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Original Article

Effects of 8 flipped learning implementation meetings integrated with podcasts in sports entrepreneurship course

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Abstract:
The unemployment rate is increasingly becoming a challenge for students to be able to create jobs. The sports entrepreneurship course accommodates these challenges. The diversity of student characteristics in the millennial era requires a special strategy to deliver material, one of which is the flipped learning strategy that is integrated with the audience (podcast). This study aims to determine the effect of 8 integrated implementation meetings with podcasts in the sports entrepreneurship course. This study is an experimental study with a *Non-equivalent Control Group Design*. This study involved 40 students (males = 24, females = 16; 23.32 ± 1.87) from the Department of Sports Coaching Education, Faculty of Sports Science, State University of Malang. A questionnaire consisting of 40 questions was distributed to obtain data. Data analysis was performed using the T-test Independent Samples Test using SPSS version 23. The obtained results showed that there was a difference between the experimental (0.000 < 0.05) and control (0.003 < 0.05) groups. The difference in values indicates that the experimental group has a better significance level than the control group. In conclusion, flipped learning integrated with podcasts for eight meetings can effectively improve learning outcomes in sports entrepreneurship courses. The flipped learning continuum proposed in this article offers a new direction in discussing best practices for flipping the classroom in a way that best supports student engagement and learning. Flipped learning has been seen as an essential pedagogical approach in increasing student achievement, increasing student motivation, and providing more time in class for educators and students to ask high-level questions and receive on-the-spot feedback.
Key Words*:* flipped learning, student preferences, learning modalities, entrepreneurship

Introduction

Entrepreneurship is an important part that students need to have, especially sports students. Since the 1970s, the sport has taken on an increasing role in the globalization of business and public events, with sports participants, capital, and labor moving around the world (Zhang et al., 2018). In this century, the sports industry has exponentially increased its influence on economic development and, thus the interest it receives from the academic community (Pellegrini, 2020). Re-adapting some aspects of sports entrepreneurship is related to discovering, creating, and pursuing new opportunities or carrying out any innovative activity in the context of sports, with a main focus on the human aspect (Vanessa, 2012). Students are required to be able to create jobs amid high unemployment rates. The Central Statistics Agency (BPS) in Indonesia noted that the number of unemployed people in Indonesia reached 8.42 million people in August 2022. This number has increased compared to February 2022, which was 8.40 million people. Students still need to have the ability to become an entrepreneur even though some of them have entrepreneurial talent, so that becomes a problem as well as a challenge that must be resolved immediately. This problem is important to be resolved immediately.

Through the noble eyes of entrepreneurship, students learn about entrepreneurial strategies in the digital era. Students are prepared to be able to do entrepreneurship, especially in the field of sports. The diversity of student characteristics also needs attention from the teaching staff regarding the appropriate methods for conveying material about entrepreneurship. One learning strategy that can be applied is flipped learning.

Flipped learning for students has become one of the instructional trends in recent years. This instructional approach is attractive because it can free up class time for knowledge application activities with help from instructors and peers (Huang et al., 2019). Studies report that student-centered learning can lead to higher levels of student autonomy, performance, and motivation (Smit et al., 2014), increased active learning (Hung, 2015), and positive emotions (Jdaitawi, 2020). As one of the most effective student-centered learning models, the flipped learning approach reverses the learning process from traditional classrooms by asking students to review learning materials before coming to class (Hao, 2016).

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In recent years, the flipped learning model has become a fashionable instructional development in educational technology, especially in higher education technology (Hao, 2016). The flipped learning model, which carries the spirit of student-centered pedagogy, has been gaining increasing attention at all levels of academia (Hao, 2016). Empirical studies report that two courses that are reversed/mixed produce student learning outcomes that match or exceed those of traditional courses. In addition, students in reverse/mixed courses reported higher satisfaction with their learning experience than their peers (Baepler et al., 2014).

Flipped learning is one of the instructional approaches that teachers can use in the learning process. The benefits of implementing flipped learning include increased student learning outcomes (Akbarialiabad et al., 2021; Hung, 2015), increased positive emotions from students (Jdaitawi, 2020), and increased student behavioral and cognitive engagement (Huang et al., 2019). The success of flipped learning cannot be separated from presenting the right content. These studies are limited to the application of flipped learning only, there are no studies that combine flipped learning with a content presentation in the form of podcasts. Podcasting has become a familiar practice in education because it is readily available and free to use (McMahon et al., 2016; Swan & Hofer, 2009). Content presentation in the form of podcasts can be repeatedly studied by students because podcast media can be in the form of MP3 or video files.

Several subjects implementing flipped learning are reported to have succeeded in improving learning outcomes (Akbarialiabad et al., 2021), critical thinking skills (Ibrahim et al., 2018), and student engagement (Huang et al., 2019). The Sports entrepreneurship course must be taken by students at the Department of Sports Coaching Education, Faculty of Sports Science, State University of Malang. This course requires students to be able to master how to do entrepreneurship through sports. The content of this course includes marketing management, organizational management in sports, internalization of business values, and the creation of superior products and services in sports organizations. Until now, no studies have reported the application of flipped learning in sports entrepreneurship courses, but there have been applications in physical education (Hinojo Lucena et al., 2020) and entrepreneurship courses in general (Senali et al., 2022). In this study, the sports entrepreneurship course provides content in the form of podcasts, which allows students to repeatedly study the material. Learning, which usually begins with the delivery of material by the teacher, is now reversed; students are asked to study the material first before interacting with the teacher. This study is very important for implementing effective learning. In addition, integrating podcasts in flipped learning is also an innovative strategy for lecturers in carrying out the learning process.

Therefore, this study was conducted to determine the effect of implementing flipped learning integrated with podcasts on learning outcomes in sports entrepreneurship courses. This approach was used for eight meetings. The researchers tried to combine flipped learning and podcasts as a novel approach. The findings of this study are expected to be an additional reference, especially for lecturers in the field of sports, for using flipped learning and podcasts in the courses to achieve learning goals.

Literature Review

Flipped Learning in High Education

The main basis of Flipped Learning is that students engage with meaningful content before attending class, while during class, students are required to think at a higher level (O'Flaherty & Phillips, 2015). Bishop (2013) defines “flipped learning” as “interactive group learning activities” within the classroom and instructs students to learn computer-based (i.e. video lectures) outside of the classroom.

Many studies have reported the benefits of flipped learning for teachers and students. For example, using active learning strategies in the classroom allows teachers to better understand students' learning styles and difficulties; to use class time more effectively and creatively, and meet the learning needs of diverse groups of students by customizing curricula and offering personalized teacher-to-student guidance and peer-to-peer collaboration (Fulton, 2012; Roehl et al., 2013). Students also respond positively to the reverse learning approach, with studies reporting that it is more effective at engaging students than a traditional university course (Fulton, 2012; McCarthy, 2016; Nouri, 2016), and eliciting positive emotions and attitudes toward learning (Jeong, González-Gómez, & Cañada-Cañada, 2016). Roehl et al. (2013) and Vaughan (2014) argue that engagement is a more important consideration in the Millennial student era than ever before, arguing that Millennials are more intolerant than other generations of traditional lecture-style pedagogy.

Behind the benefits of flipped learning, it contains two major jobs, namely that considerable work is required to compile and coordinate learning materials and activities, especially quality videos, and students may be resistant to doing work outside the classroom (at home) and come unprepared to class to participate in activities planned. (Herreid & Schiller, 2013; Milman, 2012).

Flipped learning integrated with podcast

Flipped learning instructs students to study at home before attending class. The content provided by the teacher can be in the form of videos, slideshows, or audio. The audio approach (podcast) is likely to increase students' understanding of the material that has been prepared by the teacher (Knoop-van Campen, 2020). The application of flipped learning in sports entrepreneurship courses requires students to remember and expand their knowledge of entrepreneurship that they learned before attending class. All students learn the content the teacher has compiled in the form of a podcast before they attend class. During class activities, the lecturer gave several questions to stimulate students to discuss.

Materials and methods

Method

This study uses a quantitative approach with a quasi-experimental design and a *Non-equivalent Control Group Design*. To achieve the goal, two groups (control and experimental) were defined. Lecturers applied traditional learning to the control group, while in the experimental group, lecturers used an innovative teaching and learning process based on flipped learning integrated with podcasts. This method is intended to ensure that success in participating in sports entrepreneurship courses is really caused by the independent variable.

Participants

This study involved 40 students (males = 24, females = 16; 23.32 ± 1.87) from the Department of Sports Coaching Education, Faculty of Sports Science, State University of Malang. The sampling technique used is purposive sampling, with the criteria of the research subjects being students who have not taken entrepreneurship courses and are willing to take part in the research for eight meetings.

Instrument

For data collection, this study used a test in the form of a questionnaire consisting of 40 items. The questionnaire is divided into two segments. The first segment (sociodemographic variables) includes age, gender, domicile, religion, academic year, learning difficulties, availability of learning technology resources, and types of technology resources. The second segment includes questions on entrepreneurship materials such as marketing management, organizational management in sports, internalization of business values, and the creation of superior products and services.

Procedure

The questionnaire was validated in March of 2022. After the validation process was completed, the second stage was to recruit research subjects. After acquiring the research subjects, all subjects were given a pre-test to evaluate their initial understanding of sports entrepreneurship material. The third step grouped the subjects into the control and experimental groups based on the initial test results. The grouping was based on Ordinal Pairing Subject Matching. In the fourth stage, the control group received traditional teaching, while the experimental group received teaching with flipped learning-based innovation integrated with podcasts. In the fifth stage, after eight meetings were completed, all subjects were asked to fill out the questionnaire again to determine the final abilities. Through the consent form, students are informed that their data will be treated in a manner that will maintain their anonymity, privacy, and confidentiality. Finally, all information is exported to a statistical program for in-depth analysis.

Data Analysis

The obtained data are tested for normality, and the homogeneity test and hypothesis testing are performed by T-test Independent Samples Test using SPSS version 23.

Results

Table 1 shows the normality test results, which show that the data from both groups are normally distributed (Sig value > 0.05). The homogeneity test results (Table 2) indicate that the variation of learning outcomes data, both pretest and posttest, is homogeneous.

Table 1. Kolmogorov–Smirnov Normality Test Results

Phase	Group	Kolmogorov–Smirnov		
		Statistic	df	Sig.
Pretest	Experimental	0.074	18	0.200*
	Control	0.125	18	0.200*
Posttest	Experimental	0.117	18	0.200*
	Control	0.161	18	0.138

*This is a lower bound of the true significance
a. Lilliefors Significance Correction

Table 2. Levene's Homogeneity Test Results

Phase	Levene's Statistics	df1	df2	Sig.	Criteria
Pretest	2.774	1	30	0.104	Homogeneous
Posttest	2.338	1	30	0.135	

To determine whether there is a difference between each group, it is necessary to use a paired samples posttest–pretest test for the experimental and control groups (Table 3).

Table 3. Paired Samples Test Results

Group	t	Df	Sig. (2-tailed)
Pretest–Posttest Experimental Group	19.971	18	0.000
Pretest–Posttest Control Group	3.770	18	0.003

The results of the Paired Samples Test posttest–pretest experimental and control groups (Table 3) showed the magnitude of the p-value coefficient of the experimental group (0.000 < 0.05) and of the control group (0.003 < 0.05), which indicated that there was a significant difference between the experimental and control groups. To identify differences before and after the treatment, an independent sample t-test was conducted (Table 4).

Table 4. Results of the Independent Sample T-test Analysis

		Levene's Test for Equality of Variances		T-test for Equality of Means				
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Pretest-Posttest	Equal variances assumed	3.08	0.88	9.50	30	0.000	28.662	3.087
	Equal variances not assumed			9.24	26	0.000	28.662	3.167

Table 4 shows that the P-value (Sign. 2-tailed) is 0.000 < 0.05. Therefore, the difference is significant at a probability of 0.05. The large difference in the average value is shown in the mean column (i.e., 28.662), which means that the experimental group has a higher average value than the control group; thus, it can be concluded that flipped learning integrated with podcasts applied to the experimental group is more effective than traditional learning in the control group.

Discussions

In this section, we review the research questions to discuss the main findings on the effect of integrated flipped learning with podcasts applied in universities, especially in sports entrepreneurship courses. The main research question is whether using flipped learning integrated with podcasts can improve learning outcomes for sports entrepreneurship courses. Thus, the novelty of this research consists of the application of flipped learning in sports courses, especially entrepreneurship courses, and the integration of podcasts as a medium to provide learning content.

The findings show that students whose learning process includes flipped learning integrated with podcasts get better learning outcomes than students with traditional learning processes. This finding confirms that teaching strategies that involve technology are important factors in influencing the learning outcomes expected by students. This finding is also consistent with previous studies that found the effect of flipped learning on learning success (Hinojo Lucena et al., 2020; Hwang et al., 2019; Jdaitawi, 2020; Kim et al., 2021).

Currently, students tend to use technology in their daily life and education, as observed by instructors; therefore, the integration of technology into flipped learning can support their learning (Jdaitawi, 2020). In other words, the flipped learning model enables student participation in classroom activities, as evidenced by previous studies. For example, Hung (2015) has shown that flipped learning promotes classroom engagement. Also, Jeong et al. (2019) have revealed that it helps to achieve student learning goals, confidently complete classroom activities, and promotes positive emotions.

In general, students recognized the advantages of flipped learning, consistent with their comments in open-ended questions, where they clearly stated that they were not only aware of how inverted classrooms were student-centered but also appreciated this aspect of the upside-down classroom. The obtained results are consistent with the study conducted by Forsey et al. (2013), who reported that students could understand the benefits of flipped learning.

This study also uses the podcast modality to accommodate content exposure. This content design is the main challenge in flipped learning. Combining active learning methods, such as case-based learning, with appropriate educational content increases educational effectiveness (Akbarialiabad et al., 2021). However, another study reported that some students prefer face-to-face lectures with stronger teacher–student interactions (Firoozehchian et al., 2019). Thus, based on this finding, teachers also need to consider the preferences of their students before implementing podcasts in learning.

Based on these findings, we can provide several implications for the design of flipped learning programs in the university environment, especially in sports courses. First, to provide students with a satisfying flipped learning experience, it is necessary to fully implement each of the four pillars in the F-L-I-P model. In Indonesia, a recent study reported that students find it challenging to participate in student-centered learning activities such as discussion and collaborative work (Permatasari, 2022). Second, the learning content that will be delivered needs to consider the suitable modality according to students' preferences so that obstacles do not arise that affect student learning outcomes.

Conclusions

The findings of this study indicate that the application of flipped learning integrated with podcasts for eight meetings can effectively improve learning outcomes in sports entrepreneurship courses. The researchers suggest to consider the use of appropriate modalities in providing learning content based on the preferences of learners. The flipped learning continuum proposed in this article offers a new direction in discussing best practices for flipping the classroom in a way that best supports student engagement and learning. Flipped learning has been seen as an essential pedagogical approach in increasing student achievement, increasing student motivation, and providing more time in class for educators and students to ask high-level questions and receive on-the-spot feedback. Flipped learning also supports Bruner's Constructivist Theory by engaging students in projects, debates, cooperative learning groups, and peer learning from one another, reverse classroom empowering students to shape their concepts and ideas.

Conflicts of interest

The authors declare that there are no conflicts of interest.

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