

The Effectiveness of Mindfulness Deep Breathing in Classical Format to Increase Students' Academic Engagement

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Abstract

Studies related to mindfulness deep breathing up to this point have been focused on individual and group contexts. Therefore, this study aimed to prove that mindfulness deep breathing in classical format is effective to increase students' academic engagement. This study used multiple pretest posttest research design. Meanwhile, the subjects were students of X IPA 1 and IPA 3 classes in SMA Kesatrian 2 Semarang. To collect the data, this study used Student Engagement Instrument (SEI) which focused on affective and cognitive aspects. The results of repeated measure test proved that mindfulness deep breathing in classical format was effective to increase students' academic engagement ($F_{(1,72)} = 315.05$; $p < 0.001$). In addition, within subject test showed an increase in pre-test ($M = 176.76$; $SD = 8,81$), post-test ($M = 113.76$; $SD = 8.57$), and follow-up ($M = 120.79$; $SD = 6.169$). In brief, the mindfulness deep breathing implemented in the classroom effectively increased students' academic engagement.

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INTRODUCTION

Academic engagement can be interpreted as a sense of belonging of students to the school and the identification to the school (Kortering & Christenson, 2009). A student who has high academic engagement will have high sense of belonging to his/her school. Academic engagement becomes very important since learning process in the class basically will not run well if there is no attachment from students. (Marks (2000) confirms that students' engagement emphasizes affective and behavior participation in the process of learning. In addition, academic activities participation also belong to academic engagement at school (Willms, 2003)

Jimerson et al. (2003) confirms that academic engagement emphasizes on students' participation in academic activities. The high academic engagement of a student will make he/she has high academic engagement in each academic process he/she follows. This thing is significant because it shows how students perform pro-active behavior in each school activity, have a sense of belonging of their school, and a good relationship with their surroundings (Jimerson et al., 2003). This engagement proves that an academic process will not run well with the absence of students in it.

Mindfulness emphasizes awareness to focus on current goals (Kabat-Zinn 2006) and accept the current condition (Waskito et al., 2018). Minkos et al's study (2017) reveals that mindfulness is effective to increase students' academic engagement. Black et al. (2009) also confirms that adolescents who participated in the mindfulness program experience an increase in engagement in the school.

In this study, the mindfulness was given in the classical form (classroom). This was done by considering a statement from Singh et al. (2013) who suggest that teachers' participation in MBI (mindfulness based intervention) with a classical format can positively increase the students' behavior. MBI in classical format can also increase cognitive capacity during the learning process (Zenner et al., 2014). Further, the use of

deep breathing for mindfulness intervention in this study was inspired by Susanti, et. al (2019). It was also motivated by Minkos et al. (2017) who argue that deep breathing technique can be used to increase students' academic engagement.

Based on a previous study by Minkos, et. al. (2017) it was known that mindfulness deep breathing is effective to improve students' academic engagement. However, it was limited to individual level, and suggests the future researchers to provide the intervention for broader scale, namely classical. Therefore, this study attempted to clarify and assert the effectiveness of mindfulness deep breathing to increasing students' engagement in classical format.

METHODS

This study used a repeated measure test with a pretest and multiple posttest design by involving 72 students of IPA 1 and IPA 3 classes. Both groups were given the same intervention and three times repeated assessments, namely pretest, posttest and follow-up, to test the consistency of mindfulness deep breathing.

To collect the data, this study used Student Engagement Instrument (SEI) compiled by Appleton et al. Since SEI instrument still uses English, it was presented in Indonesian by using back translation. The scale consisted of 35 items, one of the statement was "other students care about me". This instrument included two aspects namely affective and cognitive. There were six sub-indicators namely the relationship with the teacher, peer support, parental control support and engagement to learning tasks, aspirations and future goals, and intrinsic motivation. For more, this instrument used 4 levels of scale, namely strongly disagree (STS), disagree (TS), agree (S), and strongly agree (SS). The level of reliability of this instrument was estimated to have an alpha coefficient of 0.868, so it was included in very strong category.

Mindfulness deep breathing intervention was carried out with a duration of 10 to 15 minutes before the mathematics lesson began. The students were asked to follow every

instruction given related to deep breathing, such as they were asked to inhale slowly until several times.

Additionally to analyze the data, this study used the repeated measure test with the help of SPSS 23 to see the differences of mindfulness deep breathing effect in classical format in increasing student academic engagement seen from differences of time, gender and groups.

RESULTS AND DISCUSSION

The description of the data in this study showed that the mean and standard deviation of students' academic engagement increased, namely the pre-test (M = 107.76; SD = 8.18), post-test (M = 113.19; SD = 8.57) and follow-up (M = 120.79; SD = 6.16). in details, the data are presented in the following table.

Table 1. Data Description

	M	SD
Pretest	107.76	8.18
Posttest	113.19	8.57
Follow Up	120.79	6.16

As previously mentioned, this study used repeated measure test technique to determine the effectiveness of mindfulness deep breathing in classical format in increasing students' academic engagement at pretest, posttest and follow up. The test results are presented in the following table.

Table 2. The Results of Repeated Measure Test

Effects	F	df	P
Time	315.05	1.72	< 0.001
Male	144.45	1.32	< 0.001
Female	178.50	1.40	< 0.001
IPA 1	165.50	1.36	< 0.001
IPA 3	178.50	1.36	< 0.001
Gender	9.64	1.72	< 0.05
Class	1.87	1.72	> 0.05
Time x Gender	3.30	1.72	> 0.05
Time x Class	.70	1.72	> 0.05

Based on Table 2, the results of repeated measure analysis showed an inter-time effect in the increase of students' academic engagement ($F_{(1.72)} = 315.05$; $p < 0.001$), in male students ($F_{(1.32)} = 144.45$; $p < 0.001$), and in female students ($F_{(1.40)} = 178.50$; $p < 0.001$). Furthermore on the gender effect, the academic engagement

positively increased in both gender, yet there were differences between them ($F_{(1.72)} = 9.64$; $p < 0.05$). Meanwhile, the data of time and gender showed that there was no interaction in the increase of academic engagement.

Furthermore, the inter-time effects also occurred in each group that was in X IPA 1 ($F_{(1.36)} = 165.50$; $p < 0.001$) and in X IPA 3 ($F_{(1.36)} = 178.50$; $p < 0.001$). The academic engagement of both of classes increased and there was no difference between them ($F_{(1.72)} = 1.87$; $p > 0.05$). The data showed that there was no difference in the both classes increase. Next, the interaction between time and class apparently contributed no interaction in the increase of academic engagement. In brief, it was known that the increase of academic engagement in both classes, X IPA I and IPA 3 occurred after the treatment of mindfulness deep breathing in classical format was applied and this changes were influenced by the effects of time, gender and classes.

When viewed from the indicators of SEI scale, the indicators of affective and cognitive aspects were found increased from initial to final assessment. The affective indicator covered the relationship with teachers, peer support, and parent support, while cognitive indicator covered control and engagement toward learning tasks, aspiration and future goals as well as intrinsic motivation.

Table 3. The Results of Each Aspect Analysis

	F	df	p
Affective	210.56	1.72	< 0.001
Cognitive	77.37	1.72	< 0.001

Based on the table above, the result of repeated measure test on both aspects of SEI increased by having effective engagement was ($F_{(1.72)} = 210.56$; $p < 0.001$), and cognitive engagement was ($F_{(1.72)} = 77.37$; $p < 0.001$). In other words, there was an increase in each academic engagement aspect.

These results are in line with several previous studies findings with the topic of the implementation of mindfulness deep breathing in increasing student's academic engagement. First Zenner et al. (2014) suggest that MBI (Mindfulness-based Intervention) in classical

format (classroom) is able to increase cognitive capacity in learning. This study found that the increase in students' academic engagement especially in cognitive aspect occurred after the mindfulness intervention in classical format was given.

Second, Minkos et al. (2017) argue that mindfulness deep breathing can be used to increase students' academic engagement. Students who have problems related to academic engagement experience an improvement and maintain it for six weeks consecutively. Shortly, this study asserts that the mindfulness deep breathing technique is effective to improve students' academic engagement.

Regarding to previous explanation, the implementation of mindfulness deep breathing in classical format tried to increase students' academic engagement especially in affective and cognitive aspect. This was done by considering that the engagement of students in learning process is important. As explained earlier, the engagement covered affective aspect, namely the relationship with teachers, peer support, and parent support, and cognitive aspect which covered control and engagement toward learning tasks, aspiration and future goals, as well as intrinsic motivation.

The implementation of mindfulness deep breathing in classical format could improve students' academic engagement. It was because in its process, students are directed to focus on their current condition, and the goals they wanted to achieve (Kabat-Zinn, 2006). Also, this technique enables students to be relax and manage their unfavorable condition like pressure and stress (Kottler & Chen in Erford, 2016). In this study, the implementation of mindfulness deep breathing in classical format was conducted 10-15 minutes before math learning. Apparently, it affected to the students participation to be more getting involved and active during the learning process.

Based on the results of this study, the implication for counselors is in order to improve students' academic engagement, they can used mindfulness deep breathing in classical format. However, there are several important things that

counselors need to concern during the implementation of counseling service with deep breathing technique. One of them is the availability of sufficient time to modify the service. When counselor used mindfulness intervention, the first aspect that counselor has to know is focus on the awareness and current goals (Kabat-Zinn, 2006). It will give impact on the improvement of students' academic engagement aspects.

The findings of this study proved that mindfulness deep breathing was effective to improve students' academic engagement. Similarly, this also happened in the previous studies. Unfortunately, this study still had a limitation that the intervention was given to all classes. Thus, this study could not find any differences when it had experimental and control groups (placebo).

CONCLUSION

Based on the description of findings, it can be concluded that that the mindfulness of deep breathing in classical format is effective to improve the academic engagement of the students of SMA Kesatrian 2 Semarang. Then, it is recommended for counselors to use mindfulness deep breathing in a classical format to improve students' academic engagement. Afterwards, considering the limitation of this study, further researchers are expected to conduct the study using experimental and control groups (placebo). Also, this study only gave the follow up to subjects only for two weeks. Indeed, the future studies are also expected to provide follow up more than two weeks.

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