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TRADITIO ET EXCELLENTIA

JOURNAL OF RESEARCH IN HIGHER EDUCATION

Volume VII Issue 1

Centrul Qualitas
Qualitas Központ
Qualitas Zentrum
Qualitas Centre

Journal of Research in Higher Education

• **Vol. VII, No. 1, 2023**

Published twice yearly by

ISSN 2559 - 6624
ISSN-L 2559 - 6624

https://doi.org/10.24193/JRHE.2023.1

Edited by: Qualitas Centre, Babeş-Bolyai University

© Cover design
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http://jrehe.reviste.ubbcluj.ro/

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The Dimensionality of Student Engagement and Burnout: A Conceptual and Empirical Extension

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Abstract: Student engagement and burnout have received considerable attention from higher education researchers, but there is a dearth of research on the relationships between engagement and burnout dimensions. Accordingly, the present study aims to investigate the relationships between (a) student engagement dimensions, (b) student burnout dimensions, and (c) student engagement and burnout dimensions taken together. A proposed conceptual framework was tested using 207 undergraduate students from British universities. Using structural equation modeling, the findings largely supported the conceptual framework by showing that (a) cognitive engagement is likely to act as a catalyst for emotional and behavioral engagement, (b) exhaustion is likely to precede cynicism, and (c) burnout is likely to result from an erosion of emotional engagement. This study contributes to higher education research by adding to the limited body of work that proposes a more nuanced dimensional perspective on student engagement and burnout research. A limitation and suggestions for future research, as well as practical recommendations, are outlined.

Keywords: student engagement, student burnout, engagement dimensions, burnout dimensions, higher education.

https://doi.org/10.24193/JRHE.2023.1.1

Introduction

Student engagement is a popular concept in higher education research and practice. Despite student engagement's popularity over the last several decades, there is a lack of scholarly consensus regarding the definition and coverage of this complex term (Alrashidi et al., 2016). Alrashidi et al. (2016) reviewed the wide range of engagement conceptualizations, and uncovered similar themes between terms like school engagement, study engagement, and educational engagement. These themes include participation, identification, psychological investment, energy, commitment, and a motivational mindset, all in relation to school and school-related activities (Alrashidi et al., 2016). Even though student engagement can be broadly defined according to these themes, the present study focuses specifically on student course/module[1] engagement in a higher education context (Handelsman et al., 2005). To define student engagement in this context, it is important to first examine its dimensionality.

Researchers generally agree that engagement is a multidimensional concept. However, researchers have generally proposed two- and three-dimensional models[2] (Alrashidi et al., 2016; Appleton et al., 2008). The two-dimensional model proposes that engagement is composed of behavioral (e.g., participation and effort) and psychological/affective (e.g., interest and identification) dimensions (Finn, 1989; Marks, 2000). Following these two-dimensional models, Schaufeli et al. (2002) proposed that engagement is a persistent cognitive-affective state comprising vigor (i.e., a high level of energy and mental resilience in the application of work efforts), dedication (i.e., high involvement in one's work that is accompanied by enthusiasm and pride), and absorption (i.e., a deep level of focus and

[1] When describing a unit of teaching over an academic term, 'course' is typically used in the US and Canada, whereas 'module' is typically used in the UK and Australia. Moreover, in the UK, a course is used to refer to an entire program of modules. Because this study was conducted in a British context, I use the term module throughout the paper.

[2] Few researchers propose a four-dimensional model. Appleton et al. (2006) proposed a fourth dimension called 'academic engagement', but this dimension has been subsumed under behavioural engagement (Alrashidi et al., 2016). Reeve and Tseng (2011) proposed a fourth dimension called 'agentic engagement', but further research is needed for this new concept (Alrashidi et al., 2016), especially given that it appears to overlap with behavioural engagement (e.g., class participation).

concentration on one's work). Even though Schaufeli et al.'s (2002) three engagement dimensions are well accepted in the literature, Cole et al.'s (2012) meta-analytic findings confirmed suspicions that the content dimensions underlying Schaufeli et al.'s (2002) construct of engagement are not distinctive to those from another well-established concept called burnout (which is discussed later on). Therefore, even though Schaufeli and colleagues along with other engagement researchers argue that engagement is a standalone concept, the three dimensions proposed by Schaufeli et al. (2002) are not independent of burnout.

To address this theoretical flaw in Schaufeli et al.'s (2002) three-dimensional model, Cole et al. (2012) suggested that engagement conceptualizations needed greater theoretical clarity. One way forward, according to Cole et al. (2012), is to revisit Kahn's (1990) conceptualization of engagement as the harnessing of oneself to one's work role, which is characterized by emotional, behavioral, and cognitive energy. In line with Kahn's (1990) conceptualization, Fredericks et al. (2004) advanced the concept of student engagement by disentangling it from its antecedents and outcomes.

In so doing, Fredericks et al. (2004) and, more recently, other researchers (Balwant, 2018; Burch et al., 2015; Fredricks et al., 2019; Kahu, 2013) align student engagement with the psychological perspective of engagement to propose a three-dimensional model that is composed of emotional/affective, behavioral, and cognitive dimensions. Emotional engagement refers to activated feelings and emotions in a module (e.g., enthusiasm, excitement, energy, etc.) (Balwant, 2018; Fredricks et al., 2019). Behavioral engagement refers to activated actions in a module (e.g., the intensity of effort, full efforts, working hard, etc.) (Balwant, 2018; Fredricks et al., 2019). Cognitive engagement refers to a psychological investment in the learning process (e.g., being absorbed in readings or devoted attention to module-related work) (Balwant, 2018; Fredricks et al., 2019; M.-T. Wang & Eccles, 2012). Overall, the three dimensions of student engagement describe a positive, activated state. Moreover, like most earlier models of engagement, Fredericks et al.'s (2004) three-dimensional model includes a behavioral component, which is absent from Schaufeli et al. (2002) cognitive-affective concept. Following Fredericks et al.'s (2004) early work along with recent advances in the

higher education literature, student course/module engagement can be defined as "highly activated and pleasurable emotional, behavioral and cognitive involvement" in module-related activities (Balwant, 2018, p. 7). On the flip side, the negative antipode to student engagement is student burnout.

The concept of burnout originated in the 1970s as a psychological syndrome, primarily experienced by employees in human services and helping professions (e.g., doctors, lawyers, teachers, etc.) (Schaufeli et al., 2009). Since then, there has been a proliferation of research on burnout in a range of occupations and contexts beyond helping professions. One context in which burnout has received moderate attention is in higher education, particularly with respect to student burnout (Balogun et al., 1996; Schaufeli et al., 2002).

Student burnout is defined as a "tri-factorial, psychological syndrome characterized by an exhaustion state due to coursework demand, a cynical and detached attitude towards the college degree, and a feeling of low efficacy and academic achievement" (Maroco & Campos, 2012, p. 814). This definition points to three burnout dimensions as originally proposed by Maslach and Jackson (1981). First, emotional exhaustion means that a student's emotional resources are used up and, thus the student becomes worn out (Cole et al., 2012; Maslach & Jackson, 1981). Cynicism or depersonalization means that the student becomes dehumanized or distant in their interactions with others (e.g., educators, administrative staff, colleagues, family, etc.) (Cole et al., 2012; Maslach & Jackson, 1981). Inefficacy or personal accomplishment means that a student develops feelings of incompetence and failure (Cole et al., 2012). Even though both student engagement and burnout have received substantial attention, the literature remains unclear about the precise manner in which engagement and burnout unravel. As such, the present study aims to investigate the relationships between the dimensions underlying both student engagement and burnout.

The relationship between student engagement dimensions

Some researchers explain that the dimensions of engagement can be interrelated. For engagement, the move to re-conceptualize engagement as consisting of cognitive, emotional, and behavioral

dimensions has been accompanied by few discussions regarding the relationships between said dimensions. Harter et al. (2002) explain that an individual must make a personal decision to become engaged. From this perspective, cognitive engagement occurs silently and on a personal level as an individual decides to become engaged (Shuck & Wollard, 2010). Shuck and Wollard (2010) argue that cognitive engagement acts as a catalyst for emotional and behavioral engagement, and is "the most powerful of the three" (Shuck & Wollard, 2010, p. 106). Following this notion, it is likely that as students consciously immerse themselves in a higher education module, they feel more enthusiastic and positive about the module and exert more energy and effort. Hence, the following is proposed:

H1a: There is a positive relationship between cognitive engagement and emotional engagement.

H1b: There is a positive relationship between cognitive engagement and behavioral engagement.

The relationship between student burnout dimensions

For burnout, researchers have generally considered exhaustion to be the first stage of the burnout process (Cordes & Dougherty, 1993). Therefore, exhaustion is considered key to experiencing burnout (Cordes & Dougherty, 1993), and is typically followed by cynicism (Maslach et al., 2001). According to Maslach et al. (2001), cynicism follows exhaustion because the immediate reaction to exhaustion is to distance oneself. This distancing notion is in line with the predictions of the conservation of resources (COR) theory (Hobfoll, 1989). The premise of the COR model is that "people strive to retain, protect, and build resources and that what is threatening to them is the potential or actual loss of these valued resources" (Hobfoll, 1989, p. 516). Hobfoll (1989) explains that resources can include the energies of an individual. Building on this notion, Halbesleben and Bowler (2007) state that emotional exhaustion represents the loss of valued energies. COR then predicts that emotionally exhausted or burnt-out employees will become protective of their remaining resources and carefully choose how to invest these remaining energies or resources. To conserve

remaining resources, employees may use cynicism in an attempt to distance themselves from the work role (Halbesleben & Bowler, 2007). While the sequential link between exhaustion and cynicism is well-established, the link between inefficacy and other burnout dimensions remains uncertain. Maslach et al. (2001) explain that research on burnout generally supports the notion that inefficacy occurs parallel to exhaustion and cynicism, and not sequentially. Given these arguments, the following is proposed:

H2: There is a positive relationship between exhaustion and cynicism.

The relationship between student engagement and burnout dimensions

Even though Schaufeli and colleagues propose that engagement and burnout are independent concepts, they also assert that they are related. However, few studies examine student engagement and burnout simultaneously (e.g., Duran et al., 2006; J. Wang et al., 2021) and even fewer studies examine the relationships between engagement dimensions and burnout dimensions (e.g., Morales-Rodríguez et al., 2019)[3]. Two arguments support the notion that engagement negatively predicts burnout. First, Conservation of Resources theory posits that "people strive to retain, protect, and build resources and that what is threatening to them is the potential or actual loss of these valued resources" (Hobfoll, 1989, p. 516). Hobfoll (1989) explains that resources can include the energies of an individual. Building on this notion, Halbesleben and Bowler (2007) state that emotional exhaustion represents the loss of valued energies, by which engagement is characterized. Therefore, it is likely that as these energies corrode, engagement may convert into burnout, but, burnout decreases may not likely turn into energy in one's work role (Singh et al., 2021).

Second, Maslach et al. (2001) posited that burnout results from an erosion of engagement. This argument is in line with the view that "[y]ou have to have been on fire in order to burn out" (Maslach et al., 2001, p. 405). While this is not necessarily always the case, the

[3] Unlike the present study, Morales-Rodríguez et al. (2019) examined engagement as composed of vigor, dedication, and absorption and their findings were similar to that of Cole et al. (2012), thus supporting the concerns raised earlier about Schaufeli et al.'s (2002) model.

assertion is that highly activated or energized individuals can become overachievers, and "end up doing too much ... thus leading to exhaustion and eventual cynicism" (Cordes & Dougherty, 1993; Maslach et al., 2001, p. 405). For instance, a student may work too hard, and if accompanied by unmet expectations, behavioral engagement may erode until the student becomes exhausted or loses confidence in their ability to tackle the higher education module (Cordes & Dougherty, 1993). Similarly, a student who becomes uninterested and unenthusiastic in a higher education module may experience a drain on their cognitive resources, and thus eventually becomes emotionally exhausted. Overall, it is likely that when engagement erodes, an individual can spiral into a state of burnout. Given that (a) cognitive engagement is expected to be a precursor to behavioral and emotional engagement, (b) exhaustion is expected to be a precursor to cynicism, and (c) inefficacy occurs in parallel to the other burnout dimensions, the following is proposed:

H3a: There is a negative relationship between behavioral engagement and inefficacy.

H3b: There is a negative relationship between behavioral engagement and exhaustion.

H4a: There is a negative relationship between emotional engagement and inefficacy.

H4b: There is a negative relationship between emotional engagement and exhaustion.

The hypothesized model is presented in Figure 1.

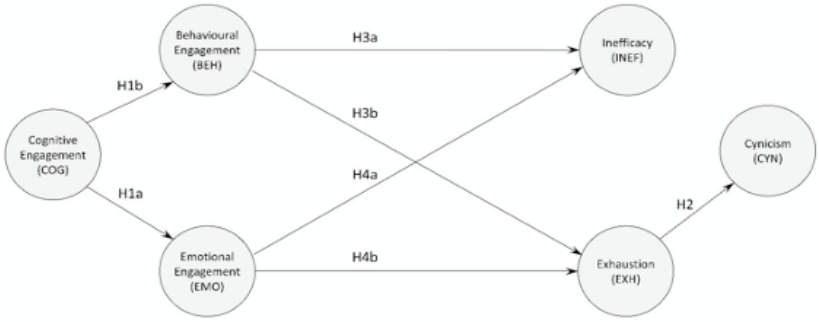

Figure 1. Hypothesized model for the relationships between student engagement and burnout dimensions

Methods

Participants

The present study utilized a portion of the dataset examined in Balwant et al. (2018), albeit with different measures and analyses[4]. The sample was composed of 207 students studying at universities located in England (n = 193, 93.2%), Scotland (n = 7, 3.4%), Wales (n = 6, 2.9%), and Northern Ireland (n = 1, 0.5%). The students were from various faculties including Social Sciences (n = 54, 26.1%), Natural Sciences (n = 36, 17.4%), Arts and Humanities (n = 35, 16.9%), Medicine, Dentistry, and Health (n = 19, 9.2%), Engineering (n = 16, 7.7 %), Law (n = 9, 4.3%), Film (n = 7, 3.4%), and other faculties (n = 5, 2.4%). The sample included 53 males (mean age = 22 years) and 127 females (mean age = 20 years).

[4] The dataset formed part of a doctoral research project that examined multiple research questions. Although I used the same measure of student engagement as in Balwant et al. (2018), this paper examines the dimensionality of student engagement, rather than the overall construct. In the previous paper, I examined the construct of student engagement in relation to instructor-leadership, leader distance, and academic performance. Moreover, in comparison to Balwant et al. (2018), this paper includes unique variables (i.e., the dimensions of student burnout), a larger sample size, different findings, and different theoretical and practical implications.

Materials

Student engagement. I measured student engagement using Rich et al.'s (2010) Job Engagement Questionnaire, which was adapted to the higher education module context (Balwant, 2018; Burch et al., 2015; Peters, 2014). Rich et al.'s (2010) measure comprised of 18 items that were represented on a 7-point continuum[5] (1 = never; 2 = rarely; 3 = occasionally; 4 = sometimes; 5 = frequently; 6 = usually; 7 = always). The inventory comprised three subscales, including (a) behavioral engagement (6 items, e.g., "I worked with intensity for <Name>'s module") (α = 0.94); (b) emotional engagement (6 items, e.g., "I was enthusiastic in <Name>'s module") (α = 0.96); and (c) cognitive engagement (6 items, e.g, "My mind was focused on <Name>'s module") (α = 0.95). Cronbach's α for the 18-item scale was .97.

Student burnout. I measured student burnout using the Maslach Burnout Inventory – Student Survey (MBI-SS) (Schaufeli et al., 2002), which was then adapted to a higher education module context. I used the MBI-SS because this measure of student burnout has been validated for student samples across three different European countries (after allowing correlations between error terms belonging to the same subscale or contain domain) (Schaufeli et al., 2002). The MBI-SS comprised 15 items on a 7-point continuum (1 = never; 2 = rarely; 3 = occasionally; 4 = sometimes; 5 = frequently; 6 = usually; 7 = always). In addition, the MBI-SS comprised three subscales including (a) exhaustion (5 items, e.g., "I felt emotionally drained by my studying for <Name>'s module") (α = 0.91); (b) cynicism (4 items, e.g., "I became less interested in <Name>'s class since the beginning of the module) (α = 0.95); and (c) efficacy (6 items, e.g., I believe that I made an effective contribution to the classes that I attended for <Name>'s module.) (α = 0.77). Efficacy was reverse coded to represent inefficacy. Cronbach's α for the 15-item scale was .91.

[5] The engagement measure designed by Rich et al. (2010) is a 5-point Likert scale ranging from strongly agree to strongly disagree. For consistency between the engagement and burnout measures, and also because engagement and burnout scale anchors are traditionally measured as a frequency, I changed the engagement measure's scale anchors to a frequency scale.

Procedures

The questionnaire was distributed to undergraduate students, who were asked to rate instructors from the first semester of the academic year. This approach of examining a completed module ensured that (1) students were sufficiently familiar with their instructor; and (2) a grade could be provided for the module. Prior to distributing the questionnaire, a small pilot study with five students was conducted to check for understanding of item wordings, and no issues were identified. After the pilot study, the questionnaire was distributed in two ways.

First, an email was sent to all undergraduate students at a university located in England. In the email message, participants were given a brief description of the study, a link to an information sheet, a link to the online questionnaire, and details regarding the benefits of taking part. Each participant could opt to receive a free personality evaluation along with entry into a £40 prize voucher draw. The sample from this survey consisted of 102 students.

Second, the questionnaire was distributed to students at other UK universities via Qualtrics panel service. Qualtrics were paid US$763.00 to source 100 undergraduate students from the UK, and each student was likely paid a small sum (less than £5) for completing the survey. Because each of the participants from the Qualtrics panel was likely rewarded with an external incentive, I used two attention filters in the questionnaire to improve the quality of the data (i.e., verify that respondents were reading the questions carefully and following instructions). An example of an attention filter was, “Please select ‘Strongly agree’ for this statement”. From the Qualtrics panel, 205 students completed the questionnaire, with 100 students being filtered out via the attention filters. Therefore, the Qualtrics panel was used to source a total of 105 students. Note that for the Qualtrics panel, participants were not (a) offered the option to receive a free personality evaluation and (b) entered into the prize draw.

Results

To test the model that was hypothesized in Figure 1, I used structural equation modeling. For the path model, I followed Anderson and

Gerbing's two-step process (Anderson & Gerbing, 1988). For the first step, I estimated the measurement model as shown in Table 1 (i.e., the baseline model). For the second step, I converted this measurement model into a structural model to test H1 to H4. The structural model showed good model fit (Satorra-Bentler χ^2 (419) = 556.17, $p < .05$, Robust CFI = .97, RMSEA = .044). However, H3b was not supported because the path from behavioral engagement to exhaustion was not significant, and thus this path was deleted.

To check the mediating effects in the structural model, the first step was to check whether the individual relationships were statistically significant. This analysis was conducted by checking (a) the direct unmediated relationships, (b) the relationship between the mediators and the 'input' constructs, and (c) the relationship between the mediators and the outcome constructs (Hair et al., 2009). All of these relationships were statistically significant. The second step was to add each of the direct unmediated relationships to the structural model (see Table 1). The Satorra-Bentler χ_difference^2 test indicated that two of the direct unmediated relationships significantly improved the model (see path numbers 3 and 4 in Table 1). The direct path between emotional engagement and cynicism indicated that exhaustion was only a partial mediator in the relationship between emotional engagement and cynicism. When adding path 3 to the model, path 4 became non-significant. Therefore, I added only path 3 to the model, and the final model is shown in Figure 2. This model provides partial support for the hypothesized model Satorra-Bentler χ^2 (419) = 539.17, $p < .05$, Robust CFI = .97, RMSEA = .041. Specifically, all of the hypotheses except for H4b were supported.

Table 1. Model Comparisons of the Effect of Adding Direct Unmediated Relationships (Study 4)

Path No.	Direct unmediated relationship	Satorra-Bentler χ^2	df	Robust CFI	RMSEA	$\Delta\chi^2/\Delta df$
-	Baseline model	559.00	420	.964	.044	-
1	COG → INEF	557.56	419	.964	.044	1.44/1
2	COG → EXH	556.83	419	.965	.044	2.17/1
3	EMO → CYN	539.17	419	.969	.041	19.83/1**
4	COG → CYN	553.43	419	.966	.043	5.57/1*

Note. COG = cognitive engagement; INEF = inefficacy; EXH = exhaustion; EMO = emotional engagement; CYN = cynicism
**p < .01 ; *p<.05

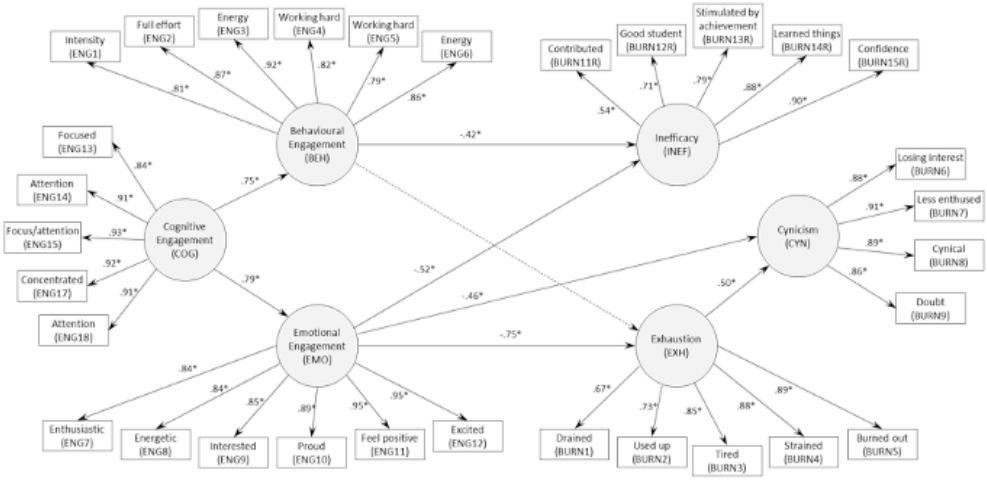

Figure 2. Structural model of the relationships between student engagement and burnout dimensions. Standardized maximum likelihood parameter estimates. Error variance values excluded for ease of readability. Dashed arrows indicate non-significant relationships. *p < .001

Based on contention in the literature, I further tested five competing structural models to determine whether the final model in Figure 2 was better than other potential alternative models (see Table 2). First, I reversed the direction of the pathways between student engagement and burnout to determine whether the proposed argument that student burnout is an erosion of student engagement was supported (Model 1). This reversed model fitted significantly worse than the baseline model. Moreover, in this model, exhaustion was not a

significant predictor of emotional engagement, and the other reversed paths were markedly weaker than the paths in the baseline model.

Second, I tested a model with emotional engagement as the first stage of the engagement process (Model 2). Even though organizational behavior theorists argue that cognitive engagement is a catalyst for emotional and behavioral engagement (e.g., Harter et al., 2002; Shuck & Wollard, 2010), Pekrun et al. (2002) state that emotional engagement can be a precursor for cognitive processes. Although Pekrun et al. (2002) did not provide a theoretical explanation for this relationship, discrete emotion theories describe emotions as an evolutionary adaptive response that elicits changes in behaviors and cognitions (but the evidence for this supposition is mixed) (Lench et al., 2011). This alternative model also fitted significantly worse than the baseline model.

Third, I tested three models for which inefficacy was predicted by exhaustion (Model 3), cynicism (Model 4), and both exhaustion and cynicism (Model 5). While inefficacy is generally assumed to develop in parallel to exhaustion and cynicism (Maslach et al., 2001), some researchers have shown that inefficacy can be a function of either exhaustion, cynicism, or both (e.g., Byrne, 1994; Lee & Ashforth, 1996). These three alternative models are based on Leiter and Maslach's (1988) original proposals that increased emotional exhaustion and cynicism are associated with impoverished personal relationships, which in turn weaken a sense of personal accomplishment, thus leading to work losing its meaning and increased feelings of inefficacy. However, these alternative models were based on the human services context, which is fundamentally different to student burnout. The findings indicated that all three of these models fitted equally as well as the baseline model, but none of the added paths were significant. Therefore, these findings suggest that inefficacy may indeed occur in parallel. Overall, the final model was a better representation of the relationships between student engagement and burnout dimensions than the five competing models.

Table 2. Competing structures for the Student Engagement-Burnout Empirical Model

Model No.	Model description	Satorra-Bentler χ^2	df	Robust CFI	RMSEA	$\Delta\chi^2/\Delta df$
	Baseline model	539.17	419	.969	.041	
1	Reverse paths	549.22	416	.966	.043	10.05/3*
2	EMO as first stage	569.31	417	.961	.046	30.14/2**
3	EXH → INEF	538.95	418	.969	.041	0.22/1
4	CYN → INEF	539.26	419	.969	.041	0.09/0
5	EXH + CYN → INEF	538.95	418	.969	.041	0.22/1

Note. COG = cognitive engagement; INEF = inefficacy; EXH = exhaustion; EMO = emotional engagement; CYN = cynicism

**p < .01 ; *p<.05

Discussion

Overall, the findings highlight the relationships between the dimensions underlying student engagement and burnout. For student engagement, the findings showed that cognitive engagement may be a catalyst for emotional and behavioral engagement. For student burnout, cynicism was predicted by exhaustion, and inefficacy occurred in parallel, as expected. Finally, the idea that burnout can result from an erosion of engagement was mainly supported, with the only exception being that exhaustion was not associated with behavioral engagement. Taken together, the findings provided good support for the hypothesized model. Therefore, this study adds to the limited body of work on the relationships between engagement and burnout dimensions (e.g., Morales-Rodríguez et al., 2019), by showing how the process of engagement and burnout unfolds. In so doing, I use a more conceptually sound measure of student engagement that includes a behavioral component.

The primary limitation of this study is that cross-sectional data was used. Cross-sectional data are particularly problematic for drawing conclusions about the relationships between engagement and burnout dimensions. Cordes and Dougherty (1993) suggest that future research consider measuring the antecedents and consequences of burnout (and engagement) at two or more points in time (i.e., longitudinal research designs). For instance, student engagement and burnout can be measured at the beginning, mid-semester, and end of semester time

points. Such a research design would provide better evidence regarding the sequential order for the dimensions underlying student engagement and burnout.

Notwithstanding the need for further research on engagement and burnout dimensions, the present study has a few important practical implications for higher education institutions. First, the present study's findings suggest that, when evaluating the impact of student engagement initiatives, educators should first monitor changes in students' cognitive engagement. Once students make a conscious effort to invest their cognitive efforts, emotional and behavioral engagement are likely to follow. Second, in assessing and treating students' burnout, educators should not necessarily expect simultaneous changes in all three burnout dimensions. Instead, educators should first look for signs of exhaustion and inefficacy because they both seem to occur in parallel, and cynicism is likely to follow exhaustion. Therefore, exhaustion and/or cynicism may send early signals of burnout that can help alert educators as to when students may need to be directed toward a health professional such as the student counselor, psychologist, or psychiatrist. In other words, the findings assist with the early detection of burnout that may help to nip burnout in the bud before it manifests fully. Third, intermittent student engagement may be more desirable than continuous engagement. Specifically, the findings suggest that the burnout process may very well start with engagement wearing out (Schaufeli et al., 2009). As such, high levels of sustained student engagement may be harmful to students, and thus educators may need to strive to achieve student engagement in a more dynamic way that fluctuates over time (George, 2010).

In summary, student engagement and burnout are popular concepts, but little attention has been given to the interactions between engagement and burnout dimensions. Even though burnout can indeed result from an erosion of engagement, the dimensional lens in this study shows that, more specifically, all three dimensions of burnout can result from emotional engagement, which itself results from cognitive engagement. Practically, the present study's findings can be used to evaluate engagement initiatives, detect burnout at early stages, and monitor sustained engagement which may be dysfunctional.

References

Alrashidi, O., Phan, H., & Ngu, B. (2016). Academic engagement: An overview of its definitions, dimensions, and major conceptualisations. *International Education Studies*, 9, 41–52. https://doi.org/10.5539/ies.v9n12p41

Anderson, J., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin,* 103(3), 411–423.

Appleton, J. J., Christenson, S. L., & Furlong, M. J. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools*, 45(5), 369–386. https://doi.org/10.1002/pits.20303

Appleton, J. J., Christenson, S. L., Kim, D., & Reschly, A. L. (2006). Measuring cognitive and psychological engagement: Validation of the Student Engagement Instrument. *Journal of School Psychology,* 44(5), 427–445. https://doi.org/10.1016/j.jsp.2006.04.002

Balogun, J. A., Hoeberlein-Miller, T. M., Schneider, E., & Katz, J. S. (1996). Academic performance is not a viable determinant of physical therapy students' burnout. *Perceptual and Motor Skills*, 83(1), 21–22. https://doi.org/10.2466/pms.1996.83.1.21

Balwant, P. T. (2018). The meaning of student engagement and disengagement in the classroom context: Lessons from organisational behaviour. *Journal of Further and Higher Education,* 42(3), 389–401. https://doi.org/10.1080/0309877X.2017.1281887

Balwant, P. T., Birdi, K., Stephan, U., & Topakas, A. (2018). Transformational instructor-leadership and academic performance: A moderated mediation model of student engagement and structural distance. *Journal of Further and Higher Education*, 1-17. https://doi.org/10.1080/0309877X.2017.1420149

Burch, G. F., Heller, N. A., Burch, J. J., Freed, R., & Steed, S. A. (2015). Student engagement: Developing a conceptual framework and survey instrument. *Journal of Education for Business*, 90, 224–229. https://doi.org/10.1080/08832323.2015.1019821

Byrne, B. M. (1994). Burnout: Testing for the validity, replication, and invariance of causal structure across elementary, intermediate, and secondary teachers. *American Educational Research Journal,* 31(3), 645–673. https://doi.org/10.3102/00028312031003645

Cole, M. S., Walter, F., Bedeian, A. G., & O'Boyle, E. H. (2012). Job burnout and employee engagement: A meta-analytic examination of construct proliferation. *Journal of Management,* 38(5), 1550–1581. https://doi.org/10.1177/0149206311415252

Cordes, C. L., & Dougherty, T. W. (1993). A review and an integration of research on job burnout. *The Academy of Management Review*, 18(4), 621–656. https://doi.org/10.2307/258593

Duran, A., Extremera, N., Rey, L., Fernández-Berrocal, P., & Montalban, F. (2006). Predicting academic burnout and engagement in educational settings: Assessing the incremental validity of perceived emotional intelligence beyond perceived stress and general self-efficacy. *Psicothema*, 18 Suppl, 158–164. https://doi.org/10.1037/t01392-000

Finn, J. D. (1989). Withdrawing from school. R*eview of Educational Research*, 59(2), 117–142. https://doi.org/10.2307/1170412

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74(1), 59–109.

Fredricks, J. A., Reschly, A. L., & Christenson, S. L. (2019). Interventions for student engagement: Overview and state of the field. In J. A. Fredricks, A. L. Reschly, & S. L. Christenson (Eds.), *Handbook of Student Engagement Interventions* (pp. 1–11). Academic Press. https://doi.org/10.1016/B978-0-12-813413-9.00001-2

George, J. M. (2010). More engagement is not necessarily better: The benefits of fluctuating levels of engagement. In S. Albrecht (Ed.), *Handbook of Employee Engagement* (pp. 253–263). Edward Elgar Publishing. https://doi.org/10.4337/9781849806374

Hair, J. F. Jr., Black, W. C., Babin, B. J., & Anderson, R. (2009). *Multivariate data analysis* (7th ed.). Prentice Hall.

Halbesleben, J. R. B., & Bowler, Wm. M. (2007). Emotional exhaustion and job performance: The mediating role of motivation. *Journal of Applied Psychology*, 92(1), 93–106. https://doi.org/10.1037/0021-9010.92.1.93

Handelsman, M. M., Briggs, W. L., Sullivan, N., & Towler, A. (2005). A measure of college student course engagement. *The Journal of Educational Research,* 98(3), 184–192. https://doi.org/10.3200/JOER.98.3.184-192

Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. J*ournal of Applied Psychology*, 87(2), 268–279.

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist March* 1989, 44(3), 513–524.

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *The Academy of Management Journal*, 33(4), 692–724. https://doi.org/10.2307/256287

Kahu, E. R. (2013). Framing student engagement in higher education. *Studies in Higher Education*, 38(5), 758–773. https://doi.org/10.1080/03075079.2011.598505

Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology,* 81(2), 123–133. https://doi.org/10.1037//0021-9010.81.2.123

Leiter, M. P., & Maslach, C. (1988). The impact of interpersonal environment on burnout and organizational commitment. *Journal of Organizational Behavior,* 9(4), 297–308. https://doi.org/10.1002/job.4030090402

Lench, H. C., Flores, S. A., & Bench, S. W. (2011). Discrete emotions predict changes in cognition, judgment, experience, behavior, and physiology: A meta-analysis of experimental emotion elicitations. *Psychological Bulletin,*137, 834–855. https://doi.org/10.1037/a0024244

Marks, H. M. (2000). Student engagement in instructional activity: Patterns in the elementary, middle, and high school years. A*merican Educational Research Journal,* 37(1), 153–184. https://doi.org/10.3102/00028312037001153

Maroco, J., & Campos, J. (2012). Defining the student burnout construct: A structural analysis from three burnout inventories. *Psychological Reports,*111(3), 814–830. https://doi.org/10.2466/14.10.20.PR0.111.6.814-830

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior,* 2(2), 99–113. https://doi.org/10.1002/job.4030020205

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52(1), 397. https://doi.org/10.1146/annurev.psych.52.1.397

Morales-Rodríguez, F. M., Pérez-Mármol, J. M., & Brown, T. (2019). Education burnout and engagement in occupational therapy undergraduate students and its associated factors. *Frontiers in Psychology*, 10, 2889. https://doi.org/10.3389/fpsyg.2019.02889

Pekrun, R., Goetz, T., Titz, W., & Perry, R. P. (2002). Academic emotions in students' self-regulated learning and achievement: A program of qualitative and quantitative research. *Educational Psychologist*, 37(2), 91–105. https://doi.org/10.1207/S15326985EP3702_4

Peters, J. (2014). T*ransformational teachership: How principles of transformational leadership foster student outcomes.* [Unpublished doctoral dissertation]. Colorado State University.

Reeve, J., & Tseng, C.-M. (2011). Agency as a fourth aspect of students' engagement during learning activities. C*ontemporary Educational Psychology,* 36(4), 257–267. https://doi.org/10.1016/j.cedpsych.2011.05.002

Rich, B. L., Lepine, J. A., & Crawford, E. R. (2010). Job engagement: Antecedents and effects on job performance. *Academy of Management Journal*, 53(3), 617–635. https://doi.org/10.5465/AMJ.2010.51468988

Schaufeli, W. B., Leiter, M. P., & Maslach, C. (2009). Burnout: 35 years of research and practice. *Career Development International*, 14(3), 204–220. https://doi.org/10.1108/13620430910966406

Schaufeli, W. B., Martínez, I. M., Pinto, A. M., Salanova, M., & Bakker, A. B. (2002). Burnout and engagement in university students: A cross-national study. *Journal of Cross-Cultural Psychology*, 33(5), 464–481. https://doi.org/10.1177/0022022102033005003

Shuck, B., & Wollard, K. (2010). Employee engagement and HRD: A seminal review of the foundations. *Human Resource Development Review,* 9(1), 89–110. https://doi.org/10.1177/1534484309353560

Singh, L. B., Kumar, A., & Srivastava, S. (2021). Academic burnout and student engagement: A moderated mediation model of internal

locus of control and loneliness. *Journal of International Education in Business*, 14(2), 219–239. https://doi.org/10.1108/JIEB-03-2020-0020

Wang, J., Bu, L., Li, Y., Song, J., & Li, N. (2021). The mediating effect of academic engagement between psychological capital and academic burnout among nursing students during the COVID-19 pandemic: A cross-sectional study. *Nurse Education Today*, 102, 104938. https://doi.org/10.1016/j.nedt.2021.104938

Wang, M.-T., & Eccles, J. S. (2012). Social support matters: Longitudinal effects of social support on three dimensions of school engagement from middle to high school: social support. *Child Development*, 83(3), 877–895. https://doi.org/10.1111/j.1467-8624.2012.01745.x

Teaching ESP – New Strategies and Approaches

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Abstract: The 21st century has become the epoch of the increasingly interconnected world that has faced the social integration caused by the migration, regional conflicts or natural disasters. As a result of the latter, different minority groups settled in new countries and made attempts at being incorporated into a mainstream society. The process of integration necessitated a rapid assimilation via giving newcomers the possibility of living and getting an education. As a result, many groups of multilingual learners appeared throughout the world.

The paper deals with the innovative approaches to teaching English for Specific Purposes (ESP) via translation, heteroglossia, translanguaging as well as code-switching. It is based on eight years' experience gained at the Department of English Philology at Ivane Javakhishvili Tbilisi State University (TSU). The methodology is oriented to the multiethnic groups of students and considers the modern approaches to teaching the vocabulary, grammar and translation. The accent is put on the acquisition of the specialized terminology via labelling, plying between terminological units as well as corpus-based analysis.

Keywords: acquisition, ESP, language, migration, multilingual education.

https://doi.org/10.24193/JRHE.2023.1.2

Introduction

"Human migrations have been fundamental to the broad sweep of human history and have themselves changed in basic ways over the epochs. Many of these historical migrations have by no means been the morally uplifting experiences depicted in mythologies of heroic conquerors, explorers, and pioneers" (Migration, n.d.). It is noteworthy that throughout the centuries, the purposes and results of the movement of population have been associated with a tribal life, conquests, colonization, aspiration towards industrialised cities, wars, mobilities, armed conflicts, etc. Moreover, migration has had a "profound impact on civilization. The most significant effects of migration for people's life have been changes in population distribution, multicultural societies, contact language change, economic effects and others" (Udina & Stepanova, 2018).

Nowadays, the core reason for the movement of migrants throughout the world is the ongoing globalization that causes the merging of nations, commodities, traditions, information, resources, etc. The world population acquires the global consciousness that is accompanied by multiple challenges. One of them is the tendency of shaping a multilingual society that deals with multilingualism. The latter influences a linguistic stability. As a result, some world languages forcedly shift. A language shift occurs when the use of a language is reduced in a certain domain or replaced by another language (Chen, 2010). If we view a language as the primary medium of human social interactions, which is a building block of social relations (Wu, 2019), than we can easily imagine that big languages are often led to spread, while small languages are led to shift throughout the history (Chen, 2010). As a result, big languages become dominant, while small ones face marginalization and even extinction.

Nowadays, the most spreadable language (lingua franca) of the world is English. It is believed that the knowledge of lingua franca is directly associated with a successful global citizenship. Representatives of Georgia as well as other countries aspire to the mastering of the English language. This fact changes classroom landscapes and methods of teaching. Moreover, Georgia's transformation into a global touristic country requires a growing number of well-trained guides as well as

interpreters and translators, who can translate into English booklets and books dealing with the history, art, archaeology, ethnography and statehood of Georgia. Translators are also needed for bilingual journals presenting papers/researches in humanities (archaeology, history, manuscript studies, literary studies, etc.).

The paper presents the innovative methods of teaching ESP oriented towards the multiethnic groups of students. The methodology of research includes observation and analyses. The paper discusses a simultaneous usage of different approaches and gained results that open up a bunch of opportunities (successful passage of MA entrance exams, appropriate job opportunities, achievements in a scientific life, etc.) to the students.

Historical development of the methods of teaching

Initially, let us discuss the historical development of teaching techniques that encompass *Grammar-translation Approach* (the 1800s and early 1900s), *Communicative Language Teaching* (the 1980s), *Content and Language Integrated Learning* (the 21st century), etc. The transition of the techniques has been associated with the global tendencies. In the 1800s and early 1900s, language learning was treated as the means for an intellectual training and literature reading. The emergence of *Communicative Language Teaching* (CLT) in the 1980s was regarded as a response to the changing conceptualisation of a language, which was considered as a tool for communication instead of an intellectual training (Wu, 2019).

The 21st century brought a new flow of challenges. As a result, a permanent migration/movement of the world population, emergence of a growing number of cross-national projects, necessity of raising an intercultural awareness, an overwhelming number of inter-state activities and aspiration towards a global citizenship changed frequency and contours of the usage of the English language. All the above mentioned made a significant impact on educational policies and classroom activities. Educators started looking for new techniques of teaching English. *Content and Language Integrated Learning* (CLIL) became one of the most welcome methodologies, while an intercultural dialogue and multilingualism started being considered as "a fundamental principle of language education policies in Europe and

elsewhere in the world" (Grigule, 2011). Multilingual educational strategies became oriented towards teaching English for Specific Purposes. The latter refers to teaching and learning English as a second/foreign language which, in contrast to other pedagogical approaches, bases the course contents and objectives on target learners' specific needs. Thus it is frequently contended that ESP is an umbrella term which covers a range of diverse teaching contexts. They are broadly defined as *English for Academic Purposes* (EAP), *English for Occupational Purposes* (EOP) and *English for Professional Purposes* (EPP) (Lesiak-Bielawska, 2018). As Hutchinson & Waters believe, ESP is a phenomenon resulting from the development of human activities. It was not a planned or a coherent movement, but rather the phenomenon that grew out of a number of converging trends (Rao, 2019). English for Specific Purposes is also regarded as a branch of English language teaching, which is mainly associated with business English, technical English, medical English, etc. However, it is also claimed that ESP aims to prepare learners to communicate effectively in tasks prescribed by their field of study or work situation. More precisely, it aims at providing learners with the requisite English language skills in order to carry out written and oral communication in academic as well as professional communicative situations (YousafZai & Fareed, 2019).

It is worth mentioning that English for Specific Purposes first emerged in the early 1960s and since its inception, it has grown in significance. Apparently, the rise of ESP as the major branch of language teaching in the past fifty years should be attributed to the spread of English as a global language (Lesiak-Bielawska, 2018). As Swales states, "one of the ironies of the emergent field of ESP is that its very success in catering to the needs of non-native speakers has contributed to the overpowering position of English in today's worlds of sciences, scholarship, and business" (Lesiak-Bielawska, 2018). Moreover, the foundation of all ESP is the simple question: Why does a learner need to learn a foreign language? (Donesch-Jezo, 2012).

The paper presents the innovative methodology of teaching ESP via translation, heteroglossia, code-switching and translanguaging.

Heteroglossia, code-switching and translanguaging

It is generally believed that heteroglossic practices in education facilitate the connection of students' home languages and literacy practices with universities' literacy practices in ways that are relevant to their lives (Kiramba, 2016). Code-switching "is the mixing of words, phrases and sentences from two distinct grammatical (sub) systems across sentence boundaries within the same speech event" (Waris, 2012). Translanguaging can be associated with the process of making meaning, shaping experience, gaining understanding and knowledge through the usage of two languages (Baker, 2011).

The concept of translanguaging originated in Wales. It considered the description of different discursive practices of bilinguals (Rabbidge, 2019). In the beginning of the 21st century, translanguaging became conceptualized as a pedagogical practice (Baker, 2011). The researchers have found that in a number of bilingual/multilingual CLIL or second/additional language education contexts, teachers have actively deployed translanguaging in a variety of classroom scenarios to fulfil communicative as well as pedagogical purposes. The examples include explaining subject content, eliciting students' L2 output, facilitating interpersonal communication, creating a welcoming atmosphere, etc. (Zhou & Mann, 2021). A simultaneous incorporation of translanguaging and heteroglossia into classroom activities gives good results, because as the increasing body of research suggests, heteroglossic practices stipulate the connection of learners' home and target (institutional) languages and literary practices. If the monoglossic tradition corroborates only monolingual repertoires, heteroglossic beliefs and practices view multiple languages of bilinguals as co-existing. Moreover, bi-/multi-lingual educational policies respond to local interests, ideologies and contexts (Garcia, 2009). The paper presents the innovative practice of teaching ESP. The major accent is put on the acquisition of the specialized terminology (via plying between terms, corpus-based analysis, labeling, translating, etc.) and a simultaneous incorporation of translanguaging, heteroglossia as well as code-switching into the classroom activities.

Before presenting the innovative practices, let us discuss the historical background that facilitated the formation of the multiethnic

society and stipulated "working-out" of new strategies of teaching in pluriethnic groups of students.

Migration in Georgia

Georgia has always been a small multiethnic country. It faced numerous invasions and different flows of migrants. Historically, Georgia became a homeland of many Armenians, Azeris/Azerbaijanis, Russians, Ossetians, Yazidis, Ukrainian, Kists, Greeks, Germans and others. According to the 2014 census conducted by the National Statistics Office of Georgia (Geostat), the ethnic Georgians represented 86.8 percent of the total population. Next in line, the largest ethnic groups were the Azeris (6.3 percent) and the Armenians (4.5 percent). Other ethnic groups accounted together for 4 percent of the population (Ventura, 2017). The official census also revealed "a decline in the share of ethnic minorities from 16.2 percent in 2002 to 13.2 percent in 2014" (Bobghiashvili et al. 2016). Despite this fact, nowadays, Georgia is inhabited by a significant number of ethnic minorities, especially, by the Azerbaijanis and the Armenians.

It is noteworthy that before the 19th century, the Georgian kingdoms were home to the small groups of the Armenians and many of them were assimilated with the local population. Experiencing the ongoing oppression on the territories of their settlement, the Armenian refugees often resettled in the Georgian kingdoms, mainly, near the borderline regions. During 1829-1831, 30,000 Armenian refugees from Arzrum resettled in Samtskhe-Javakheti (Abbasov et al., 2016).

In contrast to the Armenians, the Azerbaijanis represent the largest national minority. They mainly live in the historical-geographical province of Kvemo Kartli in the southwest corner, in Kakheti and Shida Kartli (in the east) as well as in Tbilisi and Rustavi. The majority of them are Shi'a Muslims, though there are Sunnis as well. Driven by the military and political circumstances, their ancestors came from Persia and Turkey in the late feudal period with the aim of settling down in the southeastern provinces of Georgia. In the 19th and 20th centuries, the number of Azeri migrants was much smaller than of other ethnic groups (Komakhia, 2004). However, nowadays, they outnumber all other ethnic minorities. Despite this fact, the Azerbaijanis as well as the Armenians face some problems of

integration into the Georgian society. The problems have been fueled by a poor knowledge or no knowledge of the state language (Georgian) that has hindered socialization and occupation of positions at governmental institutions and organizations.

Since 2009, Georgia's government has been making attempts to solve the problem of integration via the promotion of the educational programs ensuring teaching the state language to the representatives of ethnic minorities. One of the most important programs is the *"1+4" Scheme*. It offers simplified procedures for the representatives of ethnic minorities, inter alia, the Armenians and the Azerbaijanis, to enroll in higher education institutions of Georgia by passing only one exam in their native language, with one year dedicated to the training in Georgian followed (in case of obtaining 60 credits) by four years of undergraduate studies in a program of their own choice (Third Report submitted by Georgia Pursuant to Article 25, 2017).

The *"1+4" Scheme* was created in 2010 and since its inception hundreds of the Armenians and the Azerbaijanis have been enrolled in higher education institutions of Georgia, especially, in Ivane Javakhishvili Tbilisi State University (TSU). Nowadays, dozens of non-Georgian students study at the Faculty of Humanities. Many of them wish to obtain the specialization in the field of English philology. Accordingly, the professors of the Department of English Philology try to implement successful strategies of teaching ESP in multi-ethnic groups of students uniting the Georgians, the Armenians, the Azerbaijanis, etc. Let us discuss one of the courses designed for the preparation of translators.

Abstracting and reviewing of the English text

In 2013 the new course "Abstracting and reviewing of the English text" (ARET) was created at the Department of English Philology. The major importance of ARET was its orientation to teaching ESP via translation. The specialized topics of the course were related to the manuscript studies, archaeology and history. The course was attended by the students of different nationalities: the Georgians, the Armenians, the Azerbaijanis, etc.

For the achievement of better results, ARET was designed to meet the following criteria: **less theory, more practice** - only four

theoretical units (covering six hour of teaching) and the permanent acquisition of the techniques of translation; **translation of the published academic papers**; **teaching oriented to translanguaging**, **heteroglossia and code-switching** (based on five languages: Georgian, English, Russian, Armenian, Azerbaijani); **the complex methodology** adapted to different types of learners with various ethnical backgrounds; simultaneous **promotion of fluency in ESP and GSP** (Georgian for Specific Purposes). Let us discuss each criterion.

Less theory, more practice

The majority of the courses taught at TSU are focused on theory. Less attention is paid to practice. ARET presents an innovative attitude in this respect. It is a one-semester course comprising 30 hours. Only four units are taught during this period. The rest of the teaching hours are dedicated to the translation of publications from Georgian into English and vice versa.

It is worth mentioning that the theoretical material transfers the knowledge needed for the creation of a valid scientific work by means of teaching the language and structure of papers, monographs, theses, etc. After the completion of the course, the students are aware of the peculiarities of the formatting, structuring and reviewing of a scientific work. The main accent is put on the major and secondary parts of a publication, different styles of referencing, peculiarities of citation, plagiarism, etc. Accordingly, the students are ready for the creation of their MA theses, papers, monographs, etc.ompetence as researchers using descriptive statistics and the factors academic staff provided as the reasons for their research competence.

Translation of the published academic papers

ARET is oriented to the translation of already published academic papers[1], which are unknown to the students. The latter get acquainted with published passages only after the preparation of their translations. Dealing with the language of the academic journals assists students in perceiving academic English, its peculiarities, style and

[1] These papers were presented in the issues of the peer-reviewed bilingual Journals Spekali and Kartvelologist, which publish papers in two languages: English and Georgian.

rules. Moreover, they get acquainted with plying between terms and solving the problem of untranslatability via transliteration or labelling i.e. creation of new lexical units. The lecturer assists the students in understanding these techniques. She uses different online corpora as guides during the analyses of terminological units, specific phrases, collocations, synonyms, etc.

Teaching oriented to translanguaging, heteroglossia and code-switching

At the initial stage, ARET dealt with the bilingual studies i.e. translating the specialised texts from Georgian into English and vice versa. However, during the teaching activities the particular obstacles appeared. Some non-Georgian students were not fluent in Georgian. Therefore, they could not understand the Georgian texts perfectly. This fact made them inactive, marginalised and reluctant to participate in classroom activities. The teacher started experimenting and translated difficult Georgian sentences into Russian. This fact activated those students, who were fluent in Russian. However, non-Russian-speaking learners remained marginalized. The teacher widened the circle of the used languages and asked the Armenian and the Azerbaijani students (who mastered Georgian) to translate the Georgian sentences into Armenian and Azerbaijani. As a result, at the following stages of teaching, the simultaneous usage of home and target languages activated all learners, broadened their learning opportunities and developed proficiency in the languages of instruction.

The complex methodology

The framework of ARET enables the teacher to supervise the selection, pacing and sequencing of all learning activities. Accordingly, each practical part of a seminar considers the following:

Activity 1 – **Warming-up** that deals with an introduction of a new topic. The lecturer writes the lists of new words/phrases related to it in the languages of instruction. In case of necessity, Russian, Armenian or Azerbaijani counterparts are presented by the students in an oral form;

Activity 2 – **Translation** of a piece of an unknown text that deals with an individual work, a pair-work and a group-work. The latter is usually chosen by ethnically non-Georgian learners, who use home and target languages for the creation of final English versions of source texts written in Georgian. During translation, the learners are allowed to use different bilingual (Georgian-English, Armenian-English, etc.) and multilingual dictionaries. Moreover, they use online corpora created by the former Lexicographic Centre of TSU. The students work on specific terms/phrases via the method of corpus-based analysis i.e. searching for meanings via determining proper contexts and sentential environments.

Activity 3 – When all the activities are over, **the lecturer asks the students to read their translations**. During the discussion of each sentence, all lexical, grammatical and stylistic mistakes are corrected. Correction often relies on the method of *comparons nos langues*, i.e. the contrastive analysis and the error analysis - the methods endorsed by educational institutions in the US and Europe (Tvaltvadze & Kurdadze, 2011). *Comparons nos langues* requires the comparison of students' repertoires (home languages) with the target language (English). Comparison covers grammatical rules, syntax, semantics, etc.

Activity 4 – After discussing the students' translations, **the lecturer reads an original translation** of a source text/passage presented in a particular academic journal. The students get acquainted with academic English, its peculiarities, style and rules. Moreover, they compare their translations with academic ones. The students discuss the possibilities of the usage of different grammatical constructions, lexical or terminological units, synonyms, etc. As a result, the best pieces of translation are chosen. Their number varies from two to four.

The above-mentioned stages depict the usage of the heteroglossic approach in association with VAK/VAKT (Visual, Auditory, Kinaesthetic&Tactile) learning styles. The given complex encourages auditory, visual and even kinaesthetic learners, who prefer

to learn via experiencing – doing, touching, performing (Gvelesiani&Tvaltvadze, 2011), opening dictionaries, searching for new words/phrases, navigating, etc. A simultaneous usage of the home and target languages during analyses and discussions enhances the understanding of subject-area concepts, specific terms and phrases. The usage of *comparons nos langues* activates almost all learners, broadens their learning opportunities and develops proficiency in the languages of instruction: Georgian and English.

Promotion of fluency in ESP and GSP

Translation of specialized texts from English into Georgian and vice versa promotes fluency in ESP and GSP, especially, in cases of those representatives of ethnic minorities, which are not fluent in Georgian. Dealing with the original Georgian publications enables them to memorize specific terms and phrases presented in the fields of archaeology, manuscript studies and history. Working with the bilingual corpora improves the students' comprehension and the speed at which information can be retrieved and memorised.

Making presentations

ARET fuels the students' interest in the science. During the studies, every student is obliged to create and pass a presentation dealing with the problematics of translation. Each presentation represents a scientific work oriented to a comparative analysis of the data of at least two languages. A topic may cover the problematics of translation of poems, terminological units, phrases, proverbs, etc. The students are free in their choice. After making presentations and considering the lecturer's recommendations, the students are encouraged to make advancements in their scientific lives via participating in conferences or submitting papers to journals.

Outcomes

Several years' observation and comparison of the results of the first and final translations prepared by the students revealed that at the end of

the course the students' vocabulary was enriched, grammar was improved, style was perfected. Moreover, the process of translation took less time. ARET apparently provided the learners with the requisite English language skills for carrying out written communication in an appropriate academic field.

Accordingly, ARET may be treated as the innovative course modelled in accordance with the contemporary challenges. It is the only undergraduate course of the Department of English Philology, which is dedicated to teaching ESP via translation of texts written in humanities. ARET is oriented towards the improvement of students' writing skills, which fuels their interest in science. The majority of the best learners successfully pass the entrance exams and become MA students of the programs of translation studies, for instance, *Translation and intercultural studies* (*based on Georgian and English languages*), *Translation theory and translation practice*, etc. Afterwards, they start working as interpreters or translators at international or local companies, organizations, journals, etc.

Conclusions

Today's Georgia faces important challenges. Firstly, Georgia's transformation into a global touristic country requires the professional training of interpreters, guides and translators. Moreover, a growing number of incoming tourists requires the creation of English booklets and books dealing with the history, art, archaeology, ethnography and statehood of Georgia.

Secondly, Georgia gradually becomes a global country oriented towards the implementation of joint projects/programs. The growing number of international scholarly activities stipulates the creation of bilingual journals presenting papers/researches in humanities (archaeology, history, manuscript studies, literary studies, etc.). The translators of the journals need to be specialised in the terminology related to these specialities.

Thirdly, the growth of transnational migrants, who cross linguistic, cultural and geographic boundaries requires the transformation of classroom environments and student bodies into more linguistically and culturally diverse settings (Kwon, 2018).

Accordingly, the usage of diversified methodologies of teaching becomes crucial at higher educational institutions.

The paper deals with the presentation of the innovative course ARET and the methodology of teaching ESP via translation. The major accent is put on code-switching, heteroglossia and translanguaging, which afford learners' opportunities to utilize their full linguistic repertoire, without socio-political rules of separation, in order to achieve a greater overall academic success (Rabbidge, 2019). This success is apparently achieved - several years' observation of the students attending ARET has revealed that the usage of translanguaging during classroom activities: creates a friendly classroom atmosphere based on the equality of learners; enhances almost all students' participation; ensures students' non-marginalisation; promotes a better understanding of a class content; ensures a better understanding of the meaning of a new vocabulary; prevents students from routinized, teacher-led interactions.

After the completion of the course, the students' academic achievements grow. Their writing-style is perfected, while grammar and vocabulary are improved. The students' proficiency in the languages of instruction (Georgian and English) achieves a higher level. As a result, they easily become MA students of the programs of translation studies. They start working as guides and provide incoming tourists with the information about history, archaeology and statehood of Georgia. The knowledge of academic English enables the students to diversify their scientific lives via publishing papers or participation in local/international conferences.

Finally, we may claim that ARET is the only course of the Georgian educational space that provides all the above-mentioned by means of meeting the following specific criteria: teaching oriented to multi-ethnic groups of students; less theory, more practice; translation of the published academic papers; teaching oriented to translanguaging, heteroglossia and code-switching (based on five languages); complex methodology adapted to different types of learners; simultaneous promotion of fluency in ESP and GSP.

References

Abbasov, I., Delihuseyinoglu, H., Pipia, M., Rumyansev, S., & Sanamyan E. (2016). Groups and conflicts in the South Caucasus and Turkey. *Caucasus Edition – Journal of Conflict Transformation*, 181-227.

Baker, C. (2011). *Foundations of bilingual education and bilingualism (5th ed.)*. Multilingual Matters.

Bobghiashvili, G., Kharatyan, A., & Surmanidze. I. (2016). Minority language education in Georgia. *Caucasus Edition – Journal of Conflict Transformation*, 254-273.

Chen, S. (2010). Multilingualism in Taiwan. *International Journal of the Sociology of Language*, 205, 79-104.

Donesch-Jezo, E. (2012). English for Specific Purposes: What does it mean and why is it different from teaching General English? *CONFLUENCE*, 1-6.

Garcia, O. (2009). *Bilingual Education in the 21st Century: A Global Perspective*. Malden, MA: Wiley-Blackwell.

Grigule, L. (2011). Problems and challenges of teaching state language in the implementation process of multilingual education. *Proceedings of International Scientific Conference Issues of State Language Teaching: Problems and Challenges*, 258-266.

Gvelesiani, I., & Tvaltvadze, D. (2011). For the improvement of teaching foreign languages on the undergraduate level (on the example of the reforms carried out at the Faculty of Humanities of Ivane Javakhishvili Tbilisi State University (Georgia)). *Pedagogical Technologies in Socialization and Resocialization of Society*, 2, 42-49.

Kiramba, L. K. (2016). *Heteroglossic Practices in a Multilingual Science Classroom.* Faculty Publications: Department of Teaching, Learning and Teacher Education.

Komakhia, M. (2004). Georgia's Azerbaijanis: problems of civilian integration. *Central Asia and the Caucasus*, 5(29), 166-172.

Kwon, J. (2018). Talking about global migration: implications for language teaching. *International Multilingual Research Journal*, 12(4), 302-304.

Lesiak-Bielawska, E. (2018). *Teaching and researching* ESP. KSIĘGARNIA AKADEMICKA.

Migration. Retrieved from https://www.britannica.com/science/population-biology-and-anthropology/Migration#ref60665

Rabbidge, M., (2019). The effects of translanguaging on participation in EFL classrooms, *The Journal of Asia TEFL*, 16(4), 1305-1322.

Rao, V. Ch. S. (2019). English for business purposes: an ESP approach. *Journal for Research Scholars and Professionals of English Language Teaching*, 15(3), 1-8.

Tvaltvadze, D. & Kurdadze, R. (2011). Teaching languages at Ivane Javakhishvili Tbilisi State University (reforms and perspectives). In Wells P. J. & Zolyan S. (Eds.), *Higher Linguistic Education from the Perspective of Reforms: New Approaches, Prospects, and Challenges* (pp. 115-122). Bucharest: European Center of Higher Education.

Udina, N. N., & Stepanova, V. V. (2018). Language of international migration: terminology and concept analysis. *European Research Studies Journal*, XXI (3), 579-590.

Ventura, V. (2017). *The condition of national minorities in Georgia*. Retrieved from https://www.academia.edu/33036474/The_condition_of_national_minorities_in_Georgia

Waris, A. M. (2012). Code Switching and Mixing. *Jurnal Dakwah Tabligh*, 13(1), 123-135.

Wu, M. M. (2019). *Second language teaching for global citizenship*. Retrieved from https://www.tandfonline.com/eprint/HVNDKMEGYZVQEN7AK5NZ/full?target=10.1080/14767724.2019.1693349

YousafZai, R. A., & Fareed, M. (2019). ESP teaching practices in management science at post-graduate level in Pakistan: perceptions of ESP teachers and ESP learners. *Journal of Management Sciences*, 6(1), 1-14.

Zhou, X. E., & Mann, S. (2021). Translanguaging in a Chinese university CLIL classroom: Teacher strategies and student attitudes. *SSLLT*, 11(2), 265-289.

Attitudes towards English Medium of Instruction in Engineering Courses in Rwanda Polytechnic

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Abstract: Like many African countries, Rwanda uses a foreign language as a medium of instruction, despite being a monolingual society. Rwanda has made English a medium of instruction at all levels of education, mainly because English has become a global lingua franca. However, prior research has reported difficulties in implementing English medium of instruction (EMI) in Rwanda due to limited English proficiency in both students and teachers. This study investigates the students' and lecturers' attitudes towards learning and teaching engineering courses through the medium of English at Rwanda Polytechnic. The mixed research design was used to collect data. A Likert scale questionnaire was used to collect quantitative data from three Polytechnic Campuses in order to explore students' attitudes regarding the use of the English medium of instruction in engineering courses. Qualitative data was collected from students through Focus Group Discussions to deeply understand the students' perceptions, challenges, and coping strategies regarding the use of EMI in engineering subjects content. Semi-structured interviews were conducted with twenty content lecturers. Data analysis was done by merging quantitative and qualitative data to get an integrated understanding of students and lecturers views about EMI. The findings show that there are mixed perceptions about the use of EMI in engineering subjects. On one hand, both students' and lecturers' view EMI as an opportunity for their career prospects. On the other hand, they disagree with the use of an English-only medium of instruction because both students and lecturers experience difficulties in accomplishing academic tasks due to limited English proficiency. As a result, L1 is predominantly used to facilitate content teaching and learning. The preference for code-mixing is meant to increase students'

https://doi.org/10.24193/JRHE.2023.1.3

participation, and explain domain-specific terminology, thereby maximizing the comprehension of the subject content. Recommendations for workable policy changes of the instructional language are made.

Keywords: Start-up, entrepreneurial model, conference interpreting, effectiveness, *kaizen*-type approach.

https://doi.org/10.24193/JRHE.2023.1.3

Introduction

Rwanda is among a few countries that remain linguistically monolingual, i.e., people share one language, Kinyarwanda, as their mother tongue (Tabaro, 2019). Apart from being a unifying factor, Kinyarwanda dominates in all interactions ranging from recreational, social, and cultural to religious sermons. According to NISR (2014, cited in Sibomana, 2014), more than 99% of Rwandans speak Kinyarwanda. It is therefore evident that for a foreigner to effectively communicate with most Rwandans, s/he must use some Kinyarwanda. Even Rwandans who are proficient in other languages like English and French feel more comfortable when they are interacting in their mother tongue.

English as a foreign language gained influence in Rwanda from July 1994 by the time Rwandan refugees were returning to their country from the neighbouring Anglophone countries (Uganda mainly, as well as Kenya and Tanzania). The choice to set up English as an official language was made in 1996. Several Rwandans liked the idea of making English an official language as a way to improve connections with other countries across the world, ease access to overseas education, and contribute to Rwanda's economic growth (Samuelson & Freedman, 2010). Rwandans realized that the future of globalization is in English, and they wished to take part in that new world. The process of making Rwanda an English-speaking country continued until Rwanda became a member of the East African Community and joined the Commonwealth in 2009. French and English were obligatory subjects from 1996 (Obura, 2003) until 2008 when the Government of Rwanda made the English language a primary medium of instruction in all state schools from primary schools to institutions of higher learning. However, studies reveal that learning and teaching academic courses through a medium of English (a foreign language in this case) poses problems for both students and teachers whose mother tongue is not English (Pearson, 2016). From 2009, the new policy came into force immediately, requiring students and teachers to study and teach in English as the only medium of instruction. This change was primarily motivated by political, economic, and social debates to keep up with globalization trends (Kagwesage, 2013). Despite the effort made to

improve English proficiency among teachers and students, many still struggle to teach and learn academic courses in an English-only medium of instruction due to limited proficiency in English even though English has been made a medium of instruction for more than a decade now. The failure to acquire English in Rwanda can be attributed to an environment that does not favour second/foreign language acquisition. English is not widely used across the country except in academic settings (Dulay et al., 1982). Yet, language acquisition necessitates a conducive environment that exposes the language learner to everything related to the target language, i.e. interactions in shops and restaurants, chats with friends, television programs, signposts on the streets as well newspapers. Language environment, therefore, plays an important role in learning a language. Rwanda's language environment (markets, churches, streets, shopping areas, local radio/TV programs, taxis, and in many non-academic workplaces, etc.) does not favour the exposure to enough English language inputs, thereby reducing the chance of mastering English. Kinyarwanda, on the other hand, is the language that most people are exposed to in everyday activities and events. Worse still, Kinyarwanda dominates even in informal interactions among lecturers and students in academic environment and therefore reduces chances of improving proficiency in English. Both formal and informal acquisition of English as a second language in Rwanda is still a challenge because many teachers still have limited proficiency in the target language and also due to a lack of exposure to sufficient input of English language in an almost Kinyarwanda-only speaking community. Even though prior research has found out that Rwandans welcomed the English medium of instruction (Tabaro, 2019; Kagwesage, 2013 & Sibomana, 2014), it is still not widely used in society and some students and lecturers reluctantly use it in everyday academic activities.

It is for this reason that this study aims to explore the students' and teachers' attitudes towards using the English medium of instruction in teaching and learning engineering courses at Rwanda Polytechnic. Our interest in this topic was also triggered by the negative attitudes shown by the general public towards a notice from one of the Colleges of Rwanda Polytechnic that requested all teaching staff to use English only in academic activities[1], something which might not have

[1] https://twitter.com/iprckarongi/status/1131301388963713027?lang=bg– Reactions of the public to the notice instructing lecturers to teach in English only

been well perceived by different stakeholders in education. This research is therefore aimed to find out how students and lecturers view the use of English medium of instruction in learning and teaching engineering courses.

The significance and objectives of the study

The significance of this study lies in the fact that knowing someone's attitudes may help in predicting how they will behave over a period of time (Baker, 1992). In clear terms, attitudes may help predict what people are likely to do and may determine the outcomes as positive or negative. It is the attitudes that determine the motivation of doing an action by investing some energy in it (Heckhausen, 1991). In exploring the students' and lecturers' attitudes towards the use of EMI in engineering courses, it will help predict whether or not they (students and lecturers) are motivated to engage in academic activities through the medium of English and how their perceptions would be favourable or unfavourable for academic progress. The findings would therefore help in providing important suggestions for reconsidering the needs of students and lecturers, while at the same time revisiting the instructional language policy in higher education in general and more particularly rethinking the effective use of EMI in hands-on skills courses like Engineering.

This study aims specifically at (i) exploring the students' and lecturers' views regarding the use of English ¬medium of instruction in learning and teaching engineering courses, (ii) showing how using English medium of instruction (EMI) in engineering courses is beneficial and challenging to lecturers and students, and (iii) finding out how students and lecturers cope with learning and teaching engineering courses through the English medium instruction.

Materials and methods

The mixed research method has been used to collect and analyse data. The convergent parallel design has been used for this research to explore the students' and lecturers' attitudes towards learning engineering course content in the medium of English and to get an in-depth understanding of their views about the advantages and

challenges of using EMI in engineering classes. Data have been collected by the use of a questionnaire and interviews, then quantitative and qualitative data have been integrated at the level of analysis and interpretation to have a holistic picture of the problem under study.

Participants

The study was carried out on engineering students and lecturers at Rwanda Polytechnic. Due to limited time and financial constraints, three colleges were selected for this study i.e., IPRC Musanze, IPRC Karongi, and IPRC Kigali. In order to avoid the homogeneity of the sample, the researcher selected different engineering programs from the sample colleges as follows:

- Agriculture engineering from IPRC Musanze;
- Mechanical engineering and Electrical and Electronics engineering from IPRC Karongi;
- Civil Engineering from IPRC Kigali.

The variance of colleges and engineering programs is deliberately meant to diversify the responses.

The selection of students and lecturers was based on criterion sampling, as the researchers aim to include participants from different engineering programs. In a criteria study, the researcher first defines the criteria that are essential to the study. Researchers then identify participants who have the necessary information and look for cases that meet these criteria. Participants are selected based on their ability to provide information because they have knowledge and experience of the phenomenon of interest. (Cohen & Crabtree, 2006). This technique increased the chance of finding out attitudes towards the issue under study.

Data collection instruments

This research relied on both quantitative and qualitative approaches to get accurate results and sufficient data from the respondents. Questionnaires have been developed and administered to 150 students to get an understanding of the attitudes and opinions of

the students towards learning and teaching through EMI. The researchers were interested in knowing the students' language background and their self-reported English proficiency, which might help in determining their level of readiness to study engineering courses in English. The questionnaire has also included questions about students' attitudes towards studying Engineering through EMI, their confidence in learning engineering courses through EMI, content comprehension and students' participation, challenges faced as well as ways used to understand academic content taught through EMI. A Likert scale of four response options was used to explore students' attitudes towards learning engineering courses in English. The Likert scale ranges from Strongly Disagree to Strongly Agree. It does not include a "Neutral" option to reduce the likelihood of respondents who would choose it to show that they have no opinion when they really do. By removing the neutral option, respondents are forced to use their cognition to give their true perceptions on the topic, thereby minimizing the impact of social desirability bias (Garland, 1991). Semi-structured interviews have been conducted with 20 lecturers. Lecturers have answered questions about their experience in teaching engineering courses in English only. We also tried to find out lecturers' self-reported English proficiency and their confidence in teaching through EMI. There were questions about the perceived benefits and challenges faced by lecturers while teaching engineering courses through EMI, and how they cope with the challenges. With this tool, we were able to obtain detailed information about lecturers' attitudes, and it allowed for detailed information from the respondents. Due to their tight schedules, 10 lecturers were interviewed by telephone, and they were audio recorded with their consent.

For students, there have been four Focus Groups with 5 students each. Students who formed focus groups have been selected from those who had participated in answering the questionnaires, i.e. five from mechanical engineering, five from Electrical engineering, five from civil engineering and five from agriculture engineering. Focused group Discussions included semi-structured questions meant to collect in-depth information about how students feel while learning engineering courses through EMI, the challenges they face and strategies they use to cope with learning academic courses in English only.

For validity reasons, interviews have been conducted in a language that participants understand better to help participants express themselves fully and clearly. Then, data have been audio recorded, transcribed and translated into English from Kinyarwanda (L1). Three lecturers who specialize in the English language and who are also natives of the Kinyarwanda language worked in collaboration with the authors to translate qualitative data from Kinyarwanda into English.

Data analysis

Data from the questionnaires have been presented in the form of tables showing frequencies and percentages for easy analysis. Microsoft Excel has been used to present and analyse quantitative data. The quantitative analysis of the data focused on students' and lecturers' attitudes regarding the use of EMI in engineering courses, and the findings were then discussed in line with the research objectives. Data from Focus Group Discussions and interviews with lecturers have been transcribed and translated into English. Qualitative data have been presented in form of narratives under different themes. 'Taguette', an online open resource for qualitative data analysis, was used to code and categorize qualitative data into themes for easy analysis. Lecturer's quotations have been labelled with (Lect.) for lecturer, while those of students have been marked (FGD) for Focus Group Discussion and (Stdt.) for Student.

The presented quantitative and qualitative data have been merged to create comprehensible and convincing interpretations regarding the research questions.

Limitations of the study

As previously presented, due to limited time and financial resources, the researchers have preferred to choose IPRCs that were easily accessible and the sample size of 150 might not allow findings to be generalised considering the number of all students in 8 IPRCs. However, the selection of different engineering options from three different IPRCs guarantees the representativeness of the findings, since the data collected shows an overall image of how students and lecturers

view learning and teaching engineering courses through EMI. The study focussed on Year 2 &3 students in the academic year 2021-2022. Year 1 students were not involved because they were deemed not convenient as they had just been admitted to higher education, hence experiencing a low frequency of exposure to class lectures at University.

Findings and discussions

Quantitative and qualitative data were presented and discussed side by side to give a comprehensive understanding of the topic under study. The presented findings and discussions revolve around (a) the students' and lecturers' attitudes towards EMI (b) their perceived benefits and challenges of EMI and (c) the strategies used by both students and lecturers to cope with EMI.

Response rate

The students' response rate was 80% i.e., 120 questionnaires out of 150 were returned fully completed. For the Focus Group Discussions, all the five groups composed of five respondents each were interviewed. And all the selected 20 content lecturers were interviewed.

Students' attitudes towards the use of EMI in engineering courses

Students' attitudes regarding the use of EMI in engineering courses were investigated by giving attitudinal statements with which the respondents had to agree or disagree, as shown in Table 1 below.

Table 1. Students' attitudes towards the use of EMI in engineering courses

Statements	Alternatives, Respondents & Percentages			
	Strongly Disagree	**Disagree**	**Agree**	**Strongly agree**
It is hard to learn engineering subjects in English	5 4.2%	26 21.7%	67 55.8%	22 18.3%
It is unfair to study engineering subjects in English because students with lower English proficiency may score lower grades	6 5.0%	34 28.3%	40 33.3%	40 33.3%
Studying engineering courses in Kinyarwanda and English is desirable to me	2 1.7%	24 20.0%	43 35.8%	51 42.5%
I like it more when the instructor is teaching engineering courses in English only	19 15.8%	88 73.3%	13 10.8%	0 0.0%
Studying engineering courses in English only increases my chances of passing the exams	28 23.3%	82 68.3%	10 8.3%	0 0.0%
Studying engineering courses in Kinyarwanda and English increases my chances of passing the exams	0 0.0%	0 0.0%	82 68.3%	38 31.7%

From Table 1 above, findings show that the majority of students find it challenging when they learn engineering courses in English. 74.1% of respondents find it hard to learn engineering courses in English; 66.6% of respondents have shown that studying engineering subjects in English is unfair, as students with lower English proficiency may score lower grades. This is in line with the assertion of Kirkpatrick (2011) who claim that students cannot learn from English if they don't understand what is said in English. Respondents (80%) also indicated that if the subject content is taught in English, they spend much time revising the content. Students (91.6%) disagree that studying engineering courses in English only increases their chances of passing the exams, while 100% of the respondents are in favour of mixing Kinyarwanda and English while studying engineering courses because it helps them pass exams. The results show that studying engineering courses in English only poses limitations in terms of academic performance, as students fail to revise the subject content, which reduces their chances to succeed in exams. In addition, the interviewed

student added that "Even some lecturers seem not to master English and use Kinyarwanda in class and I don't find it a problem because it makes the content much clearer."(FGD 2-Stdt 4). The students' perceptions about the use of EMI in engineering courses imply that the students' low proficiency in English may impair academic knowledge acquisition and negatively affects class participation and therefore impact the student motivation to learn (Kang & Park, 2005).

The students' preferred EMI in engineering courses

Table 2 below indicates that 102 (85%) respondents preferred the use of code-mixing (Kinyarwanda and English) rather than using English only as a medium of instruction (15 %).

Table 2. Rasons for students' preferred EMI in engineering courses

Ideas	**Frequency (n = 120)**	**%**
English only		
Studying in English will improve my English proficiency level	7	5.8
Studying in English will increase professional opportunities (international jobs and scholarships, access to research)	10	8.3
Many technical terminologies have no Kinyarwanda words, so English would be the best language to study engineering courses	1	0.8

Ideas	**Frequency (n = 120)**	**%**
Bother English and Kinyarwanda (*Code-mixing*)		
Because it helps us understand the meaning of new terminologies used in the course	19	15.8
Kinyarwanda helps clarify difficult material	8	6.7
Both languages complement each other in comprehending the content	10	8.3
Mother tongue helps in internalising the content instead of memorising it, and improves active participation in the lesson as well as academic performance	38	31.7
Kinyarwanda helps to fill the English language gap I had in primary and secondary, so when an explanation is given in	19	15.8

Ideas	Frequency (n = 120)	%
Kinyarwanda, I can easily understand		
Some lecturers are not proficient in English, if they explain in English, it becomes rather confusing, but when they switch to Kinyarwanda, everything is clear	2	1.7
After all, Kinyarwanda is predominantly used at local labour market, that is why Kinyarwanda should also be used	4	3.3
Promotion of mothern tongue is needed	2	1.7

When the respondents were requested to explain their preferred medium of instruction in engineering courses, they identified reasons to justify their choices and the researcher tried to categorize and quantify the respondents' explanations regarding their preferred medium of instruction. It was therefore found out that only 18 respondents (15%) managed to explain why they are in favour of an English-only medium of instruction. They believe that studying engineering courses in English only would help them get different opportunities such as international jobs, scholarships as well as access to research most of which is available in English, and were also of the view that studying in English only would improve their English proficiency level. Findings show that 102 respondents (85%) chose code-mixing (English and Kinyarwanda) mainly because mixing the two languages during instruction "helps in internalizing the content instead of memorizing it, and it improves active participation in the lesson as well as academic performance" (FGD 2-Stdt. 1). They also have reported the need for code-mixing as a good way to fill the English language gap they had in primary and secondary education. With code-mixing, the content can easily be understood as one respondent put it "When an explanation is given in Kinyarwanda, I can easily understand" (FGD 4-Stdt.5)

Other respondents think that code-mixing is helpful when it comes to explaining technical terminologies that are hard to understand when presented in English only (15.8%). 8.3% of the respondents believe that both English and Kinyarwanda complement each other to make the subject content more comprehensible.

The fact that most of the respondents prefer code-mixing to an English-only medium of instruction, is evidence that students view EMI

as a barrier to effective learning and teaching of subject content. If students dislike learning through English only, they will have difficulty using the disliked language, thereby creating a feeling of disappointment or hopelessness, which might in turn affect their self-confidence. This situation impedes students' academic progress (Agajie, 2020).

Perceived benefits and challenges associated with EMI

Respondents were asked to show their degree of agreement with the statements regarding the relevance of learning engineering courses through EMI. The respondents' perceived benefits of EMI show their attitudes towards the English language in general and English as a medium of instruction in particular.

Table 3. Perceived benefits of EMI

Statements	Alternatives, Respondents & Percentages			
	Strongly Disagree	**Disagree**	**Agree**	**Strongly agree**
Studying engineering courses is only beneficial to me	29 24.2%	41 34.2%	37 30.8%	13 10.8%
Studying engineering subjects in English is very necessary at the university level	0 0.0%	25 20.8%	71 59.2%	24 20.0%
Studying engineering subjects in English will help me get a well-paid job	2 1.7%	30 25.0%	58 48.3%	30 25.0%
Studying engineering subjects in English helos me improve my English proficiency	0 0%	27 22.5%	48 40%	45 37.5%
Studying engineering subjects in English will increase opportunities for scholarships in international universities	25 20.8%	7 5.8%	40 33.3%	48 40.0%

Findings in Table 3 above show that learning in English is important at the university level in terms of improving the level of proficiency in English (77.5%), getting a well-paid job (73.3%), and having scholarships opportunities abroad (73.3%). Though participants

view EMI as useful, most of them do not believe that an English-only medium of instruction is beneficial to them (58.4%).

It can therefore be deduced that respondents find EMI important because the English language is used for wider communication and career development as one respondent said "Nowadays, it is important to study in English because it might increase opportunities for getting good jobs anywhere in the world, I can say that if someone said that English is a world language, it wouldn't be a lie."(FGD 4-Stdt. 3). Although respondents want to benefit from the opportunities that come with English, they think that using it as the sole medium of instruction in engineering courses wouldn't benefit them as it constitutes an obstacle for them to acquire the desired skills since their low proficiency in English seem to complicate the comprehension of the subject content thereby creating gaps in knowledge and skills acquisition.

Although EMI is viewed as beneficial, respondents identified some hindrances in using EMI in earning and teaching engineering courses, as shown in Table 4 below. Limited English language proficiency constitutes a major issue for EMI learners and more especially when English-only is used in academic activities for learners who rarely use English outside the classroom. If students don't hear nor use English as much as possible, they can hardly learn from it (Kirkpatrick, 2011).

Table 4. Students' perceived challenges linked to EMI

Statements	Alternatives, Respondents & Percentages			
	Strongly Disagree	**Disagree**	**Agree**	**Strongly agree**
I fail in the assignments and exams mainly because my English level is low.	0 0.0%	11 9.2%	53 44.2%	56 46.7%
I memorise what I have studied in English without understanding the meaning	0 0.0%	7 5.8%	68 56.7%	45 37.5%
In class, when the lecturer asks me a question in English, I respond in Kinyarwanda	0 0.0%	5 4.2%	76 63.3%	39 32.5%

EMI versus academic work

From Table 4 above, findings have shown that 109 respondents (90.9%) fail assignments and exams due to their low level of English proficiency. The same problem was raised during Focus Group Discussions, where a respondent pointed out that:

> There is a big difference between the way we are taught and what is required to do during assignments or exams. A course we were taught in English only requires us to memorize the content in the hand out and reproduce it exactly as it appears in the hand out. For the courses where lecturers predominantly use Kinyarwanda, during exams I try to translate what I was taught into my poor English which affects the clarity of my ideas resulting in low grades. If a lecturer fails to understand what I have written, he either marks it wrong or gives me a low score. … Luckily enough, almost all exams are written which reduces pressure and nervousness to use English however bad it may be. The problem arises when we have assignments to present orally, we fail not because we don't know the content but because of our poor English. (FGD 3-Stdt.3)

Another respondent further revealed that

> When you try to answer the exam questions in your own words in English, you get low marks may be due to our poor English which lecturers fail to understand. You see, what you write in English may convey a wrong meaning to the lecturer and as a result, you lose marks. (FGD 2-Stdt.1)

This is in line with what authors like Choi (2018); Sawahel (2015) and Plonski et al. (2013) wrote asserting that EMI policy led to passive participation of students in the classroom activities, lowered lecturers and students' confidence, hindered content comprehension thereby affecting academic performance. The research conducted by Evans & Morrison (2011) shows that students in Hong Kong had difficulty producing written content in compliance with the proper academic style required by a certain content discipline. Thus, directly affecting the students' academic performance (McKinley & Rose, 2022). The findings of this research also confirm what Kırkgöz (2009) says

about speaking challenges in EMI classes where students have difficulties in expressing the subject content in English.

Impact of EMI on cognition

Respondents (94.2%) also showed that they have to memorize the content without necessarily understanding it. When the respondents were asked about the challenges they face in using English to study engineering subjects, one responded that "*The problem is memorizing the content that I don't understand, if you want to succeed, just memorize everything even if you don't know what they mean only for the sake of getting marks.*" (FGD 2- Stdt.4).

The findings about the impact that EMI has on cognition are in line with those of Ball & Lindsay (2013) who show that it is a big concern if a learner can't produce content knowledge in English because he/she hasn't assimilated it. McKinley, J. & Rose, H. (2022) point out that EMI students simply engage with the content in a passive way thereby by making the processing of the content very shallow.

Discussions with different students through Focus Groups reported that they face challenges in performing certain activities such as remembering the basic content such as basic elements; terminologies, etc. of their subjects as shown by a respondent account

> Since some terminologies are completely specific to a certain field, I fail to recall the right words to say what I exactly want to say. For example, in Automobile Technology there are terminologies specific to automobiles only which you can't find in another field like electricity. If you don't remember such words, then you fail the Continuous Assessment test (CAT) or exam. (FGD 3-Stdt.5)

EMI seems to affect more the theoretical content than the one that requires practice as it does not involve remembering concepts but steps as noted by one respondent who says:

> This problem[of remembering the basic content] occurs when a lecturer tells you, for example, to describe in writing the steps to "assemble the engine", you don't get the right terminologies and fail as a result but when it is about assembling the engine in practice, you do it successfully, because you remember all the steps without

> necessarily associating them with their corresponding terms. (FGD 2-Stdt.2)

The findings above are agreement with what Chan (2015) found out that the content comprehension in EMI is compromised when specialized vocabulary is frequently used.

Regarding how students reflect on, analyse and understand engineering-related concepts and theories to apply them in real situations, respondents revealed that EMI complicates the learning process as indicated in a respondent concern:

> It is hard to internalize the content if you haven't understood it. Theories are normally hard to understand. Imagine if those theories are taught in a language, you don't understand well. It is more complicated... it is difficult to analyse something you don't understand. The content is complicated in English. In addition, you are dealing with the content that you are not very familiar with…. for you to analyse something, you need to have fully understood the content surrounding the idea you are analysing. Most of us fail to understand part of the content that might help us to critically analyse a given situation. The root cause is the language (English) barrier. (FGD 1- Stdt.1)

EMI obstructs learning more in theoretical subject content than in practical sessions. English complicates theoretical courses as they are abstract in nature and require lengthy explanations and literature, while practical courses are taught by using concrete and practical demonstrations which make them much easier to understand. A respondent attested it in these words:

> I don't experience any problem of putting the learnt theories into practice because practical sessions help me to understand the theories I couldn't understand in English. Since practice is about more of demonstrations, there is no much language (English) involved……I can easily understand practical courses when the lecturer is teaching them, but when I am asked to explain a practical task in English, I don't manage to do it confidently. But I can do it in Kinyarwanda…… Again, if for instance, the practical part is not taught, and I am asked to apply the theories I learnt in English, I may not be able to do it because most of the time I don't understand theories to a point of translating them into reality. The big problem is that the theoretical part is taught in too much English, which hinders comprehension. (FGD 4- Stdt 4)

It is evident that the students' low proficiency in English creates a barrier to effective learning, as it is shown that the students' cognition is hindered by poor English language skills. According to IvyPanda (2019), understanding the message depends only on the appropriate perception and interpretation of the words and sentences. People's perception and recognition of words are related to how people master the language, i.e., its words and structure. So, if students are taught in a language they don't master, it is very likely that their cognitive processes like remembering, analysing, problem-solving, and understanding will be affected, thereby inconveniencing students' academic progress. Thus, there is a close connection between human cognition and language processing.

EMI versus students' participation

Findings in Table 4 have shown that students (95.8%) opt to answer in L1 (Kinyarwanda) when they are asked to participate in learning activities as one respondent said

> Every time a lecturer asks a question in English, I try to answer it in Kinyarwanda, I push in Kinyarwanda because I can't express my ideas clearly in English. Sometimes I don't understand well what is asked, and I seek clarification in Kinyarwanda. (FGD 1-Stdt.5)

Respondents also noted that anxiety to use English makes the class more passive. This feeling of nervousness was raised by one respondent,

> sometimes, I have ideas to give in class or questions I want to ask lecturers, but the problem of my English makes me keep quiet! There are some lecturers who require us to use English if we want to say anything in class. If you don't know English well, you chose to keep quiet instead of feeling humiliated by poor English..... participation reduces in lectures delivered through English and even questions to seek clarification are always asked in Kinyarwanda. (FGD 3-Stdt.3)

Coping strategies

Students devise ways to adapt to challenges they face while learning through EMI. All the strategies used are meant for content comprehension while at the same time mitigating the impact of EMI on academic performance. The respondents pointed out the commonly used strategies to cope with EMI in engineering courses.

Table 5. Students' techniques to cope with EMI

Question	Alternatives	Respondents (n=120)	%
What strategies / techniques do you use to understand the content you learn in English?	*I have no problem of understanding the content I have learnt in English*	14	11.7
	I seek support from my classmates who know English	105	87.5
	If I fail to understand the content, I leave it	0	0.0
	I use a dictionary to find the meaning of words I don't understand	95	79.2

Peer support in L1

Data in Table 5 reveal that students try to mitigate the challenges related to EMI by seeking support from their peers who seem to master English (87.5%) and use dictionaries to look up terminologies they don't understand (79.2%). Only 11.7% of respondents reported having no problem with EMI. Since student-student interactions take place in Kinyarwanda (see Table 4), peer support becomes the effective strategy to get an enhanced understanding of the domain-specific content and to convey meaning as well as construct knowledge (Kagwesage, 2013). Peer support strategy was also highlighted in the words of a respondent in Focus Group Discussions: "*Most of the time, we revise the lecture notes in groups and through peer coaching to manage to make sense of the notes*" (FGD 1-Stdt.4).

Memorization

Students memorize the content which they don't understand so that they can pass exams, as one respondent noted: "*To tell the truth, the content I don't understand I memorize it for the sake of passing exams* [...]" Students also try to guess the meaning of words from the context in which they are used. A student said, "[...] *from technical terms used in the lecture notes, we can predict the meaning, the only problem is when a terminology is not familiar, and it makes the content hard to understand.*"(FGD 4-Stdt.1). This implies that EMI favours rote learning (Kırkgöz, 2005 &Kagwesage, 2013) where students commit everything to memory hence undermining the development of cognitive processes such as understanding, analysing and problem-solving.

Use of the internet

The internet is also used to search for meanings of words as indicated by a respondent,

> We also ask google [internet] to find out the meanings of difficult words. At times, we fail to understand the meanings given and search for related images or videos, if you are lucky you land on an image or video which clearly portrays the difficult concept you are searching. (FGD 2-Stdt 4)

Although the internet may be used to make sense of EMI content, students need to have smart electronic devices such as smartphones, tablets, laptops, etc. to regularly use them in academic activities. However, not every student can afford these relatively expensive devices and therefore the most reliable coping strategy remains peer support because the content can be clearly explained and fully understood since L1 is used.

Lecturers' attitudes towards EMI

One-on-one semi-structured interviews were used to explore the views of the lecturers regarding the use of EMI in teaching engineering courses. Due to the lecturers' tight schedules, they couldn't be available

for face-to-face interviews, and then telephone interviews were conducted with them. Twenty (20) academic staff, preferably, who teach domain-specific courses were interviewed.

The interviews with lecturers revolved around their language experience and professional details, i.e., their language background and English proficiency. The interviews also focused on exploring lecturers' attitudes towards EMI in general, as well as their attitudes towards teaching engineering courses in English. The respondents were given the opportunity to give their opinions on EMI-related issues that they think might not have been discussed. The interviews were conducted in a conversational tone, and follow-up questions were asked to get a deep understanding of the lecturers' attitudes towards teaching through EMI.

In trying to find out how lecturers perceive teaching engineering courses in EMI, they were asked the following question: "*What do you think about teaching engineering courses in English?*" The lecturers' general attitude towards EMI is mixed, as their narratives indicate.

> It is good, since English is dominating in world affairs, we must use English to meet international labour market needs. The only problem is that both lecturers and students have no standard level of English, which might affect teaching and learning. More effort is needed to improve our English proficiency if we are to compete with other countries (Lect. 1).

> English is good as it is an international language. Since we don't have Kinyarwanda words for every terminology we use in engineering, English is the best language to teach engineering though it may affect comprehension of the content to some extent, especially for us Rwandans who have had a language shift, I want to mean we changed from French medium of instruction to English (Lect. 4)

EMI is viewed as useful in teaching engineering courses because English is a global language that provides many opportunities such as employment, scholarships, access to scientific research, etc. The lecturers share the same view with students that EMI is beneficial in studying engineering courses (See Table 3). Both lecturers and students disapprove of the use of an English-only medium of instruction, as it might hamper content comprehension (See Table 1).

When lecturers were asked how they feel about teaching engineering courses in English, they expressed feelings of nervousness, embarrassment, discomfort, and dispassion. Respondents expressed their feelings as follows:

> Using English only doesn't make the class more interesting. For the lecturer to motivate students and sustain their attention, there should be use of humour, telling stories, etc. When students love you and your course, you feel encouraged to teach as well (Lect. 5)

> I really feel very nervous because some students are good at English and might identify errors in my English and lose confidence in me (Lect. 19.)

The lecturers' feeling of discomfort with EMI will most likely affect their teaching self-efficacy. Research has shown that the language of instruction influences teachers' teaching self-efficacy, thereby improving "teachers' teaching performance (Wang, 2021). Fruitful teaching and improved students' learning will depend on lecturers' higher self-efficacy. If a teacher is proficient in the language of instruction, they will feel able enough to successfully perform teaching activities.

Challenges faced by lecturers regarding EMI

Low English proficiency has been a source of pedagogical challenges for both students and lecturers (Kang & Park, 2005; Kirkpatrick, 2011 & Tsui, 2017). The interviewed lecturers have reported challenges linked to the use of EMI in teaching engineering courses. To find out what kind of challenges lecturers are facing, the following item was included in the interview; "*Are there any special challenges in using English to convey the basic elements of the subject (terms, basic concepts, etc.)?*" and respondents highlighted the following:

> There is no challenge with delivering terminologies since most of them(terminologies) are very familiar because I am used to them even right from secondary school. The only problem would be the right pronunciation because I pronounce them the way I studied them, but

> sometimes you find that even my former teachers were mispronouncing them (Lect. 10).

> I don't have any problem with domain-specific vocabulary unless another vocabulary or expression which is not commonly used in my field of specialization is used. I might not understand it (Lect. 9).

It is observed that lecturers experience fewer problems regarding teaching domain-specific terms, as they are very used to them. The only point of concern may be the right pronunciation of the terminologies.

Lecturers, however, reported challenges in explaining complex notions such as principles and theories in English as described below:

> For explaining theories and principles, you need to know English very well so that students can understand what you mean. As for me, I use both English and Kinyarwanda so that I give an explanation clearly and for students to grab what I mean because when you explain in English only students don't understand. (Lect. 12)

> You see! My English proficiency is somehow not good enough, and the same applies to that of students. Theories and principles necessitate too much explanation, which is difficult to give in English only. Even if I tried, students won't understand due to either my inadequate English or the students' poor English. (Lect. 14)

Findings have shown that since teaching theories and principles require verbosity in English, it makes it hard for both students and lecturers whose English proficiency is low. On the contrary, lecturers experience fewer problems while teaching practical topics in English because it is more of demonstrations than oral presentations, as one respondent quoted saying:

> Teaching application is much easier than theories because explanations are brief, whereas concrete demonstrations are more elaborated. So, the English to be used in application is simple (Lect. 8).

Even though practical topics are simpler to teach in English, respondents cautioned the likelihood of the poor quality of imparted

and learnt skills if instructions or explanations are either poorly given by lecturers or misunderstood by students whose English proficiency is poor.

> English causes more problems in application. You know in technical schools; the most important part is translating theories into practice. So, using English only make students miss out one some key skills. For instance, if you are teaching how to apply some irrigation techniques, you use a language in which students might feel comfortable to ask questions. Most of the time if students have not understood how to apply something they can make mistakes, some of which are hazardous (Lect. 10).

> English limits us in giving clear instructions and explanations regarding the application of knowledge. To avoid any misinterpretations by students, we mix English and Kinyarwanda (Lect. 11).

Lecturers' coping strategies in the use of English medium of instruction

The key instructional role of a lecturer is to prepare and deliver the subject content to the students in a comprehensible manner. Language is the ultimate tool to negotiate and convey the meaning of the subject content. For this to happen, lecturers should use a language they understand. If lecturers don't master the medium of instruction, they devise their own strategies to deal with the language issue, provided that the main goal is achieved: content comprehension. For this study, the interviewed lecturers highlighted different coping strategies when giving instruction in English.

Use of code mixing and/or code-switching

Respondents revealed that due to either their own poor proficiency in English or that of students, they mix English and Kinyarwanda during content delivery, as shown in the extracts below:

> For sure, content delivery is the most challenging part. Imagine delivering a three-hour session in English. I can't manage. Firstly, I

> can't explain everything clearly only in English, I choose to mix English and Kinyarwanda for the benefit of students. They themselves have problems in English. (Lect. 1)
>
> I use both Kinyarwanda and English, since we don't have any international student who would be inconvenienced if I taught in Kinyarwanda. (Lect. 3).

Research has proved code-switching to be a useful strategy for content teaching in EMI classes when the lecturer and students share the same language. However, code-switching may not be relevant if there are international students as it may prevent them from participating and understanding the content (Curle et al., 2020). The findings of this research are in line with the research on applying EMI in EFL class conducted in Indonesia by Anne Ratna (2017) where students with limited English proficiency would only understand the content if the lecturer explained using both English and mother tongue.

Use of the internet

Like students, lecturers also reported using the internet while preparing lectures to search for the meaning of difficult concepts, as exemplified in the respondents' quotations below:

> I take time and prepare the lessons as usual…, English is not a big issue when I read the content, I understand it and the problem arises when it comes to delivering the content. My English-speaking skills are still low. I also use internet to check for the pronunciation of some English words because if I pronounce them badly, students might learn the wrong pronunciation from me (Lect. 7).
>
> For me, I at least master French, when I face English problem, I use internet to translate the content from English into French so that I can understand. But I am starting to get used to English. (Lect. 15)

The internet is also used for translating the English content into the language the lecturers understand better, especially French. For practical courses, lecturers can access YouTube videos on the Internet because the videos are more concrete and understandable than

writings in English. However, lecturers still struggle when it comes to oral presentation of the prepared content in English.

Support from colleagues

Peer support is the commonly used strategy by people who seek support from the more knowledgeable and experienced co-workers. This research has found out that lecturers with low level of English proficiency to look for support from their proficient colleagues. This was revealed when respondents were asked how they manage to set exams, assignments and homework in English, and they responded as follows:

> All exams are set in English and then subjected to proofreading or internal moderation by colleagues to remove any errors, including grammatical mistakes. (Lect. 4)

> For class or take-home assignments, I set them in English and then give clarification to students in Kinyarwanda so that no one misinterprets the questions. For exams, there are in English, and I don't think setting exams in English is as challenging as preparing lecture notes. Setting exams in English is easier (Lect. 6).

To mitigate the effect of lecturers' low proficiency in English, peer support is needed in terms of proofreading or moderating exams for identifying possible English language errors. Lecturers also use Kinyarwanda (L1) to clarify the assigned tasks so that all students have a common understanding of the given assignments.

Conclusions and recommendations

The findings show that both students and lecturers view EMI as beneficial in terms of career development and global integration. On the other hand, low proficiency in English for students and lecturers has caused a negative attitude towards learning and teaching engineering courses through EMI, as it obstructs subject content comprehension. Despite the obstacles linked with their limited English proficiency,

students and lecturers have mostly used code-switching among other strategies to carry out academic activities.

Findings on EMI challenges suggest that there is a need to develop the students' receptive and productive skills in English. This would be possible if a preparatory period was put in place for the newly admitted students to undergo intensive English courses. The current practice of having English courses alongside other domain-specific courses overloads the students to the extent that they have less time to learn English.

Proficiency in English should be a requirement for graduation at all levels of education in Rwanda so that learning English is taken seriously. English proficiency qualifications should be required for teaching jobs, preferably a B1 (Independent user) or C1 (Advanced) level. Otherwise, teachers with poor English proficiency will most likely produce students with limited English proficiency as one lecturer complained,

> [...] Look! I was taught in English by lecturers who didn't master English, and I didn't master English as well. So, do you expect me to teach in English only when I was not taught in English only? Do you expect my students to know English if they were taught by lecturers like me? It is a cycle, and I don't know when that cycle will be broken (Lect. 4).

Education stakeholders should also put much effort into nursery, primary and secondary education levels as it is easier to manage students' academic and extracurricular activities such as debating clubs. In addition, it is at the lower levels of education that the chances of learning a second language are higher than those of adults, as Scovel (1988) explained that second language acquisition declines with age in what is known as the Critical Period Hypothesis. The need to scale up the English proficiency from the lower education levels is shared by the interviewed lecturers. One respondent suggested that: "[...] *policymakers should enforce EMI in primary and secondary education, it will then be automatic at tertiary level since everyone will have become proficient in English* [...]" (Lect. 4).

English language can be effectively learnt if students are helped to use English in different contexts. Therefore, schools can play a vital role

in developing the students' communicative competence i.e. the discursive competence (fluency), grammatical competence (precision), sociolinguistic competence (adequacy) and strategic competence (efficacy) (Alejo, 2014). In Rwanda, schools are almost the only conducive environments for learning English, as students are exposed to English language input in form of class lectures, readings, presentation of assignments, and interaction with teachers.

Since the findings have shown that code-switching and the predominant use of L1 are common practices in engineering classes, Higher Education Council (HEC), as a regulatory agency, should establish regulations for the effective use of L1 or code-switching. Curle, S. et al.(2020) pointed out that L1 is used in EMI classes to increase classroom interaction and enhance comprehension by providing explanations of domain-specific terminologies. Guidelines about the use of L1/Code-switching would limit the excessive use of translanguaging while at the same time helping students and lecturers with limited English proficiency to successfully accomplish their daily academic tasks.

References

Agajie, B. A. (2020). Factors Affecting English Medium of Instruction within Injibara. *Journal of Education and Practice*, 11(10), 26-33.

Alejo, A. A (2014). *Different methodologies teaching English.* Final Degree Project. Universidad De Valladolid, Escuela De Educación De Soria.

Anne Ratna S (2017). Controversy behind Applying EMI (English as the Medium of Instruction) among EFL Students. *Advances in Social Science, Education and Humanities Research (ASSEHR)*, vol. 82, 58-63

Baker, C. (1992). *Attitudes and Language*. Clevedon: Multilingual matters Ltd.

Ball, P., & Lindsay, D. (2013). Language demands and support for English-medium instruction in tertiary education: Learning from a specific context. In A. Doiz, D. Lasagabaster, & J.M. Sierra (Eds.), *English-medium instruction at universities: Global challenges*, 44–61. Multilingual Matters.

Chan, S. (2015). Linguistic challenges in the mathematical register for EFL learners: Linguistic and multimodal strategies to help learners tackle mathematics word problems. *International Journal of Bilingual Education and Bilingualism*, 18(3), 306–318. https://doi.org/10.1080/13670050.2014.988114

Choi, T. H. (Forthcoming). An Analytical Framework of Implementation and Impact of Language-in-Education Policies: Insights from South Korea and Hong Kong. In K. J. Kennedy, & J. C.-K. Lee (Eds.), *Handbook for Schools and Schooling in Asia*. London: Routledge. https:/ (pp. 1-12). London: Routledge. Retrieved July 23, 2021, from https://www.researchgate.net/publication/319416511

Cohen, D., & Crabtree, B. (2006, July). *Reflexivity*. Retrieved June 17, 2021, from Qualitative Research Guidelines Project: http://www.qualres.org/HomeRefl-3703.html

Curle, S. et al. (2020). English Medium Part 1: Literature review. In: N. Galloway (Ed.) *English in higher education*. London: British Council, 977–8.

Dulay, H., Burt,M.,& Krashen, S. (1982). *Language two*. New York: Oxford University Press.

Evans, S., & Morrison, B. (2011). Meeting the challenges of English-medium higher education: The first-year experience in Hong Kong. *English for Specific Purposes*, 30(3), 198–208. https://doi.org/10.1016/j.esp.2011.01.001

Garland, R. (1991). The mid-point on a rating scale:Is it desirable?. *Marketing Bulletin*, Volume 2, 66-70.

Heckhausen, H. (1991). *Motivation and Action.* New York: Springer.

IvyPanda. (2019, January 3). *The Role of Language in Cognitive Psychology.* Retrieved March 3, 2022, from IvyPanda: https://ivypanda.com/essays/the-role-of-language-in-cognitive-psychology/

Kagwesage , A. M. (2013). *Coping with English as Language of Instruction in Higher Education in Rwanda*. International Journal of Higher Education, 2(2), 1- 12.

Kang, S. & Park, H. (2005). English as the medium of instruction in Korean Engineering education. *Korean Journal of Applied Linguistics*, 21(1), 155–174.

Kırkgöz, Y. (2005). Motivation and student perception of studying in an English-medium University. *Journal of Language and Linguistic Studies* (1), 101–123.

Kırkgöz, Y. (2009). Students' and lecturers' perceptions of the effectiveness of foreign language instruction in an English-medium university in Turkey. *Teaching in Higher Education*, 14(1), 81–93. https://doi.org/10.1080/13562510802602640

Kirkpatrick , A. (2011). Internationalization or Englishization: Medium of instruction in today's universities. *The Asian Journal of Applied Linguistics*, 1(2014), 4-15.

Obura, A. P. (2003). *Never Again. Educational reconstruction in Rwanda*. Paris: UNESCO-IIEP.

Pearson, P. (2016). *Language Policy in Rwanda: Shifting Linguistic and Educational Landscape.* PHD Dissertation. Georgia: Georgia State University.

Plonski, P., Teferra, A., & Brady, R. (2013). Why Are More African Countries Adopting English as an Official Language? *African Studies Association Annual Conference* (pp. 1-26). Baltimore, Maryland: Plonski, P. Retrieved April 23, 2022, from https://www.booksforafrica.org/assets/documents/2013-ASA-Conference---English-Language-in-Africa-PAPER.pdf

Samuelson , B. L. & Freedman, S. W. (2010). Language policy, multilingual education, and power in Rwanda. *Language Policy*, Volume 9, 191-215.

Sawahel, W. (2015, November 23). *Arab Countries Last in Global Test of English Proficiency*. Retrieved July 23, 2021, from Al-Fanar media: https://www.al-fanarmedia.org/2015/11/arab-countries-last-in-global-test-of-english-proficiency/

Scovel, T. (1988). *A Time to Speak. A Psycholinguistic Inquiry into the Critical Period for Human Speech*. New York: Newbury House.

Sibomana, E. (2014). The acquisition of English as a second language in Rwanda: challenges and promises. *Rwandan Journal of Education*, 2(2), 19-30.

Tabaro, C. (2019). Rwandan attitudes towards English: A case study of secondary school learners in Kigali City. *International Journal of Contemporary Applied Researches*, 6(5), 196-217.

Tsui, C. (2017). Teacher Efficacy: A case study of faculty beliefs in an English-Medium Instruction Teacher Training Program. *Taiwan Journal of TESOL*, 15(1), 101–128.

Wang, C. (2021). The Relationship between Teachers' Classroom English Proficiency and Their Teaching Self-Efficacy in an English Medium Instruction Context. *Front. Psychol.* , 12(611743), 1-9.

Effective Interventions for Enhancing Academic Achievement in Higher Education: Views of Entrepreneurship Students

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Abstract: Entrepreneurship is considered a vehicle for fighting unemployment in developing countries such as South Africa. As a result, research focusing on entrepreneurship education continues to gain traction. Graduates of tertiary institutions are expected to contribute meaningfully either through employment or job creation. This expectation puts the role of tertiary institutions in converting students into graduates in the spotlight. Tertiary institutions deal with many challenges, such as the heterogeneity of the student population, which calls for evidence-based interventions that are tailor-made to the needs of specific cohorts. Thus, various stakeholders should support tertiary institutions by helping them achieve the desired graduate attributes. This paper sought to suggest effective interventions that would enhance the academic success of entrepreneurship students and prepare them to become future job creators. Interventions should capitalize on students' strengths and improve on their weaknesses. The researchers argue that interventions to promote academic success should consider students' abilities and drive to complete qualifications, lecturers' teaching methods, and graduate attributes required by society. The study used a quantitative approach to address the research question and collected data from 204 undergraduate entrepreneurship students at a technology university in South Africa. The study suggests effective interventions from descriptive statistics. This study reveals the importance of understanding students' backgrounds, entrepreneurial attributes and teaching methods when designing academic

https://doi.org/10.24193/JRHE.2023.1.4

interventions. Implications to the academic administrators and lecturers as well as recommendations for future studies are flagged.

Keywords: academic interventions; entrepreneurship education; general systems theory; entrepreneurship students; evidence-based interventions; teaching methods.

https://doi.org/10.24193/JRHE.2023.1.4

Introduction and background

Higher education institutions (HEIs) produce knowledge that benefits society in various forms. The knowledge produced by HEIs is in the form of students who graduate with different skills and abilities, including the research produced by these institutions of higher learning. Expectedly, employers expect graduates of HEIs to possess the requisite skills for their various operations (Horn & Moesta, 2019). Owing to various reasons, organisations are unable to hire graduates of HEIs. Some of these reasons are linked to HEIs not producing the requisite skills that employers need and the financial inability of the employer to hire as many graduates as he needs (Omopariola et al., 2020; Shava, 2021). Closely linked to HEIs not producing the requisite skills is their inability to clearly define their graduate attributes (Green, Hammer & Star, 2009; Winberg et al., 2018) and as such HEIs fail to offer programmes that represent what the HEI stands for. Graduate attributes relate to the skills, personal attributes, and values which should be acquired for the world of work by graduates while studying, regardless of discipline or field of study (Smith & Bath, 2006; Bridgstock, 2009). Essentially, graduate attributes should reflect student outcomes in relation to the professional standards of employers and employability (Oraison, Konjarski & Howe, 2019). Graduate employability can also take place through the uptake of entrepreneurial activity by graduates. Bustamam, Mutalib and Yusof (2015) noted the value of entrepreneurship training in nurturing an entrepreneurship culture among students, often leading to setting up a venture after graduation. Entrepreneurship has been touted as a crucial pillar in socioeconomic development discourse owing to its capacity to address inequality, poverty, and unemployment. Therefore, understanding what constitutes success and how it can be achieved among entrepreneurship students is crucial to the sustainability of an emerging economy such as South Africa.

According to Horn and Moesta (2019), it is important to understand what students intend to achieve when they enrol in a higher education institution to avoid unwanted outcomes. Interestingly, a poor high school education system ill-prepares students for tertiary-level studies (Scholtz & Allen-lle, 2007). Since high school performance

predicts university performance (McKenzie & Schweitzer, 2001), tertiary institutions have a challenging role in a country with a poor high school education system. While Du Toit and Kempen (2018) alluded to the potential contribution of the high school curriculum towards youth entrepreneurship education, they decried the explicit inclusion of entrepreneurship in learning content in South Africa in several exit-level high school curriculum subjects. For example, a survey of the learners' perceptions of the efficacy of entrepreneurship education (Nchu, Tengeh & Hassan, 2015) pointed out the inadequacy of high school entrepreneurship education to inspire students to choose an entrepreneurship career despite their eagerness to become entrepreneurs. Understanding the pre-enrolment factors of students can help institutions design academic interventions to promote student success (Young, 1989; Potgieter & Van Schoor, 2011).

While many scholars across the globe have attempted to understand the dynamics around student success, predicting academic performance remains complex (Mthimunye & Daniels, 2019; Pather, 2015). This view is upheld in a recent study (Sibanda & Iwu, 2021a), suggesting that academic administrators should regard students' academic journey as a dynamic system. Academic administrators at a university hold leadership positions in various academic departments or administrative units, responsible for supervising and managing the day-to-day operations of the academic programmes and services offered by the university, including academic advisors, registrars, deans, and admissions. Studies have also examined varying aspects of student success along the lines of input, process, and output. For example, some scholars focused on inputs and attempted to predict the pre-enrolment factors (Te Wierik, Beishuizen & Van Os, 2015). Others, such as (Perger & Takacs, 2016; Alshammari et al., 2017; Okoedion, Okolie & Udom, 2019) focused on the process by investigating the post-enrolment factors perceived as influential towards students' academic performance. Burger (2017) alludes to the importance of investigating pre- and post-enrolment factors rather than factors in isolation, thus focusing on both the input and process. Pre-enrolment factors influence academic achievement before a student enrols in a university, such as socio-economic status. In contrast, post-enrolment factors are the factors that influence academic achievement after a student has enrolled in university, such as support services rendered by a

university. Therefore, this study proposes classifying the focus of various student interventions on whether they aim to improve the input, process, or output.

The paper progresses as follows: Next is the literature that explains the term success to boost an understanding of the focus of this paper. Following this will be a contextual definition of academic achievement, a description of entrepreneurial education in South Africa and the teaching methods in entrepreneurship. The method which was used in carrying out this study follows where after the results are discussed along with our concluding remarks.

Academic achievement

While some authors use the phrases "academic success" and "academic achievement" interchangeably (see Parker et al., 2004), York, Gibson and Rankin (2015) define academic achievement as an element of student success which is measured by grades (course or assignment) and Grade Point Average. In line with the above, academic achievement refers to the ability of students to pass their assignments, examinations and semester to progress to the next educational level.

Every institution's goal is to achieve high throughput rates; hence South Africa's Department of Higher Education and Training (DHET) calls for all universities to offer evidence-based interventions to support students through the University Capacity Development Programme (UCDP) (DHET, 2020). Through the UCDP, institutions should analyze data and critical risk factors in their student populations, then design interventions to ensure better course choices and support for students entering their programs. Access to higher education should match a reasonable chance of success (DHET, 2020; Maree, 2015; Myburgh, 2018).

Student voices are crucial for effective institutional support (Blaich & Wise, 2021), thus making interventions relevant to the students' needs. A United Kingdom-based study by Thomas, Hill, O'Mahonny, and Yorke (2017) prescribes a set of aspects that characterize effective interventions. They suggest that effective interventions should be evidence-based, relevant, customized to address identified issues, academic purpose, mainstream delivery, facilitate collaboration and ongoing collaboration, and be monitored.

Therefore, this study aims to address the question: Which strategies can maximize entrepreneurship students' academic achievement in HEIs?

An overview of entrepreneurship education in South Africa

Spinelli and Adams (2016:77) define entrepreneurship which revolved from Jeffry A. Timmons, as "*a way of thinking, reasoning, and acting that is opportunity obsessed, holistic in approach, and leadership balanced for the purpose of value creation and capture*". Entrepreneurship education refers to all the activities that aim to develop and improve the entrepreneurial inspiration, awareness, knowledge, and skills needed to successfully establish and run entrepreneurial ventures (Ozaralli & Rivenburgh, 2016), which holistically addresses the elements in the Timmons Model of Entrepreneurial Process (TMEP), mainly opportunity, resources and team (Spinelli & Adams, 2016). Shambare (2013) argues that entrepreneurship education should aim to develop students to consider an entrepreneurship career by building their critical thinking and problem-solving skills, taking advantage of new technologies, and building their management skills (Herrington, Kew & Mwanga, 2017). Therefore, the overall aim of entrepreneurship education is to impart entrepreneurial knowledge that would transform individuals to be entrepreneurial.

Teaching methods in entrepreneurship

There are mixed views on effective teaching methods in entrepreneurship education, which could be one of the reasons for entrepreneurship courses' ineffectiveness. In South Africa, Mamabolo (2017) decried the disparity between the skills taught in the classroom and industry expectations. Thus, the quality and relevance of entrepreneurial curricula should be in line with the industry's needs (Herrington & Kew, 2016). Interestingly, Sirelkhatim and Gangi (2015) found varying curricula content and teaching methods of entrepreneurship courses relate to what each course intends to achieve. Some courses promote entrepreneurial awareness, while some aim to produce graduates ready to establish a business, and others purposely develop entrepreneurial mindsets or competencies. Therefore,

entrepreneurship courses should be clear on what they intend to achieve.

Entrepreneurship education is used to influence the behavior of students by developing entrepreneurial attributes. Prior knowledge and experience of the students are important when seeking to develop their entrepreneurial attributes, as these can be sources of business ideas for some (Van Der Veen & Wakkee, 2004). Thus, having a pre-enrollment profile becomes an essential starting point for initiating relevant teaching strategies.

Some studies (for example, Farrington, Gray & Sharp, 2011; Ozaralli & Rivenburgh, 2016) suggest specific teaching methods without factoring in the importance of course objectives. Almost a decade ago, Farrington, Gray and Sharp (2011) alluded to the importance of exposing students to entrepreneurial experiences frequently: through entrepreneur mentors, job shadowing in an entrepreneurial setup, structured interviews with entrepreneurs, inviting role models as guest speakers, giving practical assignments to students, and structuring qualifications to include internships. Ozaralli and Rivenburgh (2016) support the above view and maintain that instead of restricting entrepreneurship education to the classroom, there is a need to follow an integrated approach that links classroom teaching with real-life experiences.

Similarly, Fatoki (2014a) recommends both traditional and non-traditional methods for teaching entrepreneurship. For example, a combination of practical business and incubation support based on the needs of students can develop students' entrepreneurial intentions (Adjei, Broni-Pinkrah & Denanyoh, 2014). One way to expose students to entrepreneurship is to focus on teaching methods that develop creative thinking, helping students be innovative, thus exploiting change as an opportunity for different services or businesses (Booysen, 2014). Therefore, researchers should clearly state when to apply integrated teaching methods.

An Australian study by Jones and English (2004) suggests an action-oriented teaching style that supports experiential learning, focusing on problem-solving, project-based learning creativity, and peer evaluation towards entrepreneurship programs. In a South African context, Shambare (2013) argues that tertiary institutions in business and entrepreneurship training lack a practical component, an issue

evident in most South African institutions (Botha & Bignotti, 2016) and high schools (Nchu et al., 2015). The University of Pretoria implemented a practical teaching approach in an entrepreneurship module, resulting in a positive outcome (Strydom & Adams, 2009). Hence, the perceived value of including practical teaching approaches to promote entrepreneurial learning (Mamabolo, 2017; Musetsho & Lethoko, 2017).

Many studies then investigated the lack of practical components in entrepreneurial education, thus recommending a practical approach to entrepreneurship education (Herrington et al., 2017; Lekoko, Rankhumise & Ras, 2012; Ozaralli & Rivenburgh, 2016). Recent studies recommend the adoption of practical work-based learning for developing students' entrepreneurial competencies and bridging the gap between theory and practice (Lose, 2021; Matsoso & Benedict, 2020). The Global University Entrepreneurial Spirit Students' Survey (GUESSS) from 2018 highlights the essence of students working in start-ups to boost their entrepreneurial intentions and activities (Sieger, Fueglistaller, Zellweger & Braun, 2018). Thus, practical projects offered at HEIs would increase students' entrepreneurial intentions (Mamabolo, 2017). Working on projects would further strengthen identifying co-founders for any potential business ventures (Sieger et al., 2018). An example of the above is a study of 12 highly ranked universities and international business schools by Nieuwenhuizen, Groenewald, Davids, Rensburg and Schachtebeck (2016), revealing a preference for teaching practical assignments over traditional classroom approaches.

Despite the importance of including a practical component at South African institutions offering business and entrepreneurship training, there are some challenges. For example, Botha and Bignotti (2016) cited some difficulties associated with administering internships, such as administrative capacity issues, difficulty in scouting, managing, and controlling internship programs for students, issues with curriculum redesign, and lack of capacity of small business owners to mentor interns. Therefore, tertiary institutions should consider the above points to include a practical component in entrepreneurship offerings.

While students can learn a lot from entrepreneurs participating as lecturers, the authors argue that attracting entrepreneurs into full-

time lecturing positions is challenging. Drawing from the possibility of entrepreneurs sharing their experiences, Thrikawala (2011) suggests that entrepreneurs take up lecturing positions. Such experiences may encourage students to consider entrepreneurship a career (Boldureanu, Ionescu, Bercu, Bedrule-Grigoruța & Boldureanu, 2020). For example, Iwu et al. (2021) call for a relevant and adequate curriculum presented by a competent lecturing team. However, one of the attributes of entrepreneurs is being independent. Thus, a nine-to-five job may not be attractive to entrepreneurs. A potentially viable option would be for education administrators to invite young, successful entrepreneurs to participate in educational programs (Fatoki, 2014b; Herrington et al., 2017) as guest speakers or mentors.

Scholars have divergent views on effective teaching methods for entrepreneurship education from the literature reviewed. While some scholars advocate for theory-based methods, some encourage practice-based methods, and some advocate for both. Sirelkhatim and Gangi (2015) discuss three general themes of content and teaching methods for entrepreneurship education, and these are teaching "about" entrepreneurship, teaching "for" entrepreneurship and teaching "through" entrepreneurship. This paper recommends that universities continuously review and align their entrepreneurship offerings targeting specific areas of business requirements (Viviers, Solomon & Venter, 2013). While Van Der Veen and Wakkee (2004) opine that offering education and training increases the chances of individuals finding a promising idea, in this study, we add that, apart from the above, entrepreneurship education develops various elements of the entrepreneurial process refers to teaching "about" entrepreneurship. Thus, it equips entrepreneurs at every stage of the entrepreneurial process. While Van Der Veen and Wakkee's 2004, is of the view that the entrepreneurial process is dynamic and iterative instead of being linear and sequential. However, entrepreneurship education should also further develop an entrepreneurial mindset (teaching "for" entrepreneurship) and be integrated into various curricula in different subjects (teaching "through" entrepreneurship) (Piperopoulos & Dimov, 2014). Entrepreneurship courses should be clear on whether they are teaching "about", or "for", or "through" entrepreneurship. Therefore, the researchers argue that teaching methods should be informed by the course objectives and applied with caution.

Proposed theoretical model

In this section, we propose a theoretical model for improving students' academic achievement that is used to structure our discussion. Education administrators should consider students' attitudes and capabilities before offering effective interventions. This study combines concepts from two theories: the Tripartite Model of Motivation for Achievement (TMMA) by Tuckman (1999) and the General Systems Theory (GST) by Von Bertalanffy (1968). This empirical study extends the study mentioned above by investigating the possibility of deriving interventions using a combination of GST and TMMA. Sibanda and Iwu (2021a) recently applied the General Systems Theory in a non-empirical study to understand students' journeys. They suggest that higher education academic administrators and lecturers consider using the GST to design academic interventions.

Building from McCombs and Marzano (1990), who assert that student academic achievement is the outcome of two principal factors: "skill" and "will", Tuckman (1999) based student achievement on three factors: (i) student attitude or belief to attain the academic outcome; (ii) the student's drive or desire to maintain the outcome; (iii) the strategy or technique employed by the student to attain the outcome. In proposing TMMA, Tuckman (1999) believes that the combination of attitude, drive, strategy and motivation for achievement are unidirectional; hence they can be used to understand and implement student motivation in an educational setting. The various elements in the TMEP are entrepreneurial characteristics which students come with when they enrol and can be developed with time. Figure 1 presents the conceptualized process of improving students' academic achievement.

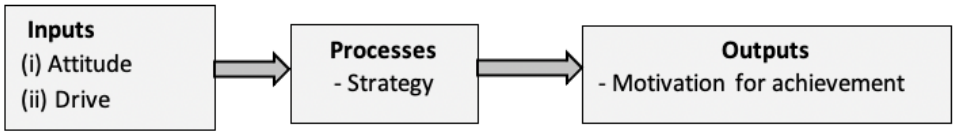

Figure 1. A proposed theoretical model for improving students' academic achievement adapted from Sibanda and Iwu (2021a)

According to Von Bertalanffy (1968), GST demonstrates how interrelated knowledge and the world are. GST suggests an ideal point of departure for bringing together varied scientific traditions. It essentially challenges the silo approach of viewing science and, to an extent, knowledge by suggesting an underpinning relationship between the different scientific thinking (Kast & Rosenzweig, 1972). Though initially proposed by the biologist Bertanlaffy in the 1920s, GST is accepted and applied in several fields, and it is commonly used in business and organizational management (Kast & Rosenzweig, 1972). GST will enable the authors to synthesize and analyze ideas related to diverse fields, such as entrepreneurship, in this paper.

Methodology

This study employed an empirical approach to suggest interventions for improving the success of entrepreneurship students. This study gathered data from 204 Entrepreneurship students at a University of Technology (UoT) using a self-designed questionnaire developed from the literature review. The questionnaire consists of closed-ended questions gathering demographic information, students' pre-enrolment profile, pre-enrolment factors perceived to have influenced high school academic performance, including the entrepreneurial profile of the students, and institutional support and development. Questions 2.1 to 2.15 are pre-enrolment profile and pre-enrolment factors (Tinto, 1975), developed in light of what describes the students before they enrol at university, input under the GST and attitude under the TMMA. The entrepreneurial profile (Questions 2.16 to 2.25) is inspired by the various TMEP elements (Spinelli & Adams, 2016), which are entrepreneurial characteristics. The institutional support and development (Questions 3.1 to 3.9) are institutional student support through the curriculum. The questionnaire had 25 non-demographic-related statements identified from the literature review. The questions and responses were coded and changed into numbers to enable a computer to make sense of the data for further investigation (Babbie & Mouton, 2001).

The first nine statements focused on the pre-enrolment profiles and were dichotomous, requiring 'Yes' or 'No' responses. The remaining 34 used a four-point Likert scale (SD = Strongly Disagree, A = Agree, D =

Disagree, and SD = Strongly Disagree). These scales (SD, D, A, SA) were then assigned numbers from 1 to 4 to capture the responses to enable data analysis (Zikmund, Babin, Carr & Griffin, 2010). The study utilized Cronbach's Alpha test to measure the consistency of the variables. These 25 statements, which used Likert-scale questions, had a Cronbach's alpha of 0.756, above the widely accepted ratio of 0.7 (Foxcroft & Roodt, 2009). Furthermore, the study utilized descriptive analysis to determine and compare the frequencies of the study variables.

The Research Ethics Committee of the UoT in question granted permission and ethics clearance for the study. The Department of Entrepreneurship gave additional permission to access students in the department. Of the 300 questionnaires distributed, 204 (68%) were usable for the study. The researchers clarified that participation was not compulsory and that data would be treated confidentially, would only be used for research purposes, and participants would be anonymous. Data were captured and analyzed using the Statistical Package for Social Sciences (SPSS) Version 26, an established statistics package.

Results and findings

Participants were from the Extended Curriculum Program (ECP) first-year level to the mainstream third year. Of the 204 participants, 33% were first-year mainstream students, with second and third-year mainstream students with 26.5% and 20.6%, respectively. Figure 2 is a stacked bar chart presenting the results of the students' responses. Next, the results are described in three sections: the pre-enrolment profile, the entrepreneurial profile, and the uptake of academic support services.

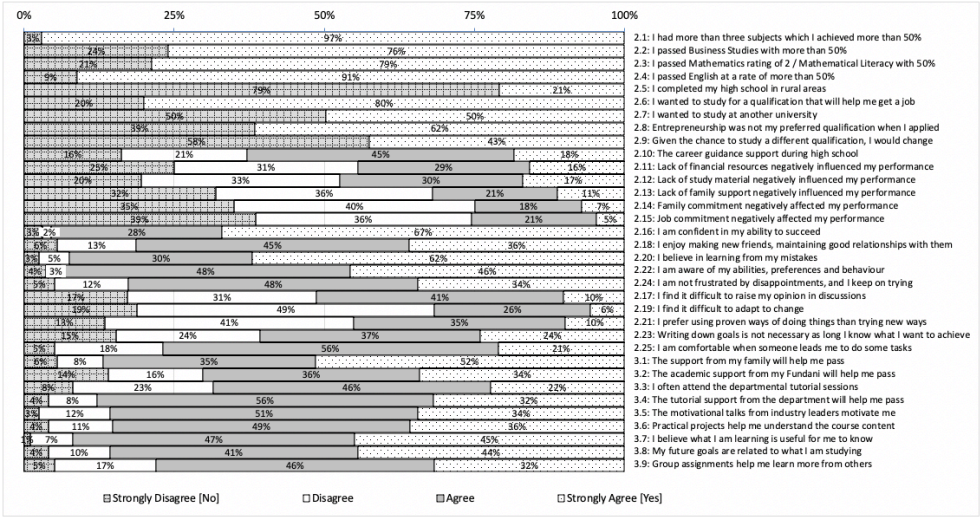

Figure 2. Frequency of questionnaire statements

Students' pre-enrolment profile

From Figure 2, the following is evident: most students met the entry requirements for a diploma in entrepreneurship (statements 2.1 to 2.4), completed high school in urban areas (statement 2.5 with 79%), and did not choose an entrepreneurship diploma as first choice (statements 2.6 and 2.8); half would consider switching to another qualification (statement 2.9); almost half had ambitions of studying at another institution (2.7).

Among the investigated factors, the frequencies show that more than half of the students agree that career guidance support influenced their high school performance (statement 2.10). However, most students do not attribute their high school academic performance to a lack of financial resources, study material, family support, job, and family commitments (see statements 2.11 to 2.15). This finding resonates with statement 2.5, in which 79% of students show that they completed their high school in urban areas.

Students' entrepreneurial profile

Statements 2.16 to 2.25 relate to the entrepreneurial traits of the students. Of the ten statements, students are of the view that they

exhibit eight entrepreneurial characteristics: confidence (statement 2.16), networking (statement 2.18), adaptability (statement 2.19), learning from mistakes (statement 2.20), creativity (statement 2.21), self-awareness (statement 2.22), writing down goals (statement 2.23), and persistence (statement 2.24). In two statements, students agree with their lack of ability to participate in discussions (statement 2.17) and leadership skills (statement 2.25).

The uptake of academic support services

Statements 3.1 to 3.9 relate to the students' views on the academic support's awareness, uptake and relevance. Over 66% of the students are aware of and utilize the institutional support (Fundani academic writing services and the tutorial system) (statement 3.2, statement 3.3, and statement 3.4), value the motivational talks from industry leaders (statement 3.5), practical projects (statement 3.6), the relevance of the curriculum (statement 3.7), towards their goals (statement 3.8). Students also value the importance of group assignments (statement 3.9) and family support (statement 3.1).

Discussion

The discussion focuses on the inputs and processes which eventually influence the output. Thus, this study addresses the research question: *What interventions can maximize entrepreneurship students' academic achievement in HEIs?*

Strategies for students' academic achievement improvement

As presented in Figure 2, the pre-enrolment profile of the students describes young individuals with high self-efficacy. The students perceive themselves as having met entry requirements for many higher education qualifications, wanted to study for a qualification leading to a job after graduation, and were studying towards a second or third preferred qualification. The researchers argue that these students need the motivation to complete the entrepreneurship qualification. Otherwise, they may drop out. Students' profiles should inform

interventions to help students achieve their qualifications. The suggested interventions target the input and process stages of the GST.

Interventions toward the input stage

(a) Promotion of career guidance at an early stage

As alluded to in earlier studies (Adam, Backhouse, Baloyi, & Barnes, 2010; Leshoro & Jacobs, 2019), this study reports the under-preparedness of the students for higher education. While students show high self-efficacy, their pre-entry results show that they did not enter preferred qualifications. Instead, these students were admitted into a qualification against their career aspirations. It is worth noting that most students who secure study places at a UoT would have matriculated with a diploma endorsement on their matric certificate.

Most students want to pursue a qualification that guarantees employment after graduation rather than an entrepreneurship qualification. Thus, two decades ago, a trend pointed out (Kroon, De Klerk & Dippenaar, 2003; Kroon & Meyer, 2001) is still evident among students. This trend calls for HEIs to participate in early career guidance (2.10) initiatives, such as high school. This initiative can positively impact students during their preparation for tertiary-level paths.

The lack of financial resources can contribute to the lack of career guidance. Students with financial challenges may barely visit career fair events (statement 2.10). It would be ideal for schools, government, companies, tertiary institutions, and parents to promote career guidance supporting earlier recommendations (Kroon et al., 2003; Te Wierik et al., 2015; Maila & Ross, 2018). Schools may host career fairs to invite guest speakers from both the private and public sectors to present various career paths that students can follow. For example, the private sector may sponsor high school students to attend university career fairs. As a result, students may become familiar with the possible options they can pursue at the tertiary level (Sibanda & Iwu, 2021b).

Additionally, private companies may be encouraged to participate in entrepreneurship development by sponsoring school

career fairs as part of their social responsibility initiatives or by financially supporting schools sending final year students to attend university career fairs. Various stakeholders' promotion of career guidance at a national level helps matriculants become career-ready and make informed decisions before commencing higher education studies (Dodd, Hanson & Hooley, 2021).

(b) Tightening student recruitment

Since the majority (80%) of students (statement 2.6) wanted to study a qualification leading to a job, which Viviers et al. (2013) describe as a common trend, this might suggest the need for the entrepreneurship department to review their student selection process to attract those who are keen to take up entrepreneurship education. The department can achieve this in three ways: (i) the application process can include a requirement by students to motivate their interest in studying entrepreneurship, (ii) conducting interviews before enrolment, or (iii) administering a test in the form of a questionnaire aimed at determining the willingness of prospective students to study entrepreneurship.

Suggested interventions toward the process stage

Apart from the interventions towards the inputs, next, this paper discusses suggestions for the process of a system.

(a) Measurement of students' entrepreneurial profile

This study found the need to understand the needs of every cohort and ensure that appropriate academic interventions are applied to relevant cohorts to manage the associated dynamics. This finding confirms a study by Matoti (2010) and is in line with the expectations of the DHET for universities to monitor interventions (DHET, 2020) carefully. Thus, the study suggests that the entrepreneurship department periodically measures students' perceptions of their entrepreneurial profiles. For example, even though entrepreneurship was either the second or third choice for most students, they eventually

became interested in the qualification. Such interesting insights may inform academic administrators about the students' adaptability.

(b) Measurement of the uptake of interventions

Student voices are essential to ensure effective interventions. From the results of statements 3.7 and 3.8, students affirmed the relevance of the curriculum to their goals. This finding confirms students' adaptability to a new discipline, an entrepreneurial characteristic they exhibit, which agrees with statement 2.19. Knowing that students can adapt to new situations, academic administrators may consider adjusting the curriculum to delve deeper into corporate entrepreneurship.

(c) Promote corporate entrepreneurship to students

This study suggests that the entrepreneurship department promotes corporate entrepreneurship as a career based on two findings. Firstly, the findings show that students were underprepared for higher education, as revealed in their career aspirations. Secondly, students have adapted and eventually found the entrepreneurship qualification helpful towards their future goals despite a career change experienced (see statements 3.7 and 3.8).

The findings from statement 2.10 (career guidance during high school) compared with three statements: 2.6 (desire to study a qualification leading to a job), 2.8 (entrepreneurship being not the preferred qualification of study), and 2.9 (desire to change qualification), present an exciting pattern: students intending to seek employment than creating employment. Lecturers should continually remind students of the possibility of getting work in companies that embrace corporate entrepreneurship. The entrepreneurship department can promote corporate entrepreneurship through the lecturers and the private sector, such as companies. Therefore, the entrepreneurship department should promote corporate entrepreneurship at all study levels.

Curriculum developers can infuse corporate entrepreneurship in group assignments, motivational talks from guest speakers, and practical projects. Jones and English (2004) suggest an action-oriented

teaching style supportive of experiential learning, focus on problem-solving and project-based learning, creativity, and peer evaluation for entrepreneurship courses. For example, a practical teaching approach was implemented in one of the entrepreneurship modules and yielded a positive outcome at the University of Pretoria (Strydom & Adams, 2009; Mamabolo, 2017). Furthermore, research by Herrington and Kew (2016) supports the restructuring of the formative assessments to include activities such as projects and competitions. Thus, lecturers can design formative assessments to develop knowledge and understand instilling corporate entrepreneurship.

Both government entrepreneurial agencies and social organizations promoting entrepreneurship should spearhead the promotion of corporate entrepreneurship. Companies should consider supporting corporate entrepreneurship by working with entrepreneurship departments to offer internships to gain experience in entrepreneurial organizations. This suggestion supports Kroon et al.'s (2003) finding that students could be employed during holidays to gain practical exposure. The entrepreneurship department should also engage with the private sector to ensure that the students build a career in corporate entrepreneurship.

The department may consider the promotion of corporate entrepreneurship through departmental offerings at the university under study, such as through group assignments (statement 3.9), motivational talks (statement 3.5), and practical projects (statement 3.6). Group projects may develop some graduate attributes such as increased entrepreneurship intentions, networking opportunities to identify potential co-founders, and the creation of entrepreneurship teams (Sieger et al., 2018). Furthermore, the department can use such projects to promote entrepreneurship systems to reduce potential administrative barriers for students to become entrepreneurs. Projects may also be used to boost students' creativity, considering the low mean shown in statement 2.21.

The practical projects should be challenging enough to allow students to tackle real-world challenges. An example would be participating in the annual Global Enterprise Experience (GEE). Students are grouped with students from different countries to write a business proposal for a suggested field idea. One of the researchers participated twice in the past. Furthermore, participating in such

challenges would also develop the ability of students to participate in group work, considering the low mean in statement 2.17.

Since the students' career aspirations in the present study lean mostly towards employment, they need assurance that studying entrepreneurship can also lead to work. This pattern is not surprising considering Nchu's (2015) study in the Cape Town Metropole area, which maintains that high school students are not prepared for careers in entrepreneurship but prefer employment. A proactive approach should be taken, considering the intentions of most students to take up work before becoming entrepreneurs. Further, students should be aware of the opportunity cost the longer they wait (Sieger et al., 2018). Thus, students should be encouraged to consider entrepreneurship as a promising and rewarding career path. During the orientation of the students when they join the department, more emphasis should be placed on encouraging students to consider entrepreneurship as a career through corporate entrepreneurship.

Apart from the above, the institution's entrepreneurship department should consider balancing the assignments and the guest speakers to infuse corporate entrepreneurship. One of the findings by GUESS in the 2018 survey was that less than 10% of students from 54 countries would consider entrepreneurship directly after the completion of their studies, while 35% would consider entrepreneurship after five years (Sieger et al., 2018). Thus, emphasizing corporate entrepreneurship would challenge students to take the entrepreneurship route soon after graduation.

Suggested interventions towards input, process, and output stages

Students need family support throughout their educational journey. For example, the role played by family support should also be emphasized during the high school level to prepare students for higher education. Statements 2.13 and 3.1 (refer to Figure 2) confirm the importance of family support throughout students' academic journeys. Support from parents and family positively contributes to completing qualifications (Gaffoor, 2018). Parents should be encouraged to engage with their children and the schools they attend to ensure appropriate

guidance is given to them (Chowdhury & Hossain, 2019). Therefore, families are encouraged to be consistently supportive.

Figure 3, titled "A model for improving entrepreneurship students' academic achievement", summarises the suggested interventions aimed at increasing the students' academic achievement, increasing throughput rate, and promoting the desired graduate attributes and is presented in the form of a system. There are interventions aimed at inputs, and processes and output.

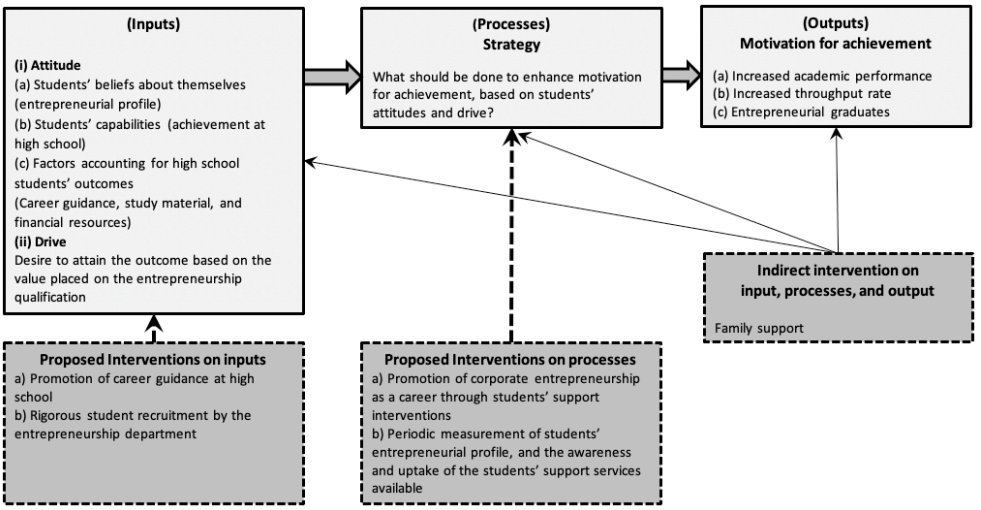

Figure 3. A model for improving entrepreneurship students' academic achievement

Conclusion and recommendations

The paper aimed to suggest evidence-based interventions to maximize entrepreneurship students' academic achievement in HEIs. South Africa needs to find ways to reduce the triple threat in developing countries, namely unemployment, poverty, and inequality. Thus, developing countries should continue to tout entrepreneurship education as the panacea to the triple threat (Bux & Van Vuuren, 2019; Muogbo & Uchechukwu, 2019; Urban, 2016).

HEIs should seek to understand the needs of students towards students' academic achievement, thus engaging them without making assumptions (Blaich & Wise, 2021). The results of this study show that students were underprepared for higher education. However, they have high self-efficacy and exhibit multiple entrepreneurial attributes,

including adaptability to new challenges. This study suggests that academic administrators and lecturers should promote career guidance early, tighten student recruitment processes, measure the students' entrepreneurial profile and their uptake of the institutional support services, and promote corporate entrepreneurship. Thus, the interventions suggested by researchers should be based on students' strengths and weaknesses, for example, (i) under-preparedness for tertiary education (weakness); (ii) high self-efficacy (strength); and (iii) adaptiveness (strength).

There are indications that HEIs offering entrepreneurship education should consider several teaching modes to further the entrepreneurship education discourse. Considering the mixed views on effective teaching methods in entrepreneurship education in the extant literature, the researchers argue that the course objectives should be informed and cautiously applied.

This study has some limitations. Firstly, participants were students from an entrepreneurship department at one UoT in one province of South Africa, thus, limiting the generalization of the research findings in the South African context. The study also focused on entrepreneurship qualifications; therefore, further studies can explore the student interventions in various qualifications under the Business, Economics, and Management Studies cluster. Another option for further research would be to compare students' interventions among qualifications under the Business, Economics, and Management Studies cluster. A variety of potential future research would be to increase the size of the study by focusing on and comparing various groupings such as Education or Engineering. Another limitation is that this study was conducted at a UoT. Therefore, there is room to conduct similar research at traditional or comprehensive universities. Moreover, collaborations can extend the research with other traditional or comprehensive universities.

Furthermore, some studies may compare contact and distance institutions, such as the University of South Africa (UNISA), which has recorded alarmingly low retention rates (DHET, 2020). Besides the above possible studies, qualitative or mixed approaches, such as in-depth interviews and focus groups, could be utilized. Such an option could draw detailed insights regarding the narratives of entrepreneurship students about throughput rates. Above all, this study

uses descriptive statistics, which leaves room for future studies that utilize inferential statistics for the cause and effects of the variables tested in this study. This study may benefit university students, academic administrators, and lecturers as it may reveal valuable information regarding student interventions and teaching methods, hopefully to the advantage of students.

References

Adam, F., Backhouse, J., Baloyi, H., & Barnes, T. (2010). Access and throughput in South African higher education: Three case studies. Pretoria: Council on Higher Education. http://www.che.ac.za/sites/default/files/publications/Higher_Education_Monitor_9.pdf.

Adjei, K., Broni-Pinkrah, S., & Denanyoh, R. (2014). Barriers to entrepreneurship business students in Sunyani Polytechnic of Ghana. *International Journal of Innovative Research & Development*, 3(4), 30-36.

Alshammari, F., Saguban, R., Pasay-an, E., Altheban, A., & Al-Shammari, L. (2017). Factors affecting the academic performance of student nurses: A cross-sectional study. *Journal of Nursing Education and Practice*, 8(1), 60-68.

Babbie, E.R., & Mouton, J. (2001). *The Practice of Social Research*. Cape Town: Oxford University Press Southern Africa.

Blaich, C., & Wise, K. (2021). It's Time to Bring Students into the Conversation About Student Success. *Change: The Magazine of Higher Learning,* 53(6), 4-11. https://www.tandfonline.com/doi/full/10.1080/00091383.2021.1987786.

Boldureanu, G., Ionescu, A. M., Bercu, A. M., Bedrule-Grigoruța, M. V., & Boldureanu, D. (2020). Entrepreneurship education through successful entrepreneurial models in higher education institutions. *Sustainability,* 12(3), 1267. https://doi.org/10.3390/su12031267.

Booysen, K. (2014). Entrepreneurship defined. In I, Van Aardt, & S, Bezuidenhout, (Eds.), *Entrepreneurship & new venture management,* (pp. 3-21). Cape Town: Oxford University Press.

Botha, M., & Bignotti, A. (2016). Internships enhancing entrepreneurial intent and self-efficacy: Investigating tertiary-level entrepreneurship education programmes. *The Southern African Journal of Entrepreneurship and Small Business Management*, 8(1), 1-15.

Bridgstock, R. (2009). The graduate attributes we've overlooked: Enhancing graduate employability through career management skills. *Higher Education Research & Development*, 28(1), 31-44.

Burger, A. (2017). *Factors and experiences related to the academic success of students in the Faculty of the Humanities*, Unpublished PhD thesis, University of the Free State, Bloemfontein.

Bustamam, U. S. A., Mutalib, M. A., & Yusof, S. N. M. (2015). Graduate employability through entrepreneurship: A case study at USIM. *Procedia-Social and Behavioral Sciences*, 211, 1117-1121.

Bux, S., & Van Vuuren, J. (2019). The effect of entrepreneurship education programmes on the development of self-efficacy, entrepreneurial intention and predictions for entrepreneurial. *Acta Commercii*, 19(2), 1-13.

Chowdhury, M. A. M., & Hossain, F. (2019). Factors influencing business students' perception regarding specialization selection: A study on selected private universities in Sylhet, Bangladesh. *International Journal for Advance Research and Development*, 4(9), 27-31.

Department of Higher Education and Training (DHET). 2020. *2000 to 2020 First time entering undergraduate cohort studies for public higher education institutions*. DHET, Pretoria.

Dodd, V., Hanson, J., & Hooley, T. (2021). Increasing students' career readiness through career guidance: measuring the impact with a validated measure. *British Journal of Guidance & Counselling*, 1-13. https://doi.org/10.1080/03069885.2021.1937515.

Du Toit, A., & Kempen, E. L. (2018). The potential contribution of the intended high school curriculum at exit level to the entrepreneurship education of South African youth. *International Journal of Entrepreneurship*, 22(1), 1-16. https://www.abacademies.org/articles/the-potential-contribution-of-the-intended-high-school-curriculum-at-exit-level-to-the-entrepreneurship-education-of-south-african-7026.html.

Farrington, S., Gray, B., & Sharp, G. (2011). Perceptions of an entrepreneurial career: Do small business owners and university students concur? *Management Dynamics: Journal of the Southern African Institute for Management Scientists*, 20(2), 1-17.

Fatoki, O. (2014a). An examination of the teaching methods for entrepreneurship at a South African University. *Mediterranean Journal of Social Sciences*, 5(23), 512-518.

Fatoki, O. (2014b). Parental and gender effects on the entrepreneurial intention of university students in South Africa. *Mediterranean Journal of Social Sciences*, 5(7), 157-162.

Foxcroft, C., & Roodt, G. (2009). *Introduction to Psychological Assessment in the South African Context*, 3rd ed. Cape Town, South Africa: Oxford University Press.

Gaffoor, A. (2018). *Factors influencing programme completion of National Certificate (Vocational) students at a college in the Western Cape, South Africa*. Unpublished Master's Thesis, Cape Peninsula University of Technology, Cape Town.

Green, W., Hammer, S., & Star, C. (2009). Facing up to the challenge: why is it so hard to develop graduate attributes? *Higher Education Research & Development,* 28(1), 17-29. https://doi.org/10.1080/07294360802444339.

Herrington, M., & Kew, P. (2016). *Global Entrepreneurship Monitor South Africa Report 2015/2016: Is South Africa heading for an Economic Meltdown?* University of Cape Town, Cape Town.

Herrington, M., Kew, P., & Mwanga, A. (2017). *GEM South Africa report 2016/2017: Can small Businesses survive in South Africa?* University of Cape Town, Cape Town.

Horn, M. B., & Moesta, B. (2019, October 15). Do colleges truly understand what students want from them? *Harvard Business Review*. https://hbr.org/2019/10/do-colleges-truly-understand-what-students-want-from-them.

Iwu, C. G., Opute, P. A., Nchu, R., Eresia-Eke, C., Tengeh, R. K., Jaiyeoba, O., & Aliyu, O. A. (2021). Entrepreneurship education, curriculum and lecturer-competency as antecedents of student entrepreneurial intention. *The International Journal of Management Education*, 19(1), 100295.

Jones, C., & English, J. (2004). A contemporary approach to entrepreneurship education. *Education + Training*, 46(8/9), 416-423.

Kast, F. E., & Rosenzweig, J. E. (1972). General Systems Theory: Applications for Organisations and Management. *The Academy of Management Journal*, 15(4), 447-465.

Kroon, J., & Meyer, S. (2001). The role of entrepreneurship education in career expectations of students. *South African Journal of Higher Education*, 15(1), 47-53.

Kroon, J., De Klerk, S., & Dippenaar, A. (2003). Developing the next generation of potential entrepreneurs: co-operation between schools and business. *South African Journal of Education*, 23(4), 319-322.

Lekoko, M., Rankhumise, E. M., & Ras, P. (2012). The effectiveness of entrepreneurship education: What matters most? *African Journal of Business Management*, 6(51), 12023-12032.

Leshoro, T. M., & Jacobs, A. (2019). Challenges to admissions in the Extended Curriculum Programme of the Faculty of Business and Management Sciences. *South African Journal of Higher Education*, 33(1), 173-183.

Lose, T. (2021). Perceptions on the role of practical and simulated learning in promoting successful entrepreneurship. *Management*, 5(1), 29-37. https://doi.org/10.21511/kpm.05(1).2021.03.

Maila, P., & Ross, E. (2018). Perceptions of disadvantaged rural matriculants regarding factors facilitating and constraining their transition to tertiary education. *South African Journal of Education*, 38(1), 1-12.

Mamabolo, M. A. (2017). *Human capital investments and skills outcomes specific to the different entrepreneurship phases*. Unpublished PhD Thesis, University of Pretoria, Pretoria.

Maree, J. G. (2015). Barriers to access to and success in higher education: Intervention guidelines. *South African Journal of Higher Education*, 29(1), 390-411.

Matoti, S. N. (2010). Assessing the level of preparedness, preferences, and fears of first-year science students at the Central University of Technology, Free State. *Journal for New Generation Sciences*, 8(1), 135-156.

Matsoso, M. L., & Benedict, O. H. (2020). Work-integrated learning: a powerful connecting tool between classroom and industry. *International Journal of Education Economics and Development*, 11(1), 94-112.

McCombs, B. L., & Marzano, R. J. (1990). Putting the self in self-regulated learning: The self as agent in integrating will and skill. *Educational Psychology*, 25, 51-69.

McKenzie, K., & Schweitzer, R. (2001). Who succeeds at university? Factors predicting academic performance in first year Australian university students. *Higher Education Research & Development*, 20(1), 21-33.

Mthimunye, K., & Daniels, F. M. (2019). Predictors of academic performance, success and retention amongst undergraduate nursing students: A systematic review. *South African Journal of Higher Education*, 33(1), 200-220. https://www.journals.ac.za/index.php/sajhe/article/view/2631/2046.

Muogbo, U. S., & Uchechukwu, E. S. (2019). Entrepreneurship development as a panacea for depressed economy. *International Journal of Business and Applied Social Science*, 5(11), 29-37.

Musetsho, T. R., & Lethoko, M. X. (2017). An evaluative study on the effect of entrepreneurial education curriculum on students at the University of Venda, South Africa. *The Independent Journal of Teaching and Learning*, 12(1), 74-89.

Myburgh, Z. (2018). *University lecturers' agency in enabling student academic success.* Unpublished PhD dissertation, University of Pretoria, Pretoria.

Nchu, R. M. (2015). *The effectiveness of entrepreneurship education in selected high schools in the Cape Town metropolitan*. Unpublished Masters Dissertation, Cape Peninsula University of Technology, Cape Town.

Nchu, R. M., Tengeh, R. K., & Hassan, S. (2015). High school learners' perceptions of the efficacy of entrepreneurship education: The case of selected high schools in the Western Cape, South Africa. *The Scientific Journal of Theory and Practice of Socio-economic Development*, 4(8), 507-526.

Nieuwenhuizen, C., Groenewald, D., Davids, J., Rensburg, L. J., & Schachtebeck, C. (2016). Best practice in entrepreneurship education. *Problems and Perspectives in Management*, 14(3), 528-536.

Okoedion, E. G., Okolie, U. C. & Udom, I. D. (2019). Perceived factors affecting students' academic performance in Nigerian universities. *Educaţia Plus*, 25(2), 26-37.

Omopariola, E. D., Windapo, A., Edwards, D. J., & Thwala, W. D. (2020). Contractors' perceptions of the effects of cash flow on

construction projects. *Journal of Engineering, Design and Technology*, 18(2), 308-325.

Oraison, H., Konjarski, L., and Howe, S. (2019). Does university prepare students for employment? Alignment between graduate attributes, accreditation requirements and industry employability criteria. Journal of Teaching and Learning for Graduate Employability, 10(1), 173–194.

Ozaralli, N., & Rivenburgh, N. K. (2016). Entrepreneurial intention: antecedents to entrepreneurial behaviour in the USA and Turkey. *Journal of Global Entrepreneurship Research,* 6(3), 1-32 https://doi.org/10.1186/s40497-016-0047-x.

Parker, J. D., Summerfeldt, L. J., Hogan, M. J., & Majeski, S. A. (2004). Emotional intelligence and academic success: Examining the transition from high school to university. *Personality and individual differences*, 36(1), 163-172.

Pather, S. (2015). *Pre-entry academic and non-academic factors influencing teacher education students' first-year experience and academic performance*. Unpublished PhD thesis, Cape Peninsula University of Technology, Cape Town.

Perger, M. & Takacs, I. (2016). Factors contributing to students' academic success based on the students' opinion at BME Faculty of Economic and Social Sciences. *Periodica Polytechnica Social and Management Sciences*, 24(2), 119-135.

Piperopoulos, P., & Dimov, D. (2014). Burst bubbles or build steam? Entrepreneurship education, entrepreneurial self-efficacy, and entrepreneurial intentions. *Journal of Small Business Management*, 52(2), 1-11. doi:10.1111/jsbm.12116

Potgieter, D., & Van Schoor, W. A. (2011). How can we retain them? An investigation into the early cancellation of courses in a distance learning institution. *South African Journal of Higher Education*, 25(3), 598-611.

Scholtz, D., & Allen-lle, C. O. K. (2007). Is the SATAP test an indicator of Academic preparedness for first year students? *South African Journal of Higher Education,* 21(7), 919-922.

Shambare, R. (2013). Barriers to student entrepreneurship in South Africa. *Journal of Economics and Behavioural Studies*, 5(7), 449-459.

Shava, E. (2021). Financial sustainability of NGOs in rural development programmes. *Development in Practice*, 31(3), 393-403.

Sibanda, L., & Iwu, C. G. (2021a). The academic journey of entrepreneurship students in Higher Education Institutions – the Systems Theory Approach. *Education: Modern Discourses*, (4), 135-145.

Sibanda, L., & Iwu, C. G. (2021b). Pre-enrolment factors influencing the academic performance of entrepreneurship students in higher education. *Academia,* (25), 90-113. https://doi.org/10.26220/aca.3813.

Sieger, P., Fueglistaller, U., Zellweger, T., & Braun, I. (2018). Global student entrepreneurship 2018: Insights from 54 countries. *Global GUESSS Report*, 1-32.

Sirelkhatim, F., & Gangi, Y. (2015). Entrepreneurship education: A systematic literature review of curricula contents and teaching methods. *Cogent Business & Management,* 2(1), 1-11. https://doi.org/10.1080/23311975.2015.1052034.

Smith, C., & Bath, D. (2006). The role of the learning community in the development of discipline knowledge and generic graduate outcomes. *Higher Education*, 51(2), 259-86.

Spinelli, S., & Adams, R. J. (2016). *New Venture Creation: Entrepreneurship for the 21st Century* (10th Ed.). McGraw-Hill Education: New York.

Strydom, R., & Adams, M. (2009). Evaluating the learning experience of undergraduate entrepreneurship students exposed to an unconventional teaching approach: a South African case study. *The Southern African Journal of Entrepreneurship and Small Business Management*, 2(1), 50-67.

Te Wierik, M. L., Beishuizen, J., & Van Os, W. (2015). Career guidance and student success in Dutch higher vocational education. *Studies in Higher Educatio*n, 40(10), 1947-1961. https://doi.org/10.1080/03075079.2014.914905.

Thomas, L., Hill, M., O'Mahony, J., & Yorke, M. (2017). Supporting student success: strategies for institutional change. *What works? Student Retention and Success Final Report*. London, Leicester and York: Paul Hamlyn Foundation, Action on Access, Higher Education Academy. https://www.phf.org.uk/wp-content/uploads/2017/04/Summary-report-final-no-crop-1.pdf .

Thrikawala, S. (2011). The determinants of entrepreneurial intention among academics in Sri Lanka: *Proceedings of International Conference on Economics and Finance Research*, 4(2011), 454-458.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of educational research*, 45(1): 89-125.

Tuckman, B. W. (1999). *A tripartite model of motivation for achievement: attitude/drive/strategy*. Paper presented at the symposium, Motivational Factors Affecting Student Achievement – Current Perspectives, annual meeting of the American Psychological Association, Boston.

Urban, B. (2016, January 26). *Solving unemployment in South Africa*. Wits University. https://www.wits.ac.za/news/latest-news/research-news/2016/2016-01/solving-unemployment-in-south-africa.html.

Van Der Veen, M., & Wakkee, I. (2004). Understanding the entrepreneurial process. *Annual Review of Progress in Entrepreneurial Research*, 2, 2002-2003.

Viviers, S., Solomon, G., & Venter, C. (2013). Entrepreneurial intentions and behaviours of South African University students. *The Southern African Journal of Entrepreneurship and Small Business Management*, 6(1), 1-20.

Von Bertalanffy, L. V. (1972). The history and status of General Systems Theory. *The Academy of Management Jornal*, 15(4), 407-426.

Von Bertalanffy, L. (1968). *General System Theory: Foundations, Development, Applications*. New York: George Braziller.

Winberg, C., Staak, A., Bester, M., Sabata, S., Scholtz, D., Sebolao, R., Monnapula-Mapesela, M., Ronald, N., Makua, M., Snyman, J., & Machika, P. (2018). In search of graduate attributes: A survey of six flagship programmes. *South African Journal of Higher Education*, 32(1), 233-251. https://doi.org/10.20853/32-1-1642

York, T. T., Gibson, C. & Rankin, S. (2015). Defining and measuring academic success. *Practical assessment, research, and evaluation*, 20(1), 1-20.

Young, A. S. (1989). Factors and academic performance of first-year science students at a Nigerian university: a multivariate analysis. *Higher Education*. 18(3), 321-339.

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2010). *Business Research Methods*, 8th Ed. Canada: South-Western, Cengage Learning.

Factors Influencing the Probability of Dropout in a Romanian Higher Education Institution, Incorporating the Impact of the COVID-19 Pandemic

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Abstract: Dropout rate is an important indicator of the quality of higher education systems, especially in the case of mass education. When the Bologna reform in higher education was introduced, it was hoped that more people would graduate from short-cycle undergraduate courses, but the transition from a more traditional educational model to the Bologna system did not reduce the dropout rates. In Romania, a recent study carried out by UEFISCDI indicates that almost half of the students enrolled in undergraduate programmes in 2015 had not completed their studies by 2021, while Herțeliu et al. (2022) show that 43.8% of students drop out of university while being enrolled in the first year of a bachelor's degree programme. The current study focuses on two surverys carried out at a Romanian higher education institution (Babeș-Bolyai University), with the aim of identifying individual, socio-demographic and institutional risk factors for university dropout, as well as factors that protect against it. Using factorial analysis, the study reveals that the factors associated with university dropout have a multi-causal character, and are related to both institutional, economic and external factors.

Keywords: university dropout, higher education, dropout risk factors.

https://doi.org/10.24193/JRHE.2023.1.5

Introduction

Dropout rate is an important indicator of the quality of higher education, especially in the case of mass education systems. When the Bologna reform in higher education was introduced, it was hoped that more people would graduate from short-cycle undergraduate courses, but the transition from a more traditional educational model to the Bologna system did not reduce the dropout rates. The dropout rate in Romania was analysed by UEFISCDI and the results indicate that almost half of the students enrolled in undergraduate programs in 2015 had not completed their studies with a degree in 2021, which means that the dropout rate was 47.96%, while 43.8% of students dropped out of university while being enrolled in their first year of a bachelor's degree program (Herțeliu et al., 2022). The dropout rate at the level of Babeș-Bolyai University varies from one cohort to another, but on average, it is situated at around 19%. Similarly to the trends observed at the national level, the dropout rate has the highest values in the first year of studies. Thus, of the total number of students who dropped out, more than 75% dropped out in the first year in the case of 3-year study programmes and over 65% in the case of 4-year programmes (UBB Report, 2020, 2021, 2022). Still, it should be noted that the university dropout rate in Romania is still below that of the European states, as well as the fact that comparing dropout rates in different countries (but also across institutions) based on raw statistics can be problematic, given the fact that the regulations on higher education can vary greatly even within a single European region (Szemerszki, 2018).

In recent years, increased attention has been paid to evaluating the performance of higher education systems, both at national and international levels. A number of studies have been dedicated to measuring the phenomenon, clarifying the concepts and identifying possible indicators that would allow for a more objective assessment of the current state of affairs. University dropout is also a major political concern throughout the world, due to its effects on the individual, institutions and society at large. As a result, the majority of articles addressing these issues aim to explore and explain the underlying causes of failure and dropout.

Babeș-Bolyai University (henceforth UBB) has developed a strategy for reducing the risk of dropping out, which is a working tool focussed on highlighting the need to assume, at the various decision-making and executive levels of the university, some concrete, actionable approaches and steps towards preventing and intervening in situations of university dropout, as well as establishing concrete directions of actions in this regard. The analyses so far have concluded that the dropout rate is the highest in the first year of undergraduate university studies, the target population being people who were enrolled in a bachelor's degree programme at UBB, and who, at the end of their first year of university studies were expelled. This confirms an essential finding of both national and international literature, according to which a significant wave of dropout occurs at the beginning of studies (Szemerszki, 2018; Mălăescu, Chiribuca & Pavlenko, 2018). It is important to mention, however, that the dropout rate also depends on the definition or methodology used with regard to the time after which one is considered to have dropped out.

The main objective of the present study is to identify individual risk factors, as well as socio-demographic and institutional factors for university dropout, together with protective factors against it, using two surveys carried out in 2019 and 2021 at the level of UBB. The study has two main parts. In the first part of the study, we analysed the evolution of university dropout on the basis of a comparative analysis of the two aforementioned studies. In principle, we focussed on the data from 2021 and compared it with the results of the previous survey from 2019, from various perspectives. In the second part of the study, we used factor analysis using data from the 2021 survey in order to identify the key factors that lead to student dropout.

Theoretical background

University dropout is a problem that involves all actors in higher education at several levels. The phenomenon of dropout has been studied as a research topic since the 1970s, across the world. At the time, university dropout was mainly explained by social and sociological reasons. Research in the 1980s identified individual causes by focussing more strongly on psychological and socio-psychological factors. Considering the lack of common practice both at the

international and national level, there are a variety of approaches to the phenomenon of university dropout. Likewise, a great variety of terms have been used to refer to this phenomenon, including terms such as "dropout", "non-persistence", "academic performance / success versus academic failure", "withdrawal", "retention versus attrition", "disengagement" and "desertion" (Herțeliu et al., 2022). This conceptual diversity can also be found in Romania, where no nationally agreed definition of university dropout exists.

From a sociological perspective, Tinto's research (1975, 1988) should be noted, as it emphasises the importance of three factors that cause students to drop out of university: individual characteristics, pre-university experience and family environment (social status, family values and expectations). These three factors interact with each other and directly influence the student's initial commitment to the institution and to their academic goals. Tinto's Student Integration Model assumes that students' initial level of engagement influences how they integrate into the social and academic fabric of the institution, and shows that the level of integration directly affects their decision to continue or give up on their university studies. According to Tinto, social integration is achieved through informal peer grouping, taking part in extracurricular activities and interaction with administrative and faculty staff.

Among the conceptual models of the dropout phenomena of the 1980s, Bean's (1985) model (known in the international literature as the Student Attrition Model), gives more importance to factors related to support and encouragement. These include, for example, organisational factors of higher education (including elements of the organisational culture of the institution, such as an incentive-based system or information programmes), and academic factors related to the learning process, such as career guidance and skills development. At the same time, Bean's model gives great importance to other factors, such as self-development capacity, self-confidence, stress and motivation.

Cabrera el. al (1993) provide an integrated model in which the two theories are not mutually exclusive, but rather complement each other in terms of the assumed role of the organisational roles and students' commitment to the institution. As such, it provides a different understanding of the dropout process, where the focus is on the

structural specification of the psychological and sociological processes underlying dropout behaviour.

Tinto's (1975) and Bean's (1985) models, which emphasised the link between dropout behaviour and students' interaction with the institutional environment, have received considerable attention in the literature, but nowadays we must also take into consideration external factors, such as students' financial situation, working while studying, family commitments and the possibility of transferring to another higher education institution.

Research from the 1990s focussed on the economic, ethnic and cultural factors in university dropout. Brawer (1996), for instance, identified risk factors such as working during studies or the less favourable social status of the family.

Bennett's (2003) studies reveal that financial difficulties exert a strong influence on students' decision to stay at or to drop out of university. The second strongest reason for dropping out was unexpected external problems (such as having to care for a family member or facing a serious illness), followed by poor academic performance.

Kiss (2009) emphasised the student side of university dropout, as in his opinion, those who will lose out will be the ones who lack essential skills for higher education, the ability to master the curriculum, as well as self-management and communication skills. According to a more recent study (Sittichai, 2011), four primary factors were identified that determined students' decision to drop out. These included geographical location, enrolment in a field of study which the student does not identify with, a break up or changes in one's personal relationships, as well as the inability to manage time effectively.

An analysis by OECD (2012) identifies six risk factors that increase the dropout risk: academic performance, student behaviour, family environment, institutional structure / institutional resources, educational policy and labour market attractiveness. While academic performance is identified as being most closely correlated with dropout rates, the report points out that family status and lack of family support can also increase the risk of leaving the school system early. Institutional structure, that is, the presence of institutional resources, is also significant, including institutional culture, the degree of peer interaction, pedagogical practices together with other institutional

characteristics. Last but not least, attractiveness on the labour market is also a risk factor, if students consider it economically more advantageous to work before completing their studies.

The shared view in the theoretical approaches is that university dropout is a complex phenomenon, influenced by numerous factors, but each approach emphasises the importance of different factors (personal and institutional factors, family status, social factors, support and encouragement etc.).

The aim of the present study is to investigate the factors predicting university dropout among students of Babeș-Bolyai University, in an attempt to identify protective factors and inform appropriate interventions to prevent students from dropping out.

Methodology

The study is based on data collected by Qualitas Centre during two surveys, carried out at the level of Babeș-Bolyai University in 2019 and 2021.

The first survey, conducted in 2019 targeted students expelled after the first year of their studies in the 2015/2016, 2016/2017 and 2017/2018 academic years, which included a total number of 5991 students. A sample of 600 students was taken from the total population, using the simple random sampling method. Data collection took place in the form of telephone interviews, conducted between October 2018 and January 2019.

The second survey was carried out at the end of 2021, and similarly to the first one, it targeted students expelled at the end of the first year of their studies. The survey focussed on students enrolled in the 2019/2020 and 2020/2021 academic years. Data collection took place online between November 2021 and February 2022. From the total population of 5069 students expelled, 227 students, for whom no contact data was available, were eliminated, resulting in a population of 4842. In the first phase of the survey, the entire population of expelled students received an invitation to complete a questionnaire through the QuestionPro platform. This way, a total of 222 responses were collected. In the second phase of the survey, students were surveyed by phone, generally respecting a quota sampling corresponding to the distribution of students per faculty at the level of UBB. The survey

followed the rules of the sampling procedure, but it cannot be considered representative in the traditional sense, as it was conducted partly online and partly by telephone. Out of 4842 students, 443 people completed the questionnaire, which corresponds to a response rate of approximately 10%.

To collect the data a questionnaire was used, which addressed the reasons for not completing a chosen study programme at UBB, the involvement of different people (internal or external to the university) in making the decision to withdraw from university studies, the intention to resume the studies in the next 3 years and socio-demographic aspects of the respondents. In addition to these, the questionnaire used in 2021 also contained questions related to the nature of the study programme chosen at the university (even if not completed), as well as the impact of the COVID-19 pandemic on the decision to withdraw from university studies.

Reasons for dropping out of university studies

The reasons for not completing the chosen study programme at UBB were evaluated using two questions and a Likert scale. In the first question, 9[1] aspects were listed, and the respondents were asked to evaluate, on a scale from 1 (*not important at all*) to 5 (*very important*), the importance of each aspect in making the decision to withdraw from university studies. The aspects listed concerned both personal aspects of the respondents' lives as well as aspects related the characteristics of the chosen study programme. In the case of the second question, respondents' possible reasons for not completing their university studies were formulated in the form of statements[2]. Respondents were asked to mark the extent to which the agreed with each statement on a scale of 1 (*strongly agree*) to 5 (*strongly disagree*).

[1] Attending another study programme; High difficulty of the subjects; Obligations at work; Family situation; Insufficient income; Teaching quality; Teacher behaviour; Too little practical knowledge taught.

[2] The subjects taught and their content were below expectations; The programme I enrolled in does not offer the career prospects I would have liked; I felt that the environment did not suit me and I did not adapt; I came to the conclusion that you do not need to go to university to be successful; The specialisation I chose does not suit me; I expected something else when I chose this specialisation; For my professional success I thought it was more important to work; I felt that the effort I had to make is too great; I lost the motivation to complete my studies.

In making the decision not to complete the undergraduate programme started at UBB, the top three factors identified were: (i) *teaching quality*; (ii) *obligations at work*; and (iii) *teacher behaviour*. Compared to the 2019 survey, we can notice a significant change in the results, when the three most important factors that determined university dropout included: (i) *obligations at work*; (ii) *high difficulty of the subjects*; and (iii) *family situation* (*Fig. 1*).

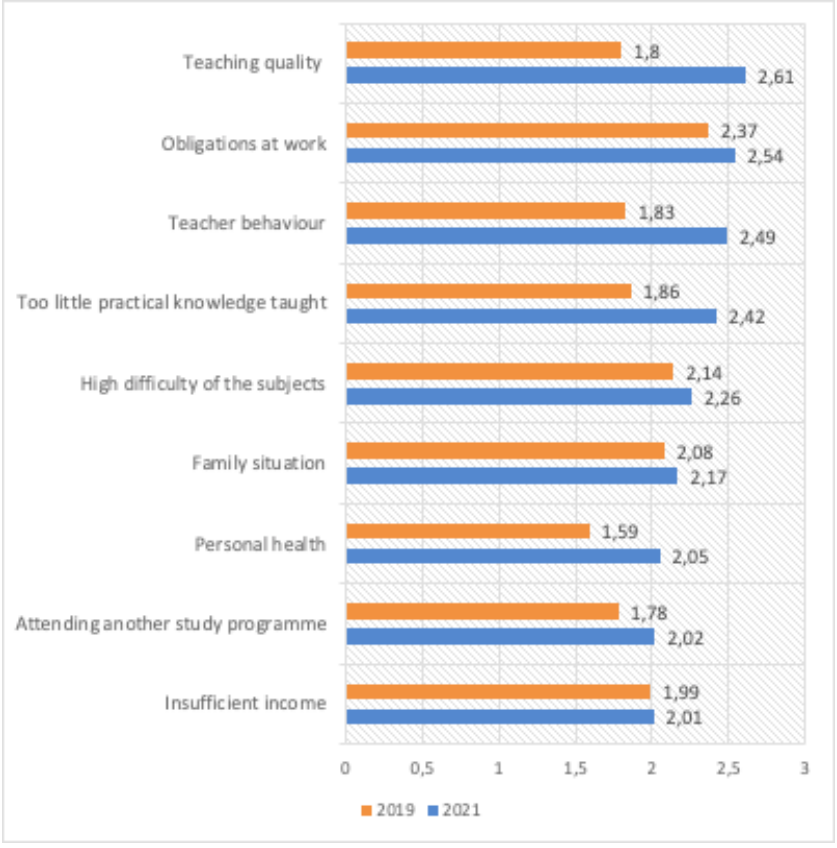

Figure 1. Important aspects in making the decision not to complete the study programme – average N = 481, N = 443

Regarding the possible reasons for not completing the study programme started at UBB, most importance was given to the statement *I expected something else when I enrolled in this specialisation*, followed by *I lost the motivation to complete my studies*, respectively *I consider that the environment did not suit me and I did not adapt*. This is

similar to the results of the previous survey, when most respondents agreed with the statement *I expected something else when I enrolled in this specialisation*, followed by the statement *The program I enrolled in does not offer the career prospects I would have liked* and *I consider that the environment did not suit me and I did not adapt* (*Fig. 2*).

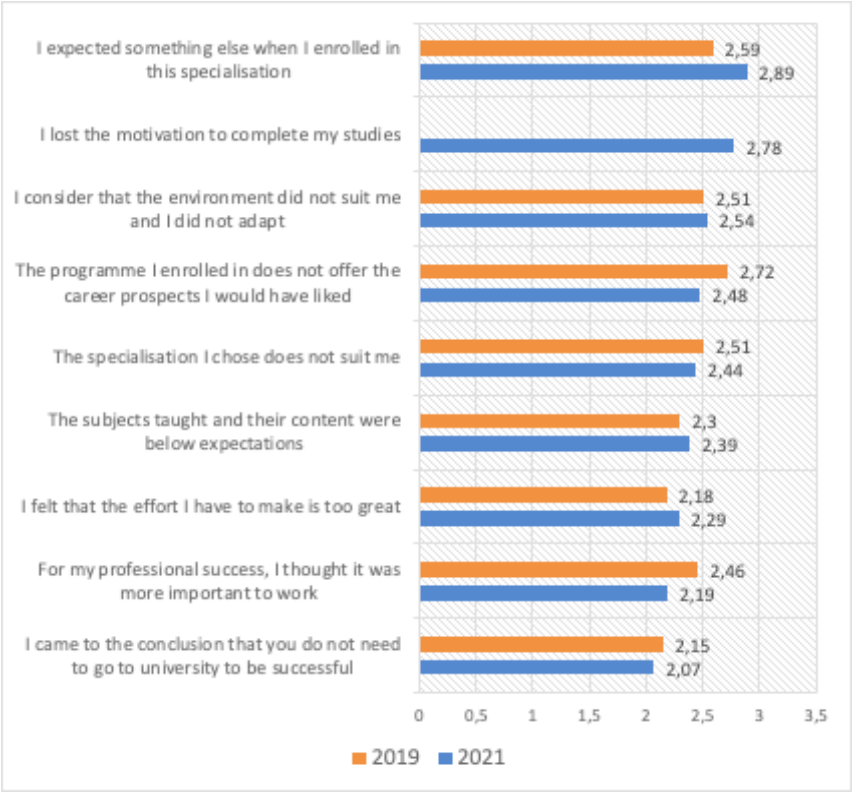

Figure 2. Possible reasons for not completing the undergraduate studies – average N = 481, N=443

For both items, in the case of all aspects / reasons mentioned, the modal value (the value with the highest frequency) is 1. This shows that the subjects' answers were concentrated towards the left side of the scale, in the area of *not important* or *strong disagreement* regarding the stated aspects/reasons.

Next, we analysed (using the V Cramer association coefficient and the Chi-squared contingency coefficient) the socio-demographic factors that influence the phenomenon of university dropout. To do

this, we aggregated the Likert scale scores, creating a three-point scale for a more transparent interpretation of the cross-tabulations. The figures below only show the percentage of respondents who perceived the respective aspect as important or very important.

Regarding the socio-demographic characteristics, no significant differences were observed between female and male subjects for the variable "aspects in making the decision to drop out." No significant differences were found according to ethnicity either. In contrast, significant differences were identified in the case of factors that influence students' decision to drop out depending on the place of residence, age and marital status.

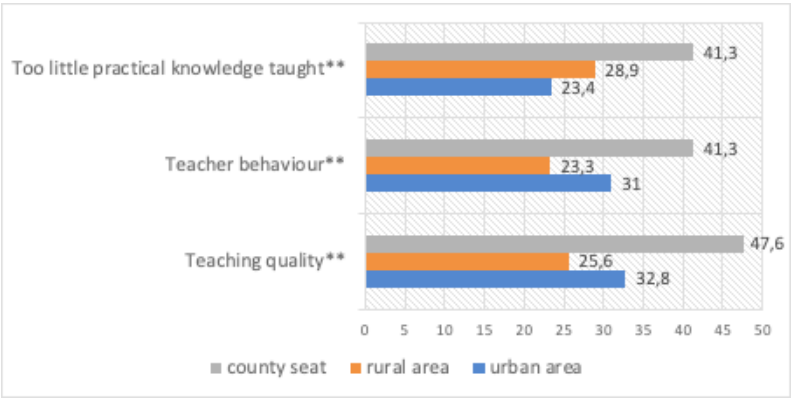

Figure 3. The weight of the aspects perceived as **important** and **very important** in making the decision not to complete the university studies – depending on the place of residence (**Sig<0.000)

The place of residence (urban/rural) has a significant association with the following factors: *teaching quality* (V Cramer = 0.135), *teacher behaviour* (V Cramer = 0.128) and *too little practical knowledge taught* (V Cramer = 0.128), meaning that the respondents coming from an urban environment (county seat) give more importance to these factors (*Fig. 3*).

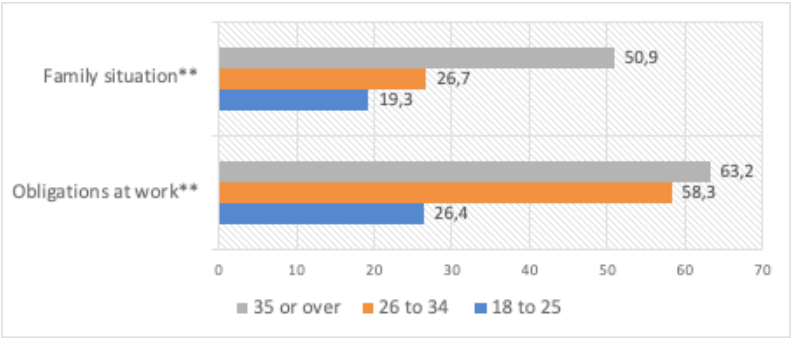

Figure 4. The weight of the aspects perceived as **important** and **very important** in making the decision not to complete the university studies – according to age (**Sig<0.000)

The age of the respondents shows a significant association with the following variables: *obligations at work* (V Cramer = 0.232) and *family situation* (V Cramer = 0.206). For older people, these two factors have a greater influence on dropping out. Most likely the meaningful variable here is not age, but family status which is correlated with age.

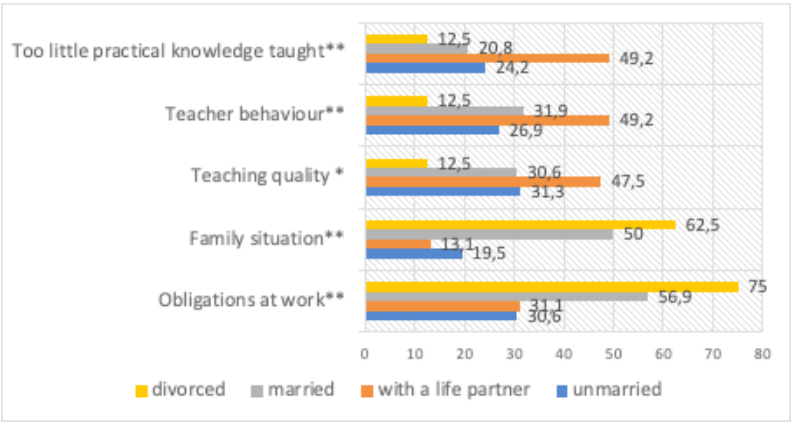

Figure 5. The weight of the aspects perceived as **important** and **very important** in making the decision not to complete the university studies – according to marital status (**Sig<0.000)

The most significant correlations were identified according to marital status, and included the following: *obligations at work* (V Cramer = 0.172); *family situation* (V Cramer = 0.220); *teaching quality* (V Cramer = 0.030); *teacher behaviour* (V Cramer = 0.140); and *too little practical knowledge taught* (V Cramer = 0.148).

In the case of divorced and unmarried respondents, the obligations at the workplace and the family situation were the two most relevant factors in dropping out of university, while the other aspects, such as the quality of teaching, the behaviour of teachers and too little practical knowledge taught were more important, i.e., play a more important role, in the decision-making process among respondents living with a partner (*Fig. 5*).

We also analysed the following questions, regarding the possible reasons for not completing studies according to socio-demographic factors: gender, marital status, ethnicity, age, place of residence. Depending on the gender, we can find a significant correlation between two variables: men tend to agree more with the statement I came to the conclusion that you do not need to go to university to be successful, while women seem to agree more with the statement *The specialisation I chose does not suit me* (*Fig. 6)*.

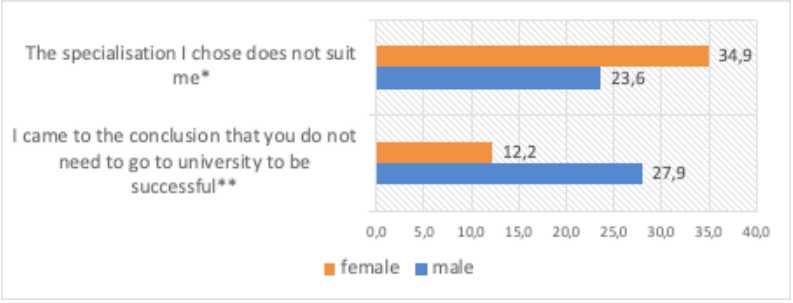

Figure 6. Possible reasons for not completing the studies according to gender – **Strongly agree** and **agree** (**Sig<0.05)

Respondents who live in a county seat give more importance to all the statements, but significant differences were found in the case of the following factors: *the subjects taught and their content were below expectations* (V Cramer = 0.113); *I consider that the environment did not suit me and I did not adapt* (V Cramer = 0.117); *I felt that the effort I have to make is too great* (V Cramer = 0.119); *I lost the motivation to complete my studies* (V Cramer = 0.116) (*Fig. 7*).

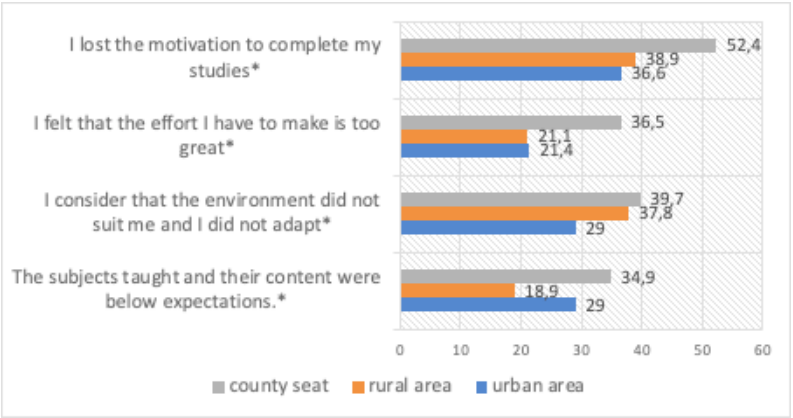

Figure 7. Possible reasons for not completing the studies according to place of residence – **Strongly agree** and **agree** (**Sig<0.05)

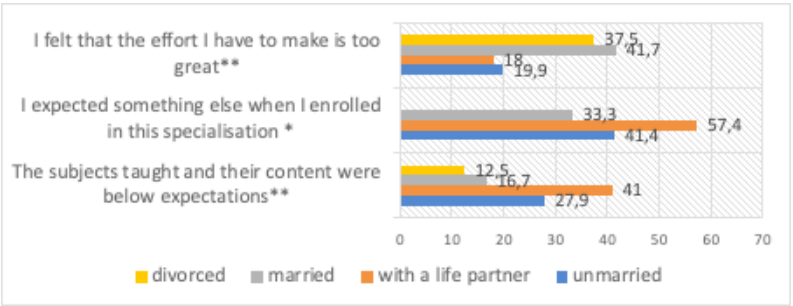

Figure 8. Possible reasons for not completing the studies according to marital status – **Strongly agree** and **agree** (**Sig<0.05)

Among the analysed variables, marital status and age have also been shown to have an impact on university dropout. Younger respondents tend to agree more with the statements *The environment did not suit me and I did not adapt*; *I came to the conclusion that you do not need to go to university to be successful*; *The specialisation I chose does not suit me*; and *I expected something else when I enrolled in this specialisation* (*Fig. 9*).

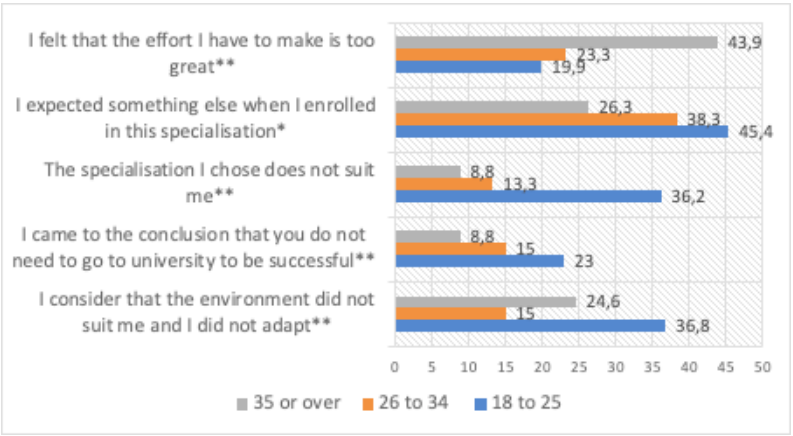

Figure 9. Possible reasons for not completing the studies according to age – **Strongly agree** and **agree** (**Sig<0.05)

For older, married or divorced respondents, the most important factor, i.e., the risk factor, is: *The effort I have to make is too great.*

Factor analysis

We used factorial analysis in order to study the factors that influence respondents' decision to drop out of university and to find out which factors can be regrouped based on the respondents' evaluation. The goal of Principal Component Analysis method (PCA) is to obtain a small number of linear combinations, i.e., principal components, from a set of variables that retain as much information as possible from the original variables. The main purpose of this method is to identify the number and nature of the factors underlying a set of manifest variables. We used Cronbach's alpha test to test the internal consistency of the indicator system. Since all indicators were measured on a single scale, no standardisation was necessary. The Alpha value is not very high, but it is acceptable at 0.693.

Using the Principal Component Analysis method regarding the factors determining dropout in higher education, three factors were generated. In Figure 10, the eigenvalues for all principal components, are graphically represented in a sequence of main factors. The number of factors is chosen where the levels of the graph show a linearly decreasing pattern. The scree plot of PCA (*Fig. 10*) suggests the existence of three factors. The variance explained by each factor is

distributed as follows: the first factor, 32.80%, the second factor, 19.95%, the third factor 11.21%. In total, the factors explain 64.01% of the total variance analysed.

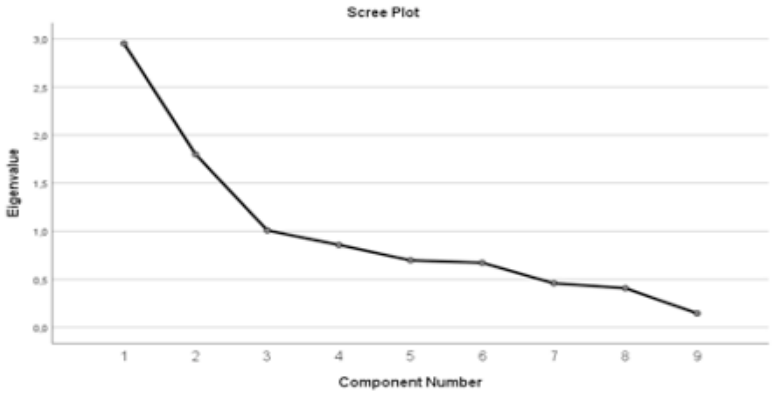

Figure 10. The scree plot of PCA

The first factor is made up of the variables: *teaching quality* (0.877), *teacher behaviour* (0.875), *too little practical knowledge taught* (0.777), *high difficulty of the subjects* (0.640). We called this the institutional factor, which shows that the reason for dropping out is related to the institution, respectively to the quality or the difficulty of the subjects taught. The second factor is made up of three variables and contains economic factors, such as: *insufficient income* (0.771), *obligations at work* (0.580), respectively *family situation* (0.808), which is also related to economic factors. The third factor contains two variables: *attending another university programme* (0.757), and *personal health* (0.400), which shows that the third factor that determines university dropout is an external one. Using this type of factorial analysis, we can obtain useful information about the factors that have a greater influence on students' decisions, while at the same time, it highlights the variables with a greater factor score.

Table 1. Determining factors in making the decision not to complete the undergraduate programme at UBB

	Institutional factors	Economic factors	External factors
Attending another study programme			0.757
The difficulty of the courses taught	0.640		
Workplace obligations		0.580	
Family situation		0.808	
Insufficient income		0.771	
Quality of teaching	0.877		
The behaviour of the teaching staff	0.875		
Personal health			0.400
Too little practical knowledge taught	0.777		

Extraction Method: Principal Component Analysis
Total Variance Expained: 64.01%
KMO 0.726

Another set of questions referred to possible reasons for not completing the undergraduate programme at UBB and the extent to which respondents agree with a range of possible reasons[3] for not completing the undergraduate programme they chose. We calculated the Cronbach Alpha value this time as well, which was quite high, 0.786.

The figure below allows us to draw the final conclusions, regarding the factor structure for the analysed variables, which shows that we have three factors. The variance explained by each factor is distributed as follows: the first factor 19.07%, the second factor 15.99% and the third factor 15.65%. In total, the factors explain 50.72% of the analysed variance value.

[3] The subjects taught and their content were below expectations; The programme I enrolled in does not offer the career prospects I would have liked; I consider that the environment did not suit me and I did not adapt; I came to the conclusion that you do not need to go to university to be successful; The specialisation I chose does not suit me; I expected something else when I chose this specialisation; For my professional success I thought it was more important to work; I felt that the effort I had to make is too great; I lost the motivation to complete my studies.

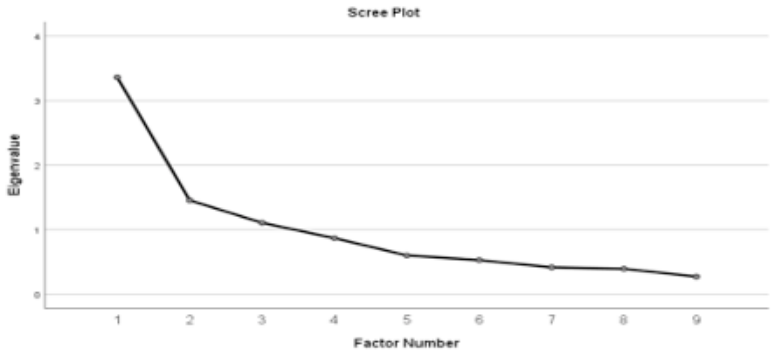

Figure 10. The scree plot of the factor analysis

The first factor consists of three variables, i.e., *the courses taught and their content were below expectations* (0.988), *I expected something else when I enrolled in this specialisation* (0.596), *The programme I enrolled in does not offer the career prospects I would have liked* (0.494), which is why we will call this factor "Professional reasons".

The second factor is made up of the variables: *the specialisation I chose does not suit me* (0.670), *I consider that the environment did not suit me and I did not adapt* (0.645), *I lost the motivation to complete my studies* (0.386). These factors show that the reason for dropping out is the choice of inappropriately chosen specialisations.

The third factor contains the variables: *I came to the conclusion that you do not need to go to university to be successful*; *For my professional success, I thought it was more important to work*; *I felt that the effort I had to make is too great*, and, at the same time, the weight of the variable *I have lost the motivation to complete my studies* is high.

Table 2. Possible reasons for not completing the undergraduate programme at UBB

	Professional reasons	Inappropriate specialisation	Disinterest
The subjects taught and their content were below expectations.	0.988		
The programme I enrolled in does not offer the career prospects I would have liked.	0.494		
I consider that the environment did not suit me and I did not adapt.		0.645	
I have come to the conclusion that you do not need to go to university to be successful.			0.680
The specialisation I chose does not suit me.		0.670	
I expected something else when I enrolled in this specialisation.	0.596		
For my professional success, I found it more important to work.			0.760
I felt that the effort I had to make is too great.			0.370
I lost the motivation to complete my studies.		0.386	0.372

Extraction Method: Maximum Likelihood. Rotation Method: Varimax with Kaiser Normalisation.
Total Variance Expained: 50.72%
KMO 0.736

In conclusion, using factor analysis, we can obtain useful information regarding the factors that influence university dropout. Using this method, we have identified three main factors that have a significant influence on university dropout, and namely: Professional reasons, Inappropriate specialisation and Disinterest.

Discussion and conclusion

The primary objective of the present study was to investigate the underlying causes of dropout, specifically within the context of Babeș-Bolyai University. The study aimed to explore and understand the

factors contributing to dropout among students in this particular university setting.

Knowing the factors that determine the risk of dropout is important to plan when and at what point institutions and public actors can effectively intervene to ensure that students can stay in higher education and successfully finish their studies, despite the difficulties they face.

The article revealed that the three main aspects that influence the decision to drop out are: (1) *teaching quality*; (2) *workplace obligations*; and (3) *teacher behaviour*. Regarding the possible reasons for not completing the study programme started at UBB, the items given the most importance were: (1) *I expected something else when I enrolled in this specialisation*; followed by (2) *I lost the motivation to complete my studies*; respectively (3) *I consider that the environment did not suit me and I did not adapt*. Consequently, the main reasons seem to be the fact that the respondents' expectations did not correspond to the services received, respectively the loss of motivation, but it is important to emphasise the fact that on the scale used (from 1 – *not important at all* to 5 – *very important*) to measure the importance of various aspects in making the decision to withdraw from university studies, the modal value was 1. This fact shows that the subjects' answers were concentrated towards the left side of the scale, in the area of no importance or disagreement with regard the aspects/reasons formulated.

Furthermore, it is also important to mention the fact that the potential impact of limited or nonexistent offline teaching experiences for students enrolled in 2019 and 2020 should be taken into account when interpreting the results of the questionnaire. The observed variations in the case of items such as 'teaching quality', 'teacher behavior', and 'insufficient practical knowledge' between the first and second surveys are likely attributable to the restrictions imposed by the COVID-19 pandemic as well as the sudden changes that took place in the educational sphere in response to the pandemic.

The dropout rate can also be the result of different life situations, including factors of a personal, familial, educational or social nature. At the same time, it is important to take into account the fact that sometimes, from the outside, a phenomenon can be identified as a dropout, but it can actually be a conscious decision on the part of the

student, part of the students' career strategy, for example when a student reaches the conclusion that the specialisation they chose does not suit them and their interests.

Analysing the social-demographic characteristics of the respondents, we found significant differences, the most important factors influencing the risk of dropout being age, place of residence, marital status, but also gender in certain cases. Based on the results, we can conclude that students with the highest risk of dropping out of university are older students, those coming from rural areas, and divorced or married students.

The use of confirmatory factor analysis was useful to identify the main reasons and factors behind university dropout, and namely: *professional reasons*, *inappropriate specialisation*, and *disinterest*, which is consistent with the results of the previous question where we also identified three factors that determine university dropout: institutional factors, *economic factors* and *external factors*.

In the specialised literature, the following factors influencing university dropout are constantly identified: institutional factors; economic factors; psychological and pedagogical factors; and socio-cultural factors. In our analysis, institutional factors (Tinto, 1975) and economic factors (Benett, 1993) have a strong impact. At the same time, we have also identified external and socio-cultural factors (Bean, 1985; Benett, 1993; Cambera et al., 1993) that influence university dropout.

Institutional factors of higher education and academic factors related to the learning process are emphasised in Tinto's (1975) theory, which argues that there is a close relationship between dropout behaviour and students' interaction with the institutional environment. The factor analysis demonstrates this aspect, and, at the same time, it highlights the importance of the family background and social status (Tinto, 1975). Bean (1985) gives greater importance to factors related to support and encouragement, such as the incentive system and information programmes, while for individual skills, factors such as the capacity for self-development, stress and motivation. We were unable to tests these aspects.

On the whole, the overall conclusion is that the factors associated with university dropout have a multi-causal character and are related to both institutional and economic factors (family background, income etc.), as well as certain factors of a more discrepant

nature, such as inappropriate specialisation and disinterest, as well as the impact of the labour market. We agree with the theory of Cambera et al. (1993), that offers an integrated model in which the two theories (i.e., the Student Intergation Model and Student Attrition Model) are complementary to each other in terms of the assumed role of the institution. Our findings lend support to the idea that the phenomenon of dropout must be approached and analysed from several perspectives.

All in all, the factors responsible for school dropout can be of macro-level, such as factors related to higher education policies (such as curriculum, training structure, funding), and meso-level, from the socio-economic background of the individual, their educational career, academic background and achievements. For all of these challenges, and in order to reduce university dropout, the implementation tools and policies must be treated with great care and call for an interdisciplinary approach. The study aims to draw attention to the complex and multidimensional nature of early university dropout, and we hope, that the results of the present study will contribute to the scientific advancement and to a better understanding of the motivational study of university dropout.

Limitations

Our findings are limited by the fact that we could only explore the cumulative effects among the main predictors of university dropout. The decisive factors of university dropout are quite numerous and complex, and apart from the factors investigated in the present study, there are other factors as well – such as, for example, ones related to social inequalities, a weaker socio-economic environment, poor academic performance, institutional integration etc. -, which have not been explored due to the unavailability of such data in our dataset.

Another limitation of the present study is the exclusive use of Likert-type scales (for measuring the possible reasons for not completing the chosen study programme), which might contribute to a high bias of the respondents. In order to ensure a multidimensional approach to studying the phenomena of university dropout, we consider that it would be important to take into account other factors as well, such as the infrastructure and the reputation of the university, the

administrative experiences, academic achievements and relational integration, to mention just a few.

Furthermore, we are aware of the fact that dropout rates differ across faculties and study programmes and that the likelihood of students leaving their studies prematurely can be influenced by the characteristics of the specific study programme. Nevertheless, considering the fact that this was an online survey, it cannot be called a representative measurement, hence no deeper correlation could be drawn. We believe that exploring this phenomenon in more depth could be a worthwhile endeavour for further analysis, but in order to do that a different database would be needed.

Last but not least, we did not aim to examine the effects of the COVID-19 pandemic on the dropout rates at UBB, as we did not have enough data to evaluate its impact in detail. Nevertheless, a study carried out in 2020 (Deaconu & Hâj, 2022) shows that the intention to drop out was higher in the case of respondents enrolled in an undergraduate study programme, but the majority of the students surveyed did not consider dropping out. More precisely, 65.9% of the surveyed students said that they did not consider giving up on their studies following the general context created by the global COVID-19 pandemic, while 18.9% of the respondents did not provide a conclusive answer. In total, only 15.3% of the respondents enrolled in an undergraduate course considered dropping out.

Analysing the impact of the pandemic on university dropout at the level of Babeș-Bolyai University, it appears that online teaching conditions were not a relevant factor influencing students' decision not to complete their studies. In a survey carried out in 2022 at the level of UBB (see UBB Report, 2023), 60% of the students surveyed disagreed with the following statement: "If the pandemic had not intervened, I would have completed the study programme." Nevertheless, a significant proportion (27%) of students who encountered various difficulties as a result of the context created by the pandemic have considered abandoning their studies. Students who reported having encountered certain difficulties as a result of the pandemic reported, first of all, psycho-emotional problems, problems with regard to the designing and the organisation of the teaching activities and the quality of teaching in the online environment (see also Nemes, 2021).

Acknowledgements

This work was funded by a FDI Grant entitled "Sprijinirea accesului generației born-digital la învățământul superior prin măsuri adecvate de incluziune – Born2UBB" (Supporting the access of the digital-born generation to higher education through appropriate inclusion measures – Born2UBB), Grant No. CNFIS-FDI-2022-0568.

References

Bean, J. P. (1985). Interaction Effects Based on Class Level in an Exploratory Model of College Student Dropout Syndrome. *American Educational Research Journal*, 22 (1), 35-64.

Benett, R. (2003). Determinants of Undergraduate Student Drop Out Rates in a University Business Department. *Journal of Further and Higher Education*, 27 (2), 123-141.

Brawer, F. B. (1996) *Retention-attrition in the nineties*. ERIC Clearinghouse for Community Colleges. ERIC Document Reproduction, No. ED 393510. https://files.eric.ed.gov/fulltext/ED393510.pdf .

Cabrera, A. F., Nora, A., & Castaneda, M. B. (1993). College persistence: Structural equations modelling test of an integrated model of student retention. *Journal of Higher Education*, 64 (2), 123-139.

Deaconu, Ș. M., & Hâj, C. M. (2022). *Studiu privind gradul de satisfacție a studenților cu privire la calitatea învățământului superior* (2019-2020) [A Study on the degree of student satisfaction with regard to the quality of higher education (2019-2020]. UEFISCDI, București.

Herțeliu, C., Alexe-Cotet, D., Hâj, C. M., Pârvan, A. T. (2022). Defining and Measuring Dropout Phenomenon in Romanian Public Universities. In A. Curaj, J. Salmi, & C. M. Hâj (Eds.), *Higher Education in Romania: Overcoming Challenges and Embracing Opportunities* (pp. 93-121). Springer.

Kiss, I. (2009). *Életvezetési kompetencia* [Life management competence]. Unpublished Ph.D. Dissertation. ELTE PPK.

Mălăescu, S., Chiribucă, D. F., & Pavlenko, S. (2018). The efficiency of emerging institutional mechanisms addressing educational inequality and students' dropout in a Romanian higher education institution. *ICERI2018 Proceedings*, pp. 6971-6979.

Nemes, Borbála. (2021). The online classroom. Students' Perception of Online Learning Activities and Educational Platforms: Benefits, Barriers and Solutions. In R.-M. Nistor, & C. Teglaș (Eds.), *Limbajele specializate: Abordări curente și provocări pentru viitor* (pp. 103-116). Presa Universitară Clujeană.

OECD. (2012). *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, OECD Publishing.

Szemerszki, M. (2018). Lemorzsolódási adatok és módszertani megfontolások. [Attrition data and methodological considerations]. In G. Pusztai, & F. Szigeti (Eds.), *Lemorzsolódás és perzisztencia a felsőoktatásban* [Attrtition and Persistance in higher education] (pp. 15-28), Debreceni Egyetemi Kiadó.

Sittichai, R. (2011). Why are there dropouts among university students? Experiences in a Thai University. *International Journal of Educational Development*, 32, 283-289.

Tinto, V. (1982). Limits of theory and practice in student attrition. *Journal of Higher Education*, 53, 687-700.

Tinto, V. (1975). Dropout from higher education: A synthesis of recent research. *Research in Higher Education*, 45, 89-125.

UBB Report. (2020). *Raport privind motivele abandonului studiilor universitare* [Report on the reasons for abandoning university studies], Qualitas Centre, Babeş-Bolyai University.

UBB Report. (2021). *Raport privind motivele abandonului studiilor universitare* [Report on the reasons for abandoning university studies], Qualitas Centre, Babeş-Bolyai University.

UBB Report. (2022). *Raport privind motivele abandonului studiilor universitare* [Report on the reasons for abandoning university studies], Qualitas Centre, Babeş-Bolyai University.