The Role of Education Level in Online Peer Feedback Performance for Argumentative Essay Writing

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Abstract: Peer feedback is an effective instructional strategy for improving students' argumentative essay writing in higher education. However, little is known how do differently or similarly bachelor's and master's students perform in their peer feedback activities for essay writing. This study sought to identify the role of education level in students' peer feedback performance for argumentative essay writing. In this exploratory study, 47 bachelor's students and 56 master's students from Wageningen University and Research participated and it took place in an online learning platform called Brightspace. In this platform, students first were asked to write an argumentative essay on the provided topics, and then they were asked to give feedback to their peers' argumentative essays based on the given criteria. The results showed that there is a difference between bachelor's and master's students' peer feedback performance. Master's students provided more cognitive feedback than bachelor's students. That means master's students identified problems in their peers' argumentative essay writing more than bachelor's students and they also provided more justifications in their peer feedback. Based on the results, recommendations for future practice are presented.

Keywords: argumentative essay writing, education level, higher education, online peer feedback

Introduction

Argumentation is a key academic skill for students in higher education (Prata et al., 2019). It is expected from higher education students to be able to follow a systematic process of reasoning alongside providing scientific facts and evidence to support their position, idea, action, or theory regarding a scientific topic. Typically, this critical activity is practiced by writing an argumentative essay (Liunokas, 2020), where students can start with an introduction on a topic, followed by standing a clear position on that topic and supporting the position with

arguments and evidence. Then, students provide counter-arguments with evidence to the original position, and responses to the counter-arguments are presented. Finally, students can warp their essay up with a conclusion and implications (Noroozi et al., 2016; Latifi et al., 2021a; Toulmin, 1958).

Recently, the class sizes in higher education have grown (Banihashem & Macfadyen, 2021; Shahali Zadeh et al., 2016; Shi, 2019) and due to the high workload, teachers are not able to provide effective one-by-one feedback on students' argumentative essay writings (Noroozi & Hatami, 2019; Latifi & Noroozi, 2021; Latifi et al., 2021b). In a such situation, peer feedback has been introduced as an effective instructional strategy to help students with improving their argumentative essay writings (Noroozi et al., 2020; Latifi et al., 2020; Valero Haro et al., 2019). In the peer feedback process, students are given a guideline to know how to give feedback and then they engage in a learning activity where they critically review their peers' essays, identify gaps and problems in peers' essays, explain why this is a problem and it needs to be fixed, and finally, provide suggestions for the improvements (Noroozi et al., 2016; Latifit et al., 2021). According to the literature, this high-level educational activity was found to be an effective strategy to improve students' argumentative essay writings (e.g., Latifi & Noroozi, 2021; Noroozi & Hatami, 2019).

However, what is a missing point in the literature is that we know little about differences or similarities in bachelor's and master's students' peer feedback performance for improving peers' argumentative essay writing (Aghaee & Keller, 2016; Yu et al., 2019). Do bachelor's and master's students provide feedback with similar quality? What we know is that in general, master's students are more independent and critical in their works and they are expected to perform peer feedback activities with higher quality compared to bachelor's students (Aghaee & Keller, 2016). Some factors could affect the effectiveness of peer feedback such as learning experiences, academic writing purposes, study programs, personal beliefs, and English proficiency levels and these factors tend to be different between bachelor's and master's students (Yu et al., 2019). Another study showed that bachelor's and master's students differ in terms of their motivation and learning strategies (Van Seters et al., 2012). Although it is expected to see that master's and bachelor's students engage differently in their peer feedback activities, there is little to no empirical evidence to study differences or similarities between bachelor's and master's students' performance in peer feedback activities. Therefore, this study is aimed to explore bachelor's and master's students' differences or similarities in peer feedback performance by addressing the following research question.

RQ. What are the differences in bachelor's and master's students' peer feedback performance for improving peers' argumentative essay writing?

Method

Study Design

This exploratory study took place at Wageningen University and Research in an online learning platform so-

called Brightspace in the 2020-2021 academic year. Students from two courses including "Global Health" at BSc level and "Academic Argumentation in Scientific Writing and Debate" at MSc level followed a module called "Argumentative Essay Writing" in three weeks. In the first week, students were asked to write an argumentative essay on three given topics. In the second week, students were asked to provide feedback on two of their peers' argumentative essays based on the given criteria. In the third week, students were asked to revise their essays according to the feedback sets they have received from their learning peers.

Participants

In this study, 103 students participated of which 56 students were at the MSc level and 47 students were at the BSc level. All students were informed about the research setup of the module and their consent for this research has been received. Also, ethical approval has been received from the Social Sciences Ethics Committee at Wageningen University and Research for this research.

Measurement

To measure students' peer feedback performance, the authors developed a coding scheme to assess the quality of students' online peer feedback performance based on the review of relevant recent studies (e.g., Nelson & Schunn, 2009; Wu & Schunn, 2020). This coding scheme analyzes the features of given peer feedback and it includes three elements: (1) affective (2) cognitive (description, identification, and justification), and (3) constructive. The coding scheme is scored from zero (poor quality) to two (good quality) and all given points together indicate students' overall score for the quality of peer feedback performance. Since each student has received two sets of feedback, therefore, the average score from the two sets of feedback was considered as the overall score for peer feedback. The same five coders participated in the coding process of peer feedback. The inter-rater reliability between the coders reported 65% (Fleiss' Kappa = 0.65 [IC 95%: 0.66-0.84]; z= 16.42; p<0.001) indicating significant agreement between the coders.

Analysis

MANCOVA test was conducted to compare the differences in peer feedback performance of bachelor's and master's students.

Results

What are the differences in bachelor's and master's students' peer feedback performance for improving peers' argumentative essay writing?

The results showed that bachelor's and master's students differ in terms of their peer feedback performance.

Master's students identified problems in their peers' essays more than bachelor's students. Likewise, master's students justified the identified problems in their feedback more than bachelor's students (see Table 1).

Table 1. Education Level Differences for Peer Feedback Performance

Variables		Education level	Peer feedback quality		Statistical differences between bachelor and master
			Mean	SD	
Affective		Bachelor	1.63	0.16	F (0.41), p = 0.52
		Master	1.60	0.18	
		Total	1.61	0.17	
Cognitive	Description	Bachelor	1.24	0.33	F (0.34), p = 0.55
		Master	1.28	0.39	
		Total	1.26	0.36	
	Identification	Bachelor	0.35	0.24	$F (57.43) = 0.55$, $p < 0.01$, $\eta2 = 0.36$**
		Master	0.79	0.33	
		Total	0.59	0.36	
	Justification	Bachelor	0.01	0.03	$F (99.04) = 6.95$, $p < 0.01$, $\eta2 = 0.50$**
		Master	0.21	0.13	
		Total	0.11	0.14	
Constructive		Bachelor	0.89	0.42	F (0.02), p = 0.88
		Master	0.88	0.39	
		Total	0.88	0.40	

Discussion and Conclusion

This study provides insights into how bachelor's and master's students perform in their peer feedback activities for the purpose of improving argumentative essay writing. The results showed that master's students provide feedback on their peers' argumentative essays with higher quality compared to bachelor's students. This finding can be supported by the literature where it was said that master's students are expected to be more critical in their works (Aghaee & Keller, 2016). That can be seen as a reason why master's students provided better feedback on their peers' essays. In addition, master's students seem to have more academic writing experiences and more content knowledge compared to the bachelor's students (Ye et al., 2019). This might be also an explanation for the better performance of master's students compared to bachelor's students in peer feedback activity. This finding suggests that maybe bachelor's students need more support than master's students in order to provide effective feedback on their peers' work. The finding of this study can contribute to extending our knowledge on the role of education level in peer feedback performance for improving argumentative essay writings.

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