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Investigating the Relationship between Characteristics of a Good Teacher and Academic Engagement with Mediation of Academic Buoyancy of Graduate Students

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Article Info

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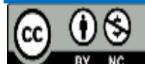
Abstract

Background & Objective: One of the major education quality indicators is students' academic engagement, which could be influenced by students' academic buoyancy and effective teacher features. The present study aimed to investigate the relationship between effective teacher features and academic engagement mediated by academic buoyancy of post-graduate students at Sistan and Baluchestan University.

Materials and Methods: This research is applied in terms of objective and a structural equation-based correlational study in terms of research method. Using stratified random sampling method and according to Cochran's sampling formula, 341 postgraduate students were included in the study and filled in three questionnaires of effective teacher features, academic engagement, and academic buoyancy. Correlation coefficient of the structural equation model was used to analyze the data. SPSS software version 16 and LISREL software were used to run the analyses.

Results: There were significant correlation coefficients between the effective teacher features and academic engagement (r = 0.56, p <0.001), effective teacher features and academic buoyancy (r = .328 p <0.001), academic buoyancy and academic engagement (r=0.486, p <001). The direct effects of the effective teacher features on academic engagement (t =8.02, β = 0.98), effective teacher features on academic buoyancy (t =4.23, β =0.45) and academic buoyancy on academic engagement (t =4.43, β = 0.45) were significant. The indirect effect of the effective teacher features on academic engagement with regard to the mediating role of academic buoyancy (β = 0.157) was also significant.

Conclusion: University professors can enhance the academic buoyancy and academic engagement of their students through employing cultural-educational, training, research and service-executive indicators.

Introduction

Academic Engagement is of interest to scholars and teachers as an academic predictor of learning outcomes such as dropout or graduation (2), and learning and academic achievement (3) because of its comprehensiveness in describing students' motives and learning in educational centers (1). Academic engagement is the quality of an effort that learners spend on purposeful educational activities to directly reach the desired outcomes (4). Academic engagement is a multidimensional structure that incorporates behavioral, emotional, cognitive, and agency dimensions (5). Behavioral engagement is a visible behavior in dealing with assignments and encompasses components such as attempts to carry out assignments, continue assignments, and ask for help from others while doing them. Behavioral engagement is defined as participation in class, attention and effort (6). Emotional engagement encompasses students' emotions and attitudes towards academic assignments, their relationships with teachers, peers, and staff, their beliefs about education, attachment and affiliation to educational institution, level of interest, happiness as well as

fatigue and anxiety experienced during activities (7). Cognitive engagement involves issues such as goal setting and the use of deep cognitive processing strategies (8). Cognitive engagement also includes a variety of processing processes that are used for learning, consisting of Cognitive and metacognitive strategies (9). These three aspects of academic engagement indicate how students behave, feel, and think (10). Agentic engagement or agency refers to the extent the students are involved in the education process. This means that students provide some conditions in the classroom through questioning and expressing their preferences so that the instructor knows what they want and what they need. In this kind of engagement, the focus is on the process through which learners intentionally and somehow actively try to learn something and make learning conditions more personal and productive (11). The findings indicate that higher educational engagement is associated with higher scores, better behaviors, higher self-esteem, and more adaptation in the educational settings and is an important factor in improving educational dissatisfaction, preventing

learners' fatigue, and increasing learners' motivation and participation in academic affairs (12).

Academic buoyancy is one of the factors contributing to students' academic engagement, which is used to understand how learners are struggling to deal with academic problems (13). In their daily life, students face a variety of challenges, barriers, and special pressures such as poor grades, stresses, and self-confidence threats as a result of decreased performance, motivation, and interaction (14). Educational challenges provide students with psychological stress and affect the learners' ability to learn and, sometimes, adapt to other students (15). Academic buoyancy is one of the most important factors affecting adaptation to the educational threats, obstacles, pressures and difficulties (16). Academic buoyancy refers to the positive, constructive, and adaptive responses to all kinds of challenges and obstacles experienced in the ongoing educational fields (17). The buoyancy is the energy originated from a person, which is taken from internal sources not from individuals' threat in the environment. In other words, the buoyancy is a feeling of vitality but neither incitement nor compulsion (18). The research has indicated that academic buoyancy leads to significant motivational outcomes such as greater persistence, adaptation to challenges and academic pressures, lower anxiety and better performance, increased academic achievement, well-being and academic performance, and increased mental health, physical health, and positive emotions.

University teachers can be considered as one of the factors influencing students' academic achievement and academic buoyancy. During an educational process, the teachers provide a set of learning opportunities for students and thus play an important role in reaching academic achievement and educational goals (20). Professors should meet some indicators in order to be involved in their students' academic engagement and academic success. Some of these indicators include students' perception of teaching effectiveness, facilitated learning, effective communication, clarity of course components, course evaluation and feedback (21), having skills for asking questions, clear communication, course organization, effective feedback, starting course with a review and terminating them with a summary, and applicability in all learning situations (22). According to the standards of the Islamic Republic of Iran, instructors must possess the following competencies: having

knowledge and skills in understanding a learner's learning status and stages, identifying the common and unique learning methods, benefiting from specialized and interdisciplinary knowledge, especially in the fields of psychology and sociology, observing the learning differences, creating a supportive environment, attracting learners' spontaneous and maximum participation, employing diverse, attractive, and efficient testing and assessment methods guaranteeing learning and academic achievement, and providing appropriate feedback and goal, and being accountable for learners' learning progress (23).

Despite the importance of academic engagement and academic buoyancy in successful tackling with challenging educational period and their positive psychological and social outcomes, a review of studies conducted in Iran reveal a few studies in the field of academic engagement and academic buoyancy so that this subject needs to be researched in different educational groups. Students from different universities and higher education institutions should not only be engaged in assignments, but also feel a sense of buoyancy in the face of educational threats and pressures. Universities and higher education institutions should provide the society with graduate students with scientific and practical potentials to deliver quality services to clients; therefore, students' academic engagement and buoyancy as important predictors of academic performance among students should be of great significance. Moreover, instructors at universities and higher education institutions should meet the efficient teacher features to educate committed and capable students. Hence this study aimed to investigate the relationship between efficient teacher features and academic engagement with regard to the mediating role of the postgraduates' academic buoyancy. The research hypotheses are as follows:

Hypothesis 1: There is a relationship between efficient teacher features and university students' academic engagement.

Hypothesis 2: There is a relationship between efficient teacher features and university students' academic buoyancy.

Hypothesis 3: There is a relationship between university students' academic buoyancy and academic engagement.

Hypothesis 4: There is a relationship between efficient teacher features and university students' academic engagement with regard to the mediating role of academic buoyancy.

Materials and Methods

This research is applied in terms of objective and a structural equation-based correlational study in terms of research method. The statistical population of the study (N=2730) encompassed all postgraduate students (345 Ph.D. students and 2385 master's students) at University of Sistan and Baluchestan during the academic year 2018-2019. Given that the population was not homogenous in terms of gender, level of educational, and faculty, stratified random sampling (in terms of gender, level of educational, faculty, and field of study) was used and, in accordance with Cochran's sampling formula, 341 students (46 Ph.D. students and 295 master's students) were selected with regard to the inclusion (day students passing at least one academic year at University of Sistan and Baluchestan) and exclusion (passing the first or second semester or being a guest student) criteria. In the study implementation, some ethical considerations were observed: Before distributing the questionnaires, the subjects were informed of the subject and objective of the study, participants had the full freedom to participate or not to participate in the study, they were assured that their private and personal information is confidential. Three questionnaires were used to collect data:

A) Effective Teacher Features Questionnaire, adapted from Mirzamohammadi's et al. study (39). The questionnaire encompasses 32 item and 4 cultural-educational (10 items), educational (8 items), research (7 items), and executive-service (7 items) aspects to investigate the features of efficient teachers. The questionnaire is scored based on a 5-point Likert scale ranging from extremely low (=1) to extremely high (=5). The minimum and maximum scores of the questionnaire are 32 and 160,

respectively. The closer to 160 the score is, the better the features are observed, and vice versa.

B) Academic Engagement Scale: This scale was developed by Reeve (2013) (5). It contains 17 items to assess four behavioral (4 items), agency (5 items), cognitive (4 items), and emotional (4 items) dimensions of academic engagement. The questionnaire is scored based on a 5-point Likert scale ranging from totally disagree (=1) to totally agree (=5). The minimum and maximum scores of the questionnaire are 17 and 85, respectively. A higher score represents the greater engagement of a learner.

C) Buoyancy questionnaire (adapted from Hossein Chari and Dehghanizadeh): It consists of 9 items and two components "academic self-confidence" (4 items) and "academic spirit" (5 items), scored based on based on a 5-point Likert scale ranging from totally disagree (=1) to totally agree (=5), with the minimum and maximum scores of 9 and 45, respectively. The higher score in this test indicates a higher level of academic buoyancy. Cronbach's alpha coefficients were used to determine reliability, according to which we had 0.81 for academic engagement questionnaire, 0.41 for academic buoyancy scale, and 0.95 for effective teacher features questionnaire. Pearson correlation coefficient and structural equation model were used to analyze the data using SPSS software version 16 and LISREL software.

Result

In this study, 341 postgraduate students from University of Sistan and Baluchestan with a mean age ± SD of 3.35 ± 3.98 years were included. The demographic information of the participants is reported in Table 1:

Table 1: Students' demographic information

Variable		Frequency (percent)	Variable		Frequency (percent)
Sex	Female	184(53.95)	Grade	Master	295(86.51)
	Male	157(46.05)		Ph.D	46(13.49)
Married	Single	262(76.83)	Field	Science and Engineering	171(50.14)
	Married	79(23.17)		Literature and Humanities	170(49.86)

A structural equation model was used to examine the research hypotheses. Table 2 presents descriptive statistics of variables including mean, standard deviation, skewness, and kurtosis.

Table 2: Descriptive statistics for the study variables

Variable	Mean	SD	Skewness	Kurtosis
Academic Engagement	65.44	8.42	-0.63	0.77
Good Teacher	122.29	16.02	-0.58	1.41
Academic Buoyancy	34.06	4.62	-0.54	1.31

In causal modeling, the distribution of the variables should be normal so that the values of skew and kurtosis should be between +2 and -2. According to the results of Table 2, the absolute values of these two for all variables correspond to the desired standard. Moreover, before developing the structural equation model, the relationship between the research variables was investigated using Pearson correlation coefficient test, as reported in Table 3.

Table 3: Correlation coefficients of the relationship between academic engagement, good teacher and academic buoyancy

Variable	Academic Engagement		Good Teacher		Academic Buoyancy	
	r	p-value	r	p-value	r	p-value
Academic Engagement	1	0.000	0.56	0.001	0.41	0.01
Good Teacher	0.56	0.01	1	0.000	0.32	0.01
Academic Buoyancy	0.41	0.01	0.32	0.01	1	0.000

According to Table 3, the correlation coefficients between academic engagement with effective teacher features and academic buoyancy were 0.56 and 0.41, respectively. Moreover, the correlation coefficient between effective teacher features and academic buoyancy was 0.32. The reported coefficients were all positive and significant at $p < 0.01$. Considering the relationship between research variables, structural equation modeling was developed. Before testing the research hypotheses, the model was fitted. The fit indices include GFI (Goodness-of-Ft Index), Comparative Ft index (CFI) with values greater than 0.9 representing suitable fit of the model, Root mean Square Error of Approximation (RMSEA) with values smaller than 0.08, and Standardized Root Mean Residual (SRMR) with values smaller than 0.05 representing the fit of the model (40). The fit test results were in accordance with the standards set in Table 4.

Table 4: Fit indexes of the theoretical model of the study

Index	Amount achieved in the model
Goodness of Fit (GFI)	0.96
Root Mean Residual (RMR)	0.03
comparative Fit Index (CFI)	0.98
Root Mean Square Error of Approximation (RMSEA)	0.05

If the general indices were acceptable or, in other words, the theoretical model was approved, then the intra-model relationships could be examined. These correlations include regression coefficient (coefficient of impact) of the hypothesis and factor loading of each item. Figure 1 shows all the relationships between hidden variables and factor loads of each item.
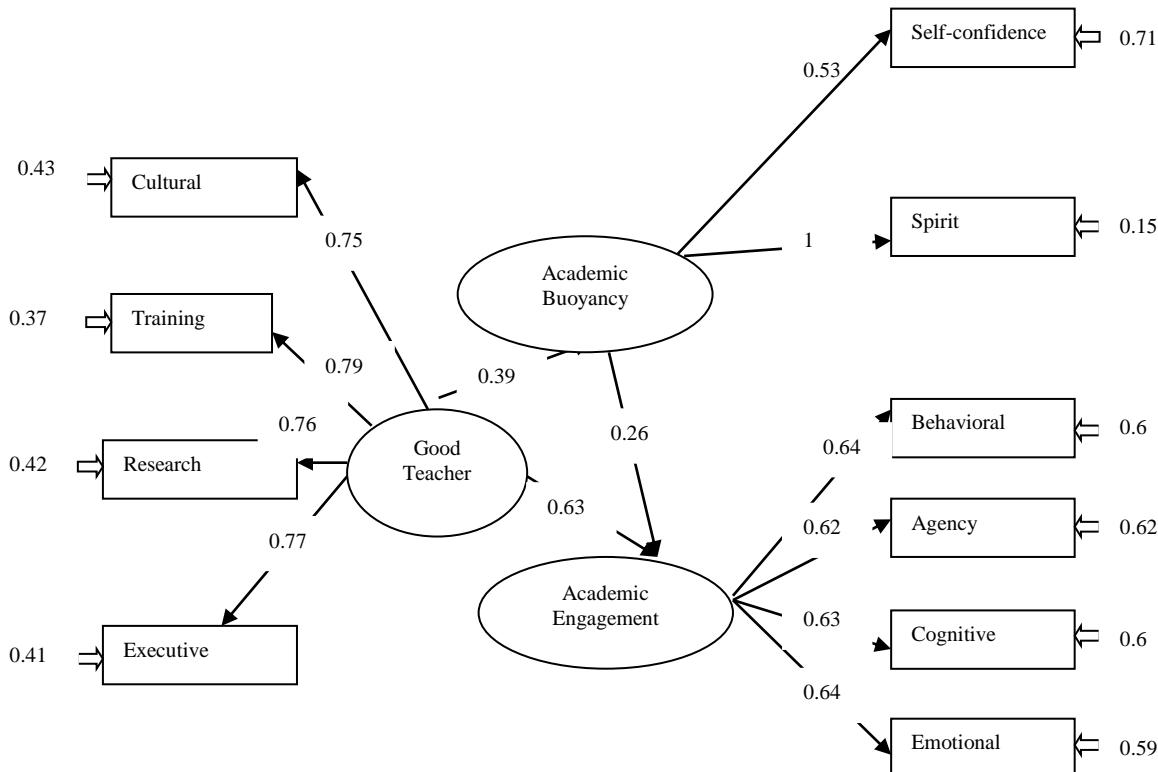
Figure 1: Fitted model of the study (standard coefficients)

According to the model (Fig. 1), the research hypotheses can be analyzed as follows:

Table 5: Path Analysis

Assumptions	Beta	T	Conclusion
Characteristic of a good teacher has a positive effect on academic engagement.	0.63	8.02	Confirmation
Characteristic of a good teacher has a positive effect on academic buoyancy.	0.39	4.23	Confirmation
Academic buoyancy has a positive effect on academic engagement.	0.26	4.43	Confirmation
Characteristic of a good teacher has a positive effect on academic engagement through academic buoyancy.	0.101		Confirmation

Discussion

In examining the relationship between the effective teacher features and postgraduate students' academic engagement with regard to the mediating role of academic buoyancy, it was revealed that the effective teacher features have a positive and significant effect on students' academic engagement. Previous studies also documented that some effective teacher features such as encouraging students to communicate with teacher, encouraging

participation among students, encouraging students to learn, providing students with immediate feedback, focusing on time in doing assignments, having high expectations from students (24), respecting students, considering equal status for students in counseling, education, and scoring, ensuring the confidentiality of learners' scoring (25), providing fair judgment, respecting student's time and identity, expressing humility (26), knowing teaching and class principles, being committed to professional responsibilities, observing fairness, justice, and politeness, and showing compassion and honesty in dealing with students (27), and interacting with students (28) could promote students' engagement. Furthermore, professors who select active and student-oriented teaching styles improve their students' academic engagement (29).

The second finding showed that the effective teacher features have a positive and significant effect on students' academic buoyancy. Previous studies also indicate that the teachers' academic and ethical competence has an impact on students' academic buoyancy and motivation. For example, Rouhi et al. claimed that the teachers' academic and ethical competence is the most effective factor affecting students' academic motivation (30). Various studies suggest that the teachers' scientific mastery, presentation of interesting and applied content, interest in their field of study, proper information, encouragement and stimulation methods of students (31), personal and visual features, scholarship, communication skills, teaching and evaluation (32), clear expression of functional and behavioral expectations from learners, and attempt to establish quality communication with learners (33) affect the students' buoyancy and arousal.

The third finding also documented that academic buoyancy has a positive and significant effect on students' academic engagement. This finding is consistent with the findings of previous studies (34, 35). Studies show that students who believe in their abilities and are livelier in facing educational barriers and challenges are more engaged in educational issues (36). Students with high academic buoyancy who build up self-regulated and strong academic self-esteem can better manage their learning and tolerate academic barriers and pressures. In fact, when learners are academically buoyant, they are more engaged in their assignments, and this leads to better problem solving and learning (37). Accordingly, educating self-regulated and self-motivated learners makes them more engaged in learning, and thus

more successful, more buoyant, and happier (38, 39). According to the fourth finding, the effective teacher features have a positive and significant effect on learners' academic engagement through academic buoyancy. Previous studies (25-27, 31-33) have also shown that the observance of educational, research and ethical benchmarks by teachers can increase students' academic engagement, buoyancy, and motivation. According to the systematic design of education, the teacher is the main pillar causing the desired success in pursuing educational goals. Certainly, the presence of competent teachers with appropriate scientific and ethical competencies affects the quality of higher education systems. Teachers help students to learn through using their knowledge, texts and teaching skills and creating an appropriate environment. Teachers can compensate for the gaps of the textbooks and the lack of educational facilities, or vice versa. On the other hand, they can convert the best teaching and subject matters into an inactive and unattractive environment due to their inability to create an emotional connection. In fact, the teacher's performance and features cause achieving educational and learning goals (37). The present study also had some limitations. For examples, the present study is limited to a specific region of Iran. Evidently, the perspectives of postgraduate students at Sistan and Baluchestan University cannot represent the views of students throughout the country, thus limiting the generalizability of the research findings. It seems that such a study could be conducted in other universities to provide the planners with more detailed information on this topic. Future researchers are also suggested to investigate the effect of academic motivation, goal orientation, academic resilience, and classroom styles on students' buoyancy and academic engagement.

Conclusion

According to the findings, the effective teacher features, both indirectly and indirectly, have a positive and significant effect on students' academic engagement through academic buoyancy as a mediating variable. In order to promote students' academic buoyancy and academic engagement, the university teachers are recommended to observe indicators such as the role of educator as a distinctive and exemplary model, preservation of students' human dignity, academic mastery in the subject of teaching, focusing on the software movement and science production, observance of ethics in research,

awareness of national and international issues, political insight and participation in political issues.

Acknowledgements

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