

Full Length Research Paper

The role of perception of classroom structure on students' mental health

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Classroom structure includes organizing and designing the class. Based on the theory of achievement, the context and structure of the educational environment affect student's performance, motivation, and emotion. The present study was conducted to find out whether the perception of classroom structure can predict mental health of the students? The design of this research was correlation. Participant includes 287 pupils (140 girls and 147 boys) at Shirazhigh school students, Iran, selected by multistage cluster random sampling method. In this study, the depression, anxiety and stress scale (DASS 21) and perceived classroom structure questionnaire were used. The results of the research were analysed by SPSS_16 and it was shown that, all three dimensions of DASS_21 had a negative correlation with task and authority, while there was a positive correlation with harsh evaluation and DASS_21 subscales. In addition, the component of task predicted stress and total score of DASS, negatively. Harsh evaluation predicted depression, anxiety, stress and total score of DASS, positively. The results of this research consistent with literature showed a significant relationship between perception of classroom structure and mental health of the high school students.

Key words: Classroom structure, mental health, students.

INTRODUCTION

Classroom is one of the environments that students spend most of their time in, and its quality plays an important role in their perception, feelings, and experiences. The students learn most of their required emotional skills in the classroom environment. Therefore, studying the student's perceptions and emotions in the classroom is very important (Mucherah, 2008; Dorman and Adams, 2004). Class structure includes organizing and designing of the classroom, and it is a context that helps the students form their knowledge about their surroundings. According to the theory of achievement

goals, educational context and structure affect students' performance, motivation and emotions undeniably (Bong, 2001; Patrick and Rayan, 2008).

Class structure is consisted of three aspects including task, evaluation and authority (Ames, 1992). Tasks focus on importance, attractiveness, and the relevance of learning activity. Task refers to level of the diversity, challenging, and being controllable. Motivating the students in the classroom affects the students' presence in the class (Mirzaei et al., 2016). Evaluation involves giving feedback to learners in order to raise awareness

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and motivate them (Ames, 1992). Evaluation focus is the degree which teacher emphasizes the important of grades. Harsh evaluation concerns the extent to which students perceive evaluations so frustrating that it interferes with their educational success (Church et al., 2001). Authority means giving learners the opportunity to decide and take responsibility for coursework. These three dimensions can affect student motivation (Ames, 1992).

Evaluation considers the students' perception of evaluation, depending on how evaluation is understood by students, can result to different patterns of motivation (Ames and Ames, 1984). In mastery structure of the class, teacher emphasis on the deeper learning and mistakes are a part of the learning process. In such context, learning is achieved through effort and challenging tasks that the teacher provides for students. Students that choose mastery goals use more self-regulation leading to academic achievement and utilize positive feelings which may influence their overall function (Greene et al., 2004). There are researches that reveal the negative feelings like anxiety and stress have a contrariwise effect on performance (Eysenck et al., 2007; Eysenck and Calove, 1992). Martínez-Sierra and García-González (2017) emphasize on the structural context that effects student's emotions. Based on this research, class structure is an effective factor for directing student's emotions which indicate individual cognition and feelings are not the only variables that influence student's emotion. On the other hand, the emphasis in performance focus class structure is placed on student's performance and grades. In fact, the ability of the students is determined by their performance and students compete with each other through gaining better grades (Migdely et al., 1998).

Researches on the class structure show a significant correlation between student perception and academic achievement (Bong, 2005). Different class structures, cause different emotional reactions. In fact, one of the major consequences of class structure is the emotions emerges among the students. Perception of class structure can lead to positive emotions such as school satisfaction and academic self-efficacy, enjoyment of learning, academic buoyancy, and self-esteem as well as negative emotions (Pilkaukaite-Valickaiene et al., 2011; Noushadi and Shekhol-Eslami, 2017; Meadus, 2007; DehghaniZadeh et al., 2014). Positive and negative emotions towards class can lead to behaviours that affect mental health (Gerdes and Mallinckordt, 1994). Mental health is considered as an ability to adjust and mastering social conflicts which, helps individual to integrate persons overall function (Abbaspour and Mousavi, 2018). However, researches about mental health and class structure are not quite clear, yet some studies indicate the relationship between class structure and mental health components like stress and anxiety (Gonida et al., 2009; Meece et al., 1988).

The researches indicate students with the mastery-approach goals can experience positive emotions such as the pleasure of learning and usually experience less negative emotions such as fatigue and anxiety (Gonida et al., 2009). Ames and Archer (1998) found that under achievement students in performance structure experienced more negative feelings in comparison to students who were attending in non-competitive structures. They stated that students who had lower academic achievement and experienced failure had more negative emotions in performance structure of the classroom. In addition, pupils who have higher outputs in master and performance approach goals, experience more positive emotions in comparison with those with high performance and low mastery goals (Pintrich, 2000). Altogether, in the mastery class the level of student's anxiety decreases by time, as student's concern is to master the task and not to have higher scores and compete with other students (Migdely et al., 1998). In contrast, students in performance class structure experience higher level of anxiety and stress (Meece et al., 1988). Also, teachers who support the student's autonomy affect their emotions (Assor et al., 2002) in addition, resulted in their emotional participation in the classroom (Hospel and Galand, 2016). Evaluation can lead to students' anxiety. Teacher's assessment had a significant relationship with exam anxiety, this may be due to student's inability in overcoming their assignments (Mohammadifar et al., 2011; Bahramian et al., 2010). Another study indicated the general academic achievement can lead to a higher level of self-efficiency and motivation toward classroom (Altunsoy et al., 2010; Meece et al., 1988; Hejazi and Naqsh, 2008).

It is worth mentioning that experiencing positive and negative emotions has frequent consequences. Researchers have confirmed that repetitive experience of negative emotions threatens the mental health of an individual (Bandura, 1997; Durand and Barlow, 1997) and creates behavioural incompatibilities. For example, exam anxiety is associated with problems such as dropout, academic failure, peer problems, substance abuse and mood disorders (Hart et al., 2016; González et al., 2016; Beidel and Turner, 2007; Pine et al., 1998; Rahafar et al., 2016). Besides, it is shown that class structure affects the reduction of students' verbal aggression (Bergsmann et al., 2013). In addition, class anxiety has a significant correlation with generalized anxiety (Ashcraft and Ridley, 2005). The education associations emphasize on the fact that educational institutions purpose is to educate students in order to increase mental health. Accordingly, the research question is to understand whether the perception of class structure predicts the mental health of high school students?

METHOD

The plan for this research is correlation. The class structure is

Table 1. Descriptive statistics.

Variable	Sex	Number	Mean	Standard deviation	Maximum	Minimum
Depression	Male	139	6.63	4.78	0	20
	Female	148	6.43	4.58	0	17
Anxiety	Male	139	4.39	3.74	0	19
	Female	148	4.73	3.27	0	18
Stress	Male	139	7.5	4.74	0	20
	Female	148	8.27	4.3	0	21
Task	Male	139	14.71	4.14	7	21
	Female	148	14.02	3.9	7	21
Harsh evaluation	Male	139	12.4	3.81	6	20
	Female	148	11.72	3.37	7	16
Evaluation focus	Male	139	9.38	2.22	3	15
	Female	148	10.32	2.06	3	15
Authority	Male	139	14.02	4.01	7	20
	Female	148	13.86	3.51	5	21
Dass-21	Male	139	19.09	12.4	0	55
	Female	148	20.19	10.81	2	42
Class structure	Male	139	50.01	5.89	62	28
	Female	148	49.49	6.49	68	17

consisted of task, strictness in evaluation, emphasis on evaluation and authority which is predictive variables. Mental health includes depression, anxiety, and stress which are criterion variables.

Statistical population in this research were high school students in Shiraz city. 287 students (140 girls, 147 boys) were selected through multi-stage cluster random sampling in 2016. Accordingly, four high schools and two classrooms of each high school were selected randomly. This study was performed on all of these students.

Measurement tools

Perceived classroom structure questionnaire

This questionnaire contains 17 questions and four subscales consist of task (5 items), harsh evaluation (4 items), evaluation focus (3 items) and authority (5 items) (Jowkar, 2002). 12 items of this questionnaire belong to the first three components which are from the Church et al. (2001) research. Also the items related to authority component were generated by Jowkar (2002) who derived it from Ames (1992) research.

This questionnaire has a 5-point Likert scale, scoring from 1 (strongly disagree) to 5 (strongly agree). The validity of the questionnaire was calculated through correlation coefficient of each item score with the total score of its subscale. The range of correlation coefficient in task subscale was 0.63 to 0.86, harsh evaluation subscale was 0.69 to 0.86, evaluation focus subscale was 0.68 to 0.77 and authority subscale was 0.62 to 0.70. Reliability of the questionnaire was also measured via Cronbach's alpha coefficients. This coefficient was 0.80, 0.79, 0.72 and 0.67 for task, harsh evaluation, evaluation focus and authority subscales, respectively (Jowkar, 2002).

In addition, in the research by Noushadi and Sheikholeslami (2017), reliability of the subscales using Cronbach's alpha coefficient were 0.75, 0.76, 0.50 and 0.70 for task, harsh evaluation, evaluation focus and authority respectively.

Depression, anxiety and stress scale (DASS21)

In order to measure mental health, DASS21 was used containing 7 questions for depression, 7 questions for anxiety and 7 questions for stress (Lovibond and Lovibond, 1995). Participants indicated their response to each item on a 0 (never) and 3 (frequently). Lovibond and Lovibond (1995) found the validity of this scale using convergence method with Beck et al. (1988) 0.40. Scale's reliability was assessed by Cronbach's Alpha and it was 0.94, 0.92 and 0.82 for depression, anxiety, and stress, respectively (MoradiPanah, 2005). In the present study, the reliability of subscales was tested by Cronbach's alpha. Coefficient was 0.80, 0.75 and 0.77 for depression, anxiety, and stress, respectively. Cronbach's alpha coefficient for the total score of scale was 0.89.

FINDING

Descriptive findings of this research are reported in Table 1. Correlation between research variable were calculated by Pearson correlation coefficients. As is observed in Table 2, there is a significant relationship between most of the variables.

Stepwise regression analyses were employed in order to predict mental health of students by class structure. As is shown in Table 3, in the first step harsh evaluation ($\beta=0.34$, $p<0.001$) and in the second step harsh evaluation ($\beta=0.26$, $p<0.001$) and task ($\beta=-0.18$, $p=0.002$) could predict depression. In addition, in first step task could predict stress ($\beta=-0.22$, $p<0.001$). In the first step, harsh evaluation ($\beta=0.26$, $p<0.001$) and in the second step, harsh evaluation ($\beta=0.18$, $p=0.003$) and task ($\beta=-0.18$, $p=0.004$) predicted total score of mental health.

Table 2. Correlations among study variable.

	1	2	3	4	5	6	7	8	9
Depression	1								
Anxiety	0.58**	1							
Stress	0.67**	0.66**	1						
Total score (DASS)	0.87**	0.83**	0.89**	1					
Task	-0.30**	-0.15*	-0.22*	-0.26**	1				
Harsh evaluation	0.34**	0.15**	0.18**	0.26**	-0.42**	1			
Evaluation focus	0.04	0.02	0.08	0.05	-0.24**	0.23**	1		
Authority	-0.22**	-0.14*	-0.15**	-0.19**	0.50**	-0.36**	-0.25**	1	
Total score class structure	0.04	-0.04	-0.02	-0.01	0.68**	0.55**	0.53**	0.52**	1

* $p < 0.05$; ** $p < 0.01$.

Table 3. Summary of stepwise regression analyses.

Steps	Predictive variable	Criterion variable	F	P	R	R ²	β	t	P
First step	Harsh evaluation		37.83	0.001	0.34	0.11	0.34	6.15	0.001
Second step	Harsh evaluation	Depression	24.37	0.001	0.38	0.14	0.26	4.3	0.001
	Task						-0.18	3.1	0.002
First step	Harsh evaluation	Anxiety	7.41	0.007	0.15	0.02	0.15	2.72	0.007
First step	Task	Stress	15.31	0.001	0.22	0.05	-0.22	3.91	0.001
First step	Harsh evaluation	Total score	20.83	0.001	0.26	0.06	0.26	4.5	0.001
Second step	Harsh evaluation		15	0.001	0.30	0.09	0.18	2.9	0.003
	Task						-0.18	2.9	0.004

DISCUSSION

The results of present study showed that classroom structure affects student's mental health. These findings are consistent with the results of studies that have shown the effect of class structure on academic buoyancy, affects, emotions, and academic performance directly (Greene et al., 2004; Gerdes and Mallinckordt, 1994; Martin and Marsh, 2008; Carroll et al., 2009; Beidel and Turner, 2007; Pine et al., 1998; Assor et al., 2002; Martinez-Sierra and Garcia-Gonzalez, 2017; Altunsoy et al., 2010; Hejazi and Naqsh, 2008) or indirectly (Eysenck et al., 2007; Eysenck and Calove, 1992). The results of the research revealed that component of task predicted stress and total score of student's mental health, negatively. In other words, increasing task attractiveness decreases stress of the students and improves their mental health. Students' stress can be reduced by increasing the attractiveness of academic content. Tasks that effect student's interest may result positive emotions in students. This result is consistent with research of Martinez-Sierra and Garcia-Gonzalez (2017), Eysenck et al. (2007), Eysenck and Calove (1992), Altunsoy et al. (2010) and Mirzaei et al. (2016). In fact, enhancing attractiveness, variety and diversity of task can create positive climate in class. Also controllability of task gives

students sense of control and reduces stress among them.

Another finding of the study showed that harsh evaluation increased anxiety, depression and total score of student's mental health. This finding is consistent with theoretical foundations and previous research evidence (Hart et al., 2016; Beidel and Turner, 2007; González et al., 2016; Pine et al., 1998). According to scientific literature, the more difficult the evaluation, the higher test anxiety was observed among the students. Such anxiety leads to various emotional-behavioural problems including depression, dropout and drug abuse (Hart et al., 2016; González et al., 2016; Beidel and Turner, 2007; Pine et al., 1998; Ashcraft and Ridley, 2005). One of the reasons for students' anxiety and depression is their worry about incapability to do the task (Mohammadifar et al., 2011; Bahramian et al., 2010). It is seems that harsh evaluation increase feeling of incapability and helplessness, thus, these emotions result to anxiety and depression. On the other hand, the high expectations of the teacher, which appears in the evaluation, decrease the mental health of students. Previous research showed harsh evaluation can affect students' academic emotions and this interferes with their academic achievement (Rahafar et al., 2016; Meece et al., 1988; Hejazi and Naqsh, 2008; Pintrich, 2000; Mohammadifar et al., 2011;

Bahramian et al., 2010).

The result of this research can have important implications for educators and teachers. More appealing task improve student's mental health so, by focusing on the attractiveness of textbooks context, it is expected that student's motivation and overall educational performance to improve in addition to experiencing less negative emotions in the classroom. The negative effect of harsh evaluation on the students' mental health has been studied in previous researches and it is used as a tool for comparison and illustrates student's shortcomings, which effects student's mental health. It is necessary for the teachers to formulate evaluations based on the capabilities of the students to aim students learning.

Limitations

The classroom structure scale showed little reliability, despite having a proper validity. Also, the statistical population was not clear to calculate the sample size.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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