



A Pilot Study of a Blended Learning Model Based on Blue Pigeon Language Platform Affecting Students' Engagement

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Abstract. Student Engagement is considered a strong predictor of learning outcome and a predictor signifying the continuous existence of learning process. However, few studies investigate effective teaching methods to raise university students' engagement effectively in a blended learning environment. In this pilot project, station rotation model Based on Blue Pigeon Language Platform was implemented among 79 students and was conducted t-test with SPSS 26.0. It was discovered that this method of instruction can significantly improve the statistical subconstructs of student engagement and effectively increase the engagement of university students.

Keywords: pilot study; blended learning; Blue Pigeon Language Platform; student engagement

1 Introduction

The University English Teaching Guide (2020) advocates that throughout the period of informationization and intelligence, higher education should utilise contemporary information to the fullest such as multimedia technology and artificial intelligence technology to teach foreign languages, actively develop a variety of instructional strategies, and encourage students to participate in learning actively. A variety of language teaching platforms are providing solid objective conditions for the innovation of college English courses. Make using of the benefits of multimedia resources, relatively speaking, can more directly arouse students' curiosity to discover and enhance the effectiveness of classroom learning.

Since Ensuring the calibre of education received by students is one of the colleges' and universities' leading priorities, it was stated that higher education should emphasize students' learning [1]. Student Engagement (SE), referred commend the vigour and diligence with which students apply [2], is considered a strong predictor of learning outcome [3] and a predictor indicating the ongoing nature of the learning process [4]. SE has been considered an indicator of higher education quality assessment and

an effective predictor of students' learning outcome [5]. Blended learning (BL) has been frequently used in universities. This study conducted a pilot study to investigate whether Blue Pigeon language platform could supplement BL and enhance university students' engagement effectively. It has the following functions: Multi-party discussions and questions; Examination: test paper production, review material production, network examination, teacher marking, test paper management, etc.; Lesson preparation: lesson plan production and lesson recording, etc.; Information management; Resource sharing: question bank, network course, review material, etc.; Homework: homework assignment and assessment, grade statistics, etc., which can facilitate students' interactions and their online instruction and has great potential to enhance students' engagement [6].

2 Literature Review

2.1 Blended Learning Models

Blended Learning (BL) was first mentioned by EPIC in 1999 and included any fusion of pedagogies, technology, and even work tasks [7]. The definition of BL is fluid [8]. Then Graham described BL: In BL, computer-mediated instruction is combined with in-person instruction, followed by many scholars [9]. Globally, technology has been incorporated into courses through various intensities [10]. Blended learning, sometimes called hybrid learning, mixes traditional and virtual learning elements [11]. Blended learning creates a partnership between technical and environmental and improves learning and accomplishment outcomes, instructional components, and teaching methods [12]. BL models were classified into four categories, from focusing more on traditional instruction to online learning [13], which are shown in figure 1. This continuum starts at the most fundamental level of information and communication technology used to assist in-person training through intense technology use with little in-person instruction. These different models give us more clear direction and helps us to choose the right one based on learning purposes. And it makes clear that different learning objectives can be delivered using different models of delivery [14].

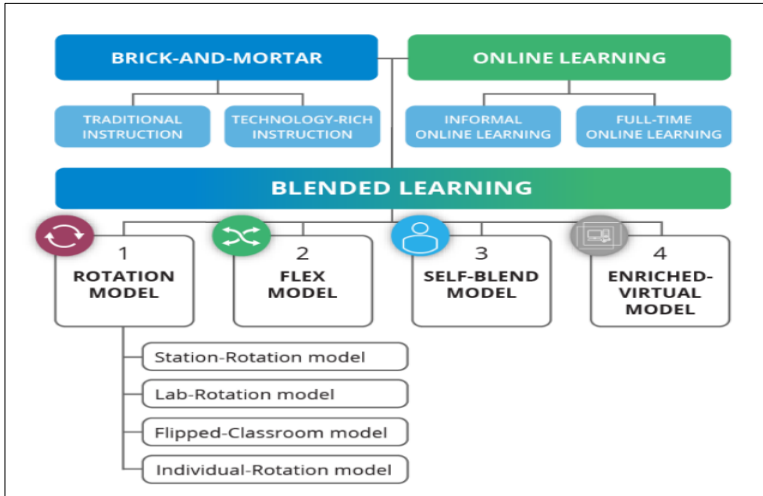


Fig. 1. BL taxonomy (Staker & Horn, 2012)

Rotation model uses station rotation involves students switching between various learning centers. Station rotation model (Figure 2) is one of the most well-liked and rapidly expanding blended learning approaches, according to research [15]. This concept is thought to be a successful way to give students more individualized education and experiences in small groups. Students alternate between online and in-person stations throughout the course. The functions of Blue Pigeon Language Platform (e.g. multi-party discussions and questions) can realize online instruction and collaborative activities and stations, which greatly help to conduct the station rotation model and has potential of improving students’ engagement.

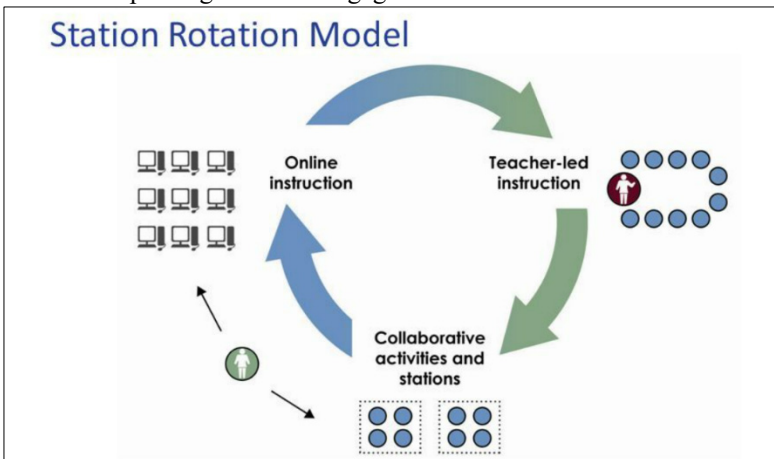


Fig. 2. Station Rotation Model (Staker & Horn, 2012)

Station Rotation model's focus is providing students various interaction and experience, it highlights students' face-to-face learning, in which students are each other's communication targets and cooperate in groups to create an interactive environment. This kind of environment that Station Rotation model create is conducive to students' engagement and it makes full use of different ways of interactions. In-person communication can serve as paralanguage (intonation, gesture, emotion, etc.), boosting the communication's contextualization, actuality, and vividness. Throughout the course, students switch between stations that are online and face-to-face. Therefore, Station Rotation model is related to the objective, which is chosen in this study. In this definition, students have more significant opportunities to be active participants in class rather than just passive consumers of course content and learners will be more engaged, which might be especially important in Chinese higher education, while Blue Pigeon platform fundamentally change the duckling teaching method, the teaching content is inserted with small stories, small demonstrations, small suspense, increase students' interaction and the knowledge with the cultural and current affairs and news events analysis, which trigger the intention of the students to explore the cultural knowledge, and to achieve the purpose of wanting to learn, loving to learn, and consciously learning, expanding the knowledge of college students and their interest in BL environment.

2.2 Blended Learning Based on Blue Pigeon Language Platform and Student Engagement

Blended learning Based on Blue Pigeon Language Platform has various features that facilitate SE with rich as well as dynamic resources. BL, which can promote various interactions, is ideal for Blue Pigeon Language Platform in that it helps to implement group study. A blended learning environment poses chances to inquire or utilize modern educational technology to expanding the reach, scope, and function of the Blue Pigeon Language Platform.

Some examples combined the Blue Pigeon Language Platform in blended learning context [6][16]. However, few studies highlight fostering students' engagement with the integration of station rotation model with Blue Pigeon Language Platform in Chinese universities, which requires this kind of teaching method.

3 Methods

A pilot study was carried out in two classes with 79 students at a university in Guangdong province. The students in the pilot study were selected among second-year university students. The research tools' dependability was evaluated on the basis of the pilot study. Test-retest reliability was carried out on surveys, and internal consistency reliability was conducted on the questionnaire items. The integration of station rotation model and PBL was implemented to foster students' engagement in target classes for one month. The pilot study was carried out to guarantee that study participants could complete the survey and verify that they could grasp the questionnaire's items.

Before the instruments were prepared to be provided to the respondents in the study, revision and modification of the instruments were developed according to the replies of the 79 students during the pilot testing.

Cronbach's Coefficient Alpha (α) reliability analysis approach was used in the pilot study to measure three subconstructs of student engagement: Behavioral Engagement (BE), Cognitive Engagement (CE) and Emotional Engagement (EE), which are 0.786, 0.815 and 0.875 respectively and all of these values are acceptable.

As we can see, Table 1 (n=79) demonstrates that there are differences of mean scores between the pre-and post-test mean scores for students' BE, CE and EE, which are all higher in the post-test mean scores. Additionally, the paired sample test results in Table 2 for three subconstructs of students' engagement are significant ($p < 0.05$). After one month until the end of the treatment, the station rotation model integrating PBL substantially impacts students' behavioral engagement ($t = 2.264$, $df = 78$, $p < 0.05$), cognitive engagement ($t = 2.469$, $df = 78$, $p < 0.05$) and emotional engagement ($t = 2.867$, $df = 78$, $p < 0.05$). In other words, this teaching method significantly affects students' engagement. After one month until the end of the treatment, the station rotation model integrating PBL substantially impacts students' behavioral engagement ($t = 2.264$, $df = 78$, $p < 0.05$, cognitive engagement ($t = 2.469$, $df = 78$, $p < 0.05$) and emotional engagement ($t = 2.867$, $df = 78$, $p < 0.05$). In other words, this teaching method significantly affects students' engagement. Table 2's paired sample test results for three subconstructs of students' engagement are significant ($p < 0.05$).

Table 1. Paired Samples Statistics of SE (n=79)

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	BE-pre	2.8022	79	.64724	.07282
	BE-post	3.0561	79	.76604	.08619
Pair 2	CE-pre	2.7631	79	.56770	.06387
	CE-post	3.0443	79	.71416	.08035
Pair 3	EE-pre	2.7814	79	.52330	.05888
	EE-post	3.0741	79	.63964	.07196

Table 2. Paired Samples Test of SE Group (n=79)

Paired Differences
95% Confidence Interval
of the Difference

		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	BE-post	.253	.99667	.11213	.030	.477	2.26	78	.026
	BE-pre	.84							
Pair 2	CE-post	.281	1.01237	.11390	.054	.507	2.46	78	.016
	CE-pre	.19							
Pair 3	EE-post	.292	.90764	.10212	.089	.496	2.86	78	.005
	EE-pre	.78							

4 Conclusions

While there has been few research on combining station rotation model and Blue Pigeon Language Platform to increase student engagement, some have indicated that they both have the capacity to do so. According to the paired samples test results, our research's conclusions support the integration of Blue Pigeon Language Platform and the station rotation model as a useful strategy for raising student engagement. This teaching method significantly affects students' engagement. It was apparent that BL model Based on Blue Pigeon Language Platform can enhance SE if Blue Pigeon Language Platform is used appropriately in BL environment. Furthermore, students may have difficulty during their group discussions during the implementation and lack the ability of discussing with group members in the multi-party discussions actively and freely, proper instructions and explanations would be needed from teachers before implementation.

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