101950, Jan. 2021, doi: 10.1016/j.cedpsych.2021.101950.





- [6] S. A. R. Alkaabi, W. Alkaabi, and G. Vyver, "Researching Student Motivation," *Contemporary Issues in Education Research (CIER)*, vol. 10, no. 3, pp. 193–202, Jun. 2017, doi: 10.19030/cier.v10i3.9985.
- [7] M. Andersson and M. Weurlander, "Peer review of laboratory reports for engineering students," *European Journal of Engineering Education*, vol. 44, no. 3, pp. 417–428, May 2019, doi: 10.1080/03043797.2018.1538322.
- [8] T. H. Eng, A. F. Ibrahim, and N. E. Shamsuddin, "Students' Perception: Student Feedback Online (SuFO) in Higher Education," *Procedia - Social and Behavioral Sciences*, vol. 167, pp. 109–116, Jan. 2015, doi: 10.1016/j.sbspro.2014.12.651.
- [9] B. Z. Butt and K. U. Rehman, "A study examining the students satisfaction in higher education," *Procedia - Social and Behavioral Sciences*, vol. 2, no. 2, pp. 5446–5450, 2010, doi: 10.1016/j.sbspro.2010.03.888.
- [10] O. B. Adedoyin and E. Soykan, "Covid-19 pandemic and online learning: the challenges and opportunities," *Interactive Learning Environments*, vol. 31, no. 2, pp. 863–875, Feb. 2023, doi: 10.1080/10494820.2020.1813180.
- [11] J. Flodén, "The impact of student feedback on teaching in higher education," *Assessment and Evaluation in Higher Education*, vol. 42, no. 7, pp. 1054–1068, Oct. 2017, doi: 10.1080/02602938.2016.1224997.
- [12] I. Ghaderi and T. M. Farrell, "Toward effective feedback: From concept to practice," *Surgery (United States)*, vol. 167, no. 4, pp. 685–688, Apr. 2020, doi: 10.1016/j.surg.2019.06.014.
- [13] R. Meyer, "Feedback," in *International Encyclopedia of Teaching and Teacher Education*, Second Edition, L. W. Anderson, Ed., UK: Emerald Publishing, 1996.
- [14] D. Kember, D. Y. P. Leung, and K. P. Kwan, "Does the use of student feedback questionnaires improve the overall quality of teaching?" *Assessment and Evaluation in Higher Education*, vol. 27, no. 5, pp. 411–425, Sep. 2002, doi: 10.1080/0260293022000009294.
- [15] A. Moubayed, M. Injadat, A. Shami, and H. Lutfiyya, "Student Engagement Level in an e-Learning Environment: Clustering Using K-means," *American Journal of Distance Education*, vol. 34, no. 2, pp. 137–156, Apr. 2020, doi: 10.1080/08923647.2020.1696140.
- [16] J. A. Fredricks, M. Filsecker, and M. A. Lawson, "Student engagement, Context, and adjustment: Addressing definitional, Measurement, And methodological issues," *Learning and Instruction*, vol. 43, pp. 1–4, Jun. 2016, doi: 10.1016/j.learninstruc.2016.02.002.
- [17] S. Gunuc and A. Kuzu, "Student engagement scale: development, reliability and validity," *Assessment and Evaluation in Higher Education*, vol. 40, no. 4, pp. 587–610, May 2015, doi: 10.1080/02602938.2014.938019.
- [18] H. L. Chen, L. R. Lattuca, and E. R. Hamilton, "Conceptualizing engagement: Contributions of faculty to student engagement in engineering," *Journal of Engineering Education*, vol. 97, no. 3, pp. 339–353, 2008, doi: 10.1002/j.2168-9830.2008.tb00983.x.
- [19] M. Price, K. Handley, and J. Millar, "Feedback: Focusing attention on engagement," *Studies in Higher Education*, vol. 36, no. 8, pp. 879–896, Dec. 2011, doi: 10.1080/03075079.2010.483513.
- [20] B. O'Donovan, M. Price, and C. Rust, "Developing student understanding of assessment standards: A nested hierarchy of approaches," *Teaching in Higher Education*, vol. 13, no. 2, pp. 205–217, Apr. 2008, doi: 10.1080/13562510801923344.
- [21] D. F. Hyatt, "'Yes, a very good point!': A critical genre analysis of a corpus of feedback commentaries on Master of Education assignments," *Teaching in Higher Education*, vol. 10, no. 3, pp. 339–353, Jul. 2005, doi: 10.1080/13562510500122222.
- [22] C. A. Chinn and W. F. Brewer, "The Role of Anomalous Data in Knowledge Acquisition: A Theoretical Framework and Implications for Science Instruction," *Review of Educational Research*, vol. 63, no. 1, pp. 1–49, Mar. 1993, doi: 10.3102/00346543063001001.
- [23] S. Berraies, K. A. Hamza, and R. Chtioui, "Distributed leadership and exploratory and exploitative innovations: mediating roles of tacit and explicit knowledge sharing and organizational trust," *Journal of Knowledge Management*, vol. 25, no. 5, pp. 1287–1318, Jun. 2020, doi: 10.1108/JKM-04-2020-0311.
- [24] K. Mukhtar, K. Javed, M. Arooj, and A. Sethi, "Advantages, limitations and recommendations for online learning during COVID-19 pandemic era," *Pakistan Journal of Medical Sciences*, vol. 36, no. Covid19-S4, pp. S27–S31, May 2020, doi: 10.12669/pjms.36.COVID19-S4.2785.
- [25] S. Kumar, "Awareness, Benefits and Challenges of e-Learning among the Students of Kurukshetra University Kurukshetra: A Study," *International Journal of Information Dissemination and Technology*, vol. 8, no. 4, p. 227, 2018, doi: 10.5958/2249-5576.2018.00048.1.
- [26] J. Wu, A. Alshaabani, and I. Rudnák, "Testing the Influence of Self-Efficacy and Demographic Characteristics among International Students on Entrepreneurial Intention in the Context of Hungary," *Sustainability*, vol. 14, no. 3, p. 1069, Jan. 2022, doi: 10.3390/su14031069.
- [27] R. M. Klassen and V. M. C. Tze, "Teachers' self-efficacy, personality, and teaching effectiveness: A meta-analysis," *Educational Research Review*, vol. 12, pp. 59–76, Jun. 2014, doi: 10.1016/j.edurev.2014.06.001.
- [28] C. Ding and H. Sherman, "Teaching Effectiveness and Student Achievement: Examining the Relationship," *Educational Research Quarterly*, vol. 29, no. 4, pp. 39–49, 2006.
- [29] A. S. Barr, "The Measurement of Teacher Characteristics and Prediction of Teaching Efficiency," *Review of Educational Research*, vol. 22, no. 3, p. 169, Jun. 1952, doi: 10.2307/1168563.
- [30] M. Tschannen-Moran and A. W. Hoy, "Teacher efficacy: Capturing an elusive construct," *Teaching and Teacher Education*, vol. 17, no. 7, pp. 783–805, Oct. 2001, doi: 10.1016/S0742-051X(01)00036-1.
- [31] J. Retelsdorf and C. Günther, "Achievement goals for teaching and teachers' reference norms: Relations with instructional practices," *Teaching and Teacher Education*, vol. 27, no. 7, pp. 1111–1119, Oct. 2011, doi: 10.1016/j.tate.2011.05.007.
- [32] J. Garamvölgyi and I. Rudnák, "Cultural intelligence: key influences," *Social Space = Przestrzen Społeczna*, vol. 13, pp. 1–19, 2017.
- [33] J. Wu and I. Rudnák, "Exploring the impact of studying abroad in Hungary on entrepreneurial intention among international students," *Sustainability (Switzerland)*, vol. 13, no. 17, p. 9545, Aug. 2021, doi: 10.3390/su13179545.
- [34] R. A. Cruz, S. Manchanda, A. R. Firestone, and J. E. Rodl, "An Examination of Teachers' Culturally Responsive Teaching Self-Efficacy," *Teacher Education and Special Education*, vol. 43, no. 3, pp. 197–214, Aug. 2020, doi: 10.1177/0888406419875194.
- [35] S. Jimaa, "Students' Rating: Is it a Measure of an Effective Teaching or Best Gauge of Learning?" *Procedia - Social and Behavioral Sciences*, vol. 83, pp. 30–34, Jul. 2013, doi: 10.1016/j.sbspro.2013.06.006.
- [36] R. Watkins, D. Leigh, and D. Triner, "Assessing Readiness for E-Learning," *Performance Improvement Quarterly*, vol. 17, no. 4, pp. 66–79, Oct. 2008, doi: 10.1111/j.1937-8327.2004.tb00321.x.
- [37] E. Aboagye, J. A. Yawson, and K. N. Appiah, "Covid-19 and E-Learning: the Challenges of Students in Tertiary Institutions," *Social Education Research*, pp. 1–8, Jun. 2020, doi: 10.37256/ser.212021422.

- [38] S. E. McKellar, K. S. Cortina, and A. M. Ryan, "Teaching practices and student engagement in early adolescence: A longitudinal study using the Classroom Assessment Scoring System," *Teaching and Teacher Education*, vol. 89, p. 102936, Mar. 2020, doi: 10.1016/j.tate.2019.102936.
- [39] R. M. Ryan and E. L. Deci, "Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being," *American Psychologist*, vol. 55, no. 1, pp. 68–78, 2000, doi: 10.1037/0003-066X.55.1.68.
- [40] J. S. Eccles *et al.*, "Development during adolescence: The impact of stage-environment fit on young adolescents' experiences in schools and in families," *Adolescents and their Families: Structure, Function, and Parent-Youth Relations*, vol. 48, no. 2, pp. 74–85, 2013, doi: 10.1037/10254-034.
- [41] M. V. Covington, "Goal theory, motivation, and school achievement: An integrative review," *Annual Review of Psychology*, vol. 51, no. 1, pp. 171–200, Feb. 2000, doi: 10.1146/annurev.psych.51.1.171.
- [42] J. Han and H. Yin, "Teacher motivation: Definition, research development and implications for teachers," *Cogent Education*, vol. 3, no. 1, p. 1217819, Dec. 2016, doi: 10.1080/2331186X.2016.1217819.
- [43] J. König, D. J. Jäger-Biela, and N. Glutsch, "Adapting to online teaching during Covid-19 school closure: teacher education and teacher competence effects among early career teachers in Germany," *European Journal of Teacher Education*, vol. 43, no. 4, pp. 608–622, Aug. 2020, doi: 10.1080/02619768.2020.1809650.
- [44] L. Darling-Hammond, L. Flook, C. Cook-Harvey, B. Barron, and D. Osher, "Implications for educational practice of the science of learning and development," *Applied Developmental Science*, vol. 24, no. 2, pp. 97–140, Apr. 2020, doi: 10.1080/10888691.2018.1537791.
- [45] A. E. McFarlane, "Devices and desires: Competing visions of a good education in the digital age," *British Journal of Educational Technology*, vol. 50, no. 3, pp. 1125–1136, May 2019, doi: 10.1111/bjet.12764.
- [46] N. Selwyn, "Making sense of young people, education and digital technology: The role of sociological theory," *Oxford Review of Education*, vol. 38, no. 1, pp. 81–96, Feb. 2012, doi: 10.1080/03054985.2011.577949.
- [47] F. Lauermann and J. König, "Teachers' professional competence and wellbeing: Understanding the links between general pedagogical knowledge, self-efficacy and burnout," *Learning and Instruction*, vol. 45, pp. 9–19, Oct. 2016, doi: 10.1016/j.learninstruc.2016.06.006.
- [48] I. Rudnák, A. Alshaabani, and J. Wu, "The Relationship between Perceived Organizational Support and the Intentions of International Students in Hungary to Stay in Hungary: The Role of Conflict Climate and Intercultural Adjustment," *Sustainability (Switzerland)*, vol. 14, no. 21, p. 14025, Oct. 2022, doi: 10.3390/su142114025.
- [49] A. Bandura, W. H. Freeman, and R. Lightsey, "Self-Efficacy: The Exercise of Control," *Journal of Cognitive Psychotherapy*, vol. 13, no. 2, pp. 158–166, 1999, doi: 10.1891/0889-8391.13.2.158.
- [50] Y. Chen and L. B. Hoshower, "Student evaluation of teaching effectiveness: An assessment of student perception and motivation," *Assessment and Evaluation in Higher Education*, vol. 28, no. 1, pp. 71–88, Jan. 2003, doi: 10.1080/02602930301683.
- [51] H. W. Marsh and L. Roche, "The Use of Students' Evaluations and an Individually Structured Intervention to Enhance University Teaching Effectiveness," *American Educational Research Journal*, vol. 30, no. 1, pp. 217–251, Mar. 1993, doi: 10.3102/00028312030001217.
- [52] S. Brint, A. M. Cantwell, and R. A. Hanneman, "The two cultures of undergraduate academic engagement," *Research in Higher Education*, vol. 49, no. 5, pp. 383–402, Aug. 2008, doi: 10.1007/s11162-008-9090-y.
- [53] European Centre for the Development of Vocational Training, "Hungary: National Vocational Education and Training (VET) Responses to Covid-19," *Cedefop*, 2020. Online [Available]: <https://www.cedefop.europa.eu/en/news/hungary-national-vocational-education-and-training-vet-responses-covid-19#group-details> (accessed Aug. 18, 2023).
- [54] D. D. Nulty, "The adequacy of response rates to online and paper surveys: What can be done?" *Assessment and Evaluation in Higher Education*, vol. 33, no. 3, pp. 301–314, Jun. 2008, doi: 10.1080/02602930701293231.
- [55] Y. Baruch and B. C. Holtom, "Survey response rate levels and trends in organizational research," *Human Relations*, vol. 61, no. 8, pp. 1139–1160, Aug. 2008, doi: 10.1177/0018726708094863.
- [56] O. Aregbeyen, "Students Perceptions of Effective Teaching and Effective Lecturer Characteristics at the University of Ibadan, Nigeria," *Pakistan Journal of Social Sciences*, vol. 7, no. 2, pp. 62–69, Feb. 2010, doi: 10.3923/pjssci.2010.62.69.
- [57] R. P. Bagozzi and Y. Yi, "Multitrait-Multimethod Matrices in Consumer Research," *Journal of Consumer Research*, vol. 17, no. 4, p. 426, Mar. 1991, doi: 10.1086/208568.
- [58] A. Burton-Jones, "Minimizing method bias through programmatic research," *MIS Quarterly: Management Information Systems*, vol. 33, no. 3, pp. 445–471, 2009, doi: 10.2307/20650304.
- [59] P. M. Podsakoff, S. B. MacKenzie, and N. P. Podsakoff, "Sources of method bias in social science research and recommendations on how to control it," *Annual Review of Psychology*, vol. 63, no. 1, pp. 539–569, Jan. 2012, doi: 10.1146/annurev-psych-120710-100452.
- [60] J. Pallant, *SPSS survival manual: a step by step guide to data analysis using IBM SPSS*, 7th edition. London: Open University Press, 2020.
- [61] J. F. Hair, M. Sarstedt, C. M. Ringle, and S. P. Gudergan, *Advanced issues in partial least squares structural equation modeling*. Los Angeles: SAGE, 2018.
- [62] R. P. Bagozzi, Y. Yi, and L. W. Phillips, "Assessing Construct Validity in Organizational Research," *Administrative Science Quarterly*, vol. 36, no. 3, p. 421, Sep. 1991, doi: 10.2307/2393203.
- [63] U. Sekaran and R. Bougie, *Research methods for business: a skill-building approach*, Seventh edition. Chichester, West Sussex, United Kingdom: John Wiley & Sons, 2016.
- [64] J. F. Hair, W. C. Black, B. J. Babin, R. E. Anderson, and R. L. Tatham, Eds., *Multivariate data analysis*, 8th ed. Upper Saddle River, N.J: Pearson Prentice Hall, 2018.
- [65] D. Kaplan, "Structural Equation Modeling," in *International Encyclopedia of the Social & Behavioral Sciences*, Elsevier, 2001, doi: 10.1016/B0-08-043076-7/00776-2.
- [66] L. R. Fabrigar, R. D. Porter, and M. E. Norris, "Some things you should know about structural equation modeling but never thought to ask," *Journal of Consumer Psychology*, vol. 20, no. 2, pp. 221–225, Apr. 2010, doi: 10.1016/j.jcps.2010.03.003.
- [67] C. R. Stephenson *et al.*, "The relationship between learner engagement and teaching effectiveness: a novel assessment of student engagement in continuing medical education," *BMC Medical Education*, vol. 20, no. 1, p. 403, Dec. 2020, doi: 10.1186/s12909-020-02331-x.
- [68] T. Beran and C. Violato, "Student Ratings of Teaching Effectiveness: Student Engagement and Course Characteristics," *Canadian Journal of Higher Education*, vol. 39, no. 1, Mar. 2010, doi: 10.47678/cjhe.v39i1.491.
- [69] A. W. Astin, "Student involvement: A developmental theory for higher education," *Journal of College Student Personnel*, vol. 25, no. 4, pp. 297–308, 1984.





**BIOGRAPHIES OF AUTHORS**

**Ildikó Rudnák**     is an Associate Professor at the Hungarian University of Agricultural and Life Sciences (MATE). In addition to more than 30 years of experience as a university lecturer, her research interests include international management and leadership skills within management science, as well as the study of international and Hungarian higher education students from different aspects (entrepreneurial, consumer, integration, and language). She can be contacted at email: rudnak.ildiko@uni-mate.hu.







**Khadija Aya Hamza**     is a Ph.D. student at the Hungarian University of Agricultural and Life Sciences (MATE). Her research focuses on change management, leadership and innovation. She can be contacted at email: khadija.hamza@yahoo.fr.



**Ayman Alshaabani**     is a doctoral candidate pursuing a Ph.D. at the Hungarian University of Agricultural and Life Sciences (MATE), with a research focus on organizational behavior. He actively participates as a presenter at various international conferences. Additionally, he conducts research and delivers lectures at the university. He can be contacted via email at a.shaabany@gmail.com.



**Judit Garamvölgyi**     is an Assistant Professor at the Hungarian University of Agricultural and Life Sciences (MATE). Her research focuses on cultural studies, management sciences. She teaches multicultural management, negotiations and conflict management and business communication. She can be contacted at email: garamvolgyi.judit@uni-mate.hu.