

Technology Distractions in Multimedia-Enhanced English Class in Blended Teaching Environment

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Abstract: Under the background of covid-19, more and more universities began to adopt blended teaching approach in real practice. In English class, teachers began to integrate information technology in courses more than ever before, which leaves room for technology distraction in the process and it may harm the effectiveness of teaching and learning. This study aims to find out the advantages and disadvantages on technology distractions in English class from a student's perspective and explore the possible factors that affect students' technology distraction levels. The findings reveal that self-regulation, interest and learning-oriented goal are intrinsic factors while learning environment and peer influence are extrinsic factors for influencing students' distraction levels in technology use in class. Hopefully, this study will provide some practical suggestions to course instructors.

Keywords: Technology distraction, English teaching, Blended teaching environment

1. Introduction

In recent years, teachers began to integrate information technology in courses more than ever before. Technology use is defined as the use of technological tools in teaching and learning by teachers as well as by students. It is the practice of facilitating teaching & learning and improving performance by creating, using, and managing appropriate technological processes and multimedia resources, such as the judicious use of computers, mobile phones, ipads, interactive videos, apps, electronic tablets, electronic simulations, and other variety mobile devices, etc (Luppicini, 2005; Wurst, Smarkola, and Gaffney 2008). Technology use can occur in or out of classroom and it can be self-paced, asynchronous learning or may be instructor-led, synchronous learning (Roberts, Foehr, & Rideout, 2005).

Under the background of covid-19, more and more universities began to adopt blended teaching approach in real practice. Blended teaching is a different teaching and learning mode from traditional or just online learning. Bonk and Graham (2012) defined blended learning as “the combination of traditional face-to-face instruction with computer-assisted instruction”. Rhem (2012) pointed that blended learning is unique because it gives teachers opportunity to teach both online and offline in real classrooms.

However, a blended teaching environment may generate difficulties for students as well as teachers, since students are easily distracted by digital devices at hand. Many students tend to surf online, playing games and do other irrelevant activities while teachers are giving classes. Using information technology in class has created both challenges for teachers, as well as opportunities for learners (Jackson & Obispo, 2013). Although technology integration has positive effects on learning, it leaves room for technology distraction in the process (Lu, Chiou, Day, Ong, & Hsu, 2006). It is crucial for educators to be aware of students' opinions as well as the factors that may have influence on students' distraction by technology in class. Therefore, this study aims to find out the advantages and disadvantages on technology distractions in class from a student's perspective and explore the possible factors that affect students' technology distraction levels. Hopefully, this study will provide some practical suggestions to course instructors.

2. Literature Review

With the rapid development of teaching facilities nowadays, many teachers especially English teachers are eager to apply various types of technology into classrooms. The outcome, however, has not been satisfying considering that many students complained about the distractions by technology use in class. There are several studies concerning about this issue. For instance, Wurst, Smarkola & Gaffney

(2008) believe that students in their courses are easily distracted by the application of technology. They found that laptop use did not statistically improve student achievement as measured by GPA. Students with laptops reported statistically significantly less satisfaction with their education compared to students with no laptops. In addition, several law professors noted that the misuse of laptops reduces class participation (Yamamoto, 2007; Foster, 2008; Read, 2006). Fried (2008) conducted surveys of laptop use and classroom environment in a large psychology lecture class. The survey found that laptop use posed a significant distraction both to users and fellow students. As laptop use increased, class performance decreased. Indeed, a number of researchers have concluded that if the faculties do not make an active attempt to meaningfully integrate technology into the classroom, distractions and decreased performance are inevitable (Baron et al., 2008; Hall & Elliot, 2003; Kolar, Sabatini, & Fink, 2002; MacVay, Snyder, & Graetz, 2005; Weaver & Nilson, 2005). Facing this challenging reality, it becomes urgent to find out what factor could influence students' level of distraction.

In blended English teaching environment, students have more chance to be exposed to educational technology integration. Their ability to avoid technology distraction become one of the major concerns of the university. Their opinions on this issue become valuable and should not be ignored. Therefore, a study exploring the factors from a student's point of view is needed and important.

Therefore, to be more specific, the research questions of the present study are as follows:

- 1) What are the advantages and disadvantages on technology distractions in class?
- 2). What are the multiple factors that affecting students' technology distraction levels in class?

3. Method

This study adopted a qualitative method. It aims to explore the personal opinions from a student's perspective focusing on their own experience and feelings. Four semi-structured interviews were conducted in an elite university in southeast China. This study wanted to find informants who have the experience of using technology in blended English teaching class and are currently students but with teaching experience either part-time or full-time, because those informants with two identities (teacher & student) would have a more comprehensive and objective view towards technology distraction in class. This study uses a snowball sampling technique, and altogether there are four participants involved in the study. After interviewing informant (#1), fortunately, she introduced another suitable informant (#2) and then informant #2 introduced a third informant (#3) as well. In order to make the data more diversified, this study recruited a foreign student-former teacher because differences of students' perspectives between two cultures on the same issue of technology distraction are interesting.

A list of questions was prepared for the semi-structured interview. Questions such as "When using technological devices in class, have you experienced distractions by those devices? If yes, what kinds of distractions? If no, why not?" and "What do you think are the factors that influence your distraction level in class when using technology?" were asked for the first informant. It is obvious that this question was not easy to answer. It was too broad and the informant got easily confused. Later on when the interview began to move to the following informants, questions were adjusted by providing some clues like "Some students may have particularly strong sense of self regulation and what do you think this sense would influence them when they are using technology in class?" It shows that the informants needed proper guidance but the interviewer should be very careful not to enhance the guidance as leading and feeding the answers for them. Besides, a simple "yes or no" question may prevent the informants from sharing more information with the interviewer. The interview became more effective after those "yes or no" questions were changed into more narrative ones that elicited experiences and events of the informants. For instance, the question "If yes, what kinds of distractions? If no, why not?" was changed into "Could you remember a time...?" Full scale notes were taken during the interview process which is helpful to present a clear structure for the coding process later on.

In the coding process, several themes emerged, including interest, learning-oriented goal and learning environment. It is expected that "self-regulation" would be a key factor to technology distraction according to the findings of previous literature. However, only one informant admitted that self-regulation played an important role in dealing with technology distractions. Most of the informants incline to believe that it was actually the teachers' responsibility to make sure students not to be distracted by technology in class. This particular finding will be further discussed in the next section.

4. Findings and Discussion

4.1. Students' opinion on technology use in class: advantages and disadvantages

As most of the informants would agree, technology integration in class has changed the form of information, enhancing teaching content by applying texts, sounds and images and actively involved students into multi-media activities via multi senses (Kenny et al, 2006). Students like using technology in class because it offers them a “real opportunity to gain access to new information”. According to the informants, using technology in class is “attracting”, “interactive” and “cool”. Facilitated with technology tools, students would be able to “learn on their own” since they could look up the internet immediately when they have encountered difficulties or unknown questions.

After acknowledging the obvious benefits, all of the informants raised their concerns about the potential distractions of technology use in class. If properly applied, integrating technology into classroom instruction should facilitate students' learning of dynamic and intuitive perceptual knowledge. Otherwise, it could be counter-productive in teaching and learning.

Distractions, as they all mentioned, are a major disadvantage of technology use in class, however, it was quite interesting to notice one informant provided an example of technology use that actually keep students from distracting. He did an experiment with a teacher in a class. The teacher prepared 10 questions on a piece of paper while this informant prepared the same 10 questions on a phone app. The students were asked to take the test and they found that students prefer the phone test and it yielded better results. The informant explained, “*Actually they are the same questions. The only difference was when they were on their phone, there was only one question at a time on the phone, so it would help them concentrate.*”

The key word is “Concentrate” not “distracted”. This is an interesting point to note. When students see 10 questions on the piece of paper they probably felt overwhelmed. The format of the quizzes on the phone actually made it easier to concentrate because the students only have one question at a time. Hence, we could conclude that it was not the technology itself that distracted the students, but the design and control by the teacher whenever they are using technology in class. As pointed out by one informant, “it simply depends on how you are using it”.

4.2. Factors influencing distractions

4.2.1. Self-regulation

All about class guidelines

Previous studies concerning technology distraction are theoretically related to self-regulated learning. Self-regulated learning refers to students' intentional efforts to manage, direct, and control complex learning tasks (Kauffman, 2004; Winne, 2004). In the context of technology integrated learning environment that is characterized with greater autonomy, self-regulation becomes a critical factor for success in these classrooms. There are many researches showing that self-regulatory behaviors have the enhancing effects on students regarding class performance in regular classrooms (Kramarski & Gutman, 2006; Kramarski & Mizrachi, 2006). If self-regulated learning behavior is the key to successful learning in the regular classroom, it can be expected that self-regulated learning behavior will play an even more crucial role in classrooms integrated with technology.

However, different from the existing theory and previous studies, it was surprised to find out that only one informant admit that self-regulation plays an important role in dealing with technology distractions. Most of the informants incline to believe that it was actually the teachers' responsibility to make sure students not to be distracted by technology in class.

When the interviewer asked the informant for their opinion about the effect of one's self-regulated learning ability on technology distraction level, one informant said, “*It (self-regulation) might help...I think building up rules/guidelines (guize) for the students before class is very important. When it comes to technology use (in class), how to use it well and what rules students need to obey in using technology become very important. We could even involve the students into the rule-making process and then later students will approve these rules, in this case the possibility for students being distracted by the technology would decrease.*”

It is interesting to notice that in the case of avoiding distraction, students are more aware of the rules or guidelines provided by the teacher than focusing on improving their own behaviors. They prefer to

take the initiative to make rules for themselves to obey rather than building up intrinsic willingness and motivation to overcome the technology distraction.

Is it about culture?

To Chinese students, teacher is the source of knowledge (Doyle, 2005) and is not usually argued with. Wang and Farmer (2008) argued that in the traditional text based and teacher-centered teaching context in China, students are used to obeying what they were told to do. They are more familiar and easier to find comfort zones when the teachers are regarded as the authority so that they would just wait to be instructed. The root of this situation may lie in Confucianism which instructs teachers to deliver a respectful sense for the old knowledge to their students and on the other hand, students should refrain from questioning, evaluating or facilitating learning on their behalf.

Interestingly, another informant who comes from a western culture also mentioned about “contract”, a rule/guideline made by the teacher and the students together regarding technology use in class.

“Some professors in the US go so far to make a contract. You know they have the students to work together to work out a contract about what is acceptable of using the technology in the classrooms. And that seems to help (sort of) mediate the adverse behavior...Probably students would benefit if they are reminded what are good behaviours.”

Clearly, students would “benefit” more if they were being reminded by other people or if there was an existing rule. It suggested that it is more difficult to ask students to behave in a certain way based on intrinsic motivation or willingness. This interesting finding is in line with self-determination theory (SDT; Deci & Ryan, 1985), which presented a list of different types of motivation based on the different reasons or goals that give rise to an action. The intrinsic motivation which refers to doing something because it is inherently interesting or enjoyable, is the highest level and hardest for students to achieve in the motivation rank. Hence, in order to deal with technology distraction, it is critical to pay attention to students’ interest and goal, which will be further discussed in the following session.

4.2.2. Interests

All of the four informants emphasized that interest was a key point to technology distraction. They tend to agree that students would be less likely to be distracted if the class content was very interesting and attractive. When the interviewer asked what kind of reason do they think would influence their level of technology distraction. One informant told me, *“I think, for myself, interest is the most important. If I am interested [in something], I will be more focused...The key is whether we are interested in it or not. Well, generally speaking, for us, if it is boring, we wouldn’t listen to the teacher any more. So, the extrinsic reason for this [technology distraction] is the teacher and the [teaching] content, and the intrinsic is all about interest.”*

Maintaining students’ interests is an important technique to improve teaching effectiveness and outcomes. It is also important to consider students’ interest in the learning task when assessing how technological interruptions affect learning performance (Silvia, 2008). Students who lose the interests within the lecture may adopt irrelevant tasks instead, such as daydreaming, switching to surfing online and sending text messages via mobile phone during lecture time, all of which may result in a lower GPA. The feelings of boredom, frustration and exhaustion with a task in class will probably stop students’ work and avert their attention. As one of the key determinants of participant engagement in class, students’ interests play an important role in coping with distractions in technology integrated learning environment.

4.2.3. Clear purpose of the class: learning-oriented goal

Another theme emerged from the interview is the clear purpose of the class. Two of the informants think teachers need to state the purpose for the class clearly in order to maintain students’ attention.

“En, I think if a student has a clear purpose of learning, it is unlikely for him to be distracted. Because if he has a goal he will know what he should do next. Actually I think the goal will coordinate with the rules/guidelines.... The setting up of rules/guidelines will help students to set up and maintain the goal, which will help to prevent the students from distractions and keep them stay in a good learning mode.”

Many previous researchers have indicated that successful and concentrated students have similar characteristics like intrinsic motivation and self-setting goals (Ning & Downing 2010; Berger & Karabenick, 2010, etc). Learning goal is considered as a powerful factor for academic motivation and achievements. Setting up a clear learning goal may help student to complete tasks and make them more interested in learning (Artino & Stephens, 2009). Their goal may represent the difference of students’ effort in class, especially when they are facing the temptation and challenge from technology distraction.

Hence it is recognized as a significant factor in teaching and training. Students strive to obtain, retain, foster, and protect the learning goals they value. Personal goals are part of their self-regulated learning strategies and a key to maintaining their attention within the class content.

“A clear purpose” reveals the need of students to “maintain the learning-goal”. Another informant stated that in order to complete a task, his impression is “whether a student is goal-oriented, if a student is goal-oriented, they are more likely to complete their task.” Then when the interviewer took a step up by asking what does he mean by goal-oriented and what kind of goal it was. He answered by providing an example regarding time control: “For example, they know I have to do these three things-one, two and three, before a certain time or before the end of the day or the end of the week. They will do that and they don’t read the news on their phone and they will do their work.” This requires a teacher to set a time control for students in order to “prevent the students from distractions and keep them stay in a good learning mode.”

4.2.4. Learning environment and Peer influences

Since self-regulation, interests and learning goals are all intrinsic characteristics of students, the interviewer was also interested in the extrinsic factors that may have influenced technology distraction. For the last two informants, the interviewer added a series of further questions asking about in what circumstances they were most likely to be distracted by technology in class. One informant pointed out: *“I think there is an influence by the class environment. If the classroom is very big and it is not easy for the teacher to notice that students are playing with their phones, they could hide in the far end of the classroom and play (with the phones). But if the environment is a little noisy, for example if the teacher asked us to watch a movie or discuss something, it may become even harder for the teacher to notice, so we could hide in the noisy environment and play for a little bit...”*

The class environment she mentioned belongs to an important factor “learning environment”. Students are young and active teenagers who would be easily tempted by outside influences. Since the classrooms are very large, students prefer to sit as far as possible from the teachers. It becomes important for teacher to provide an organized learning environment in which instructional technology, including equipment and software, becomes an integral and seamless part of teaching and learning.

Similar to learning environment, informants also mentioned about their peer influence. Based on the informants’ experience, teachers should remind their students: “if you are going to use or watching an exciting video on your computer, you are probably going to distract the person beside you.” One informant strongly “opposed” her desk mates in class because she was constantly attracted by the “other business” her desk mates conducted in the laptop or ipad. She further concluded that “the students should have to be reminded how their behaviors distract other students” by emphasizing that she was the victim of peer influence in technology distraction. It is interesting also to find out how much responsibility students are willing to take and how much they wanted to blame on others. This echoes the previous discussed findings of students’ lack of intrinsic motivation since it is the highest level and hardest for students to achieve in the motivation rank.

These five sub themes are connected. Interest, learning-oriented goal and self-regulation are intrinsic factors while learning environment and peer influence are extrinsic factors for students. All together these five sub themes contributed to the larger argument that teachers need to work on promoting the external environment of teaching as well as cultivating students’ internal motivation in order to improve the efficiency of technology use in class.

5. Conclusion and implications

This pilot study explored the advantages and disadvantages of technology use in class from a student’s perspective. It finds out that self-regulation, interest and learning-oriented goal are intrinsic factors while learning environment and peer influence are extrinsic factors for influencing students’ distraction levels in technology use in class.

During the analyzing process, it is interesting to find that the informants’ answers do not always agree with the previous literature. For example, different from the existing theory and previous studies, only one informant admit that self-regulation plays an important role in dealing with technology distractions. Most of the informants incline to believe that it was actually the teachers’ responsibility to make sure students not to be distracted by technology in class. This contradiction can be explained with intrinsic motivation theory, teachers’ role, culture difference, Confucianism influence, etc.

In addition, since one of the interviews was conducted in English and the other three were in Chinese. The interviewer was given the opportunity to compare linguistic influence in the transcribing and coding process. A qualitative researcher should be aware of the translation flexibility that may favor the analysis and should not be over used.

Another interesting finding is that all of the three Chinese informants have presented a similar thinking pattern, that is, to analyze everything from a dichotomous approach, whereas the foreign informant mainly focused on the practical use of technology and distraction in class. The foreign informant contributed many real examples along with the interview but never divided his arguments into two-side categories. This might be the result of the differences between two cultures.

For future studies, it would be needed to provide additional data such as the professors' opinions/perspective, specific countermeasure for students/teachers in terms of decreasing technology distraction level. It would also be helpful to probe more about their opinions on key word "rules" and the culture difference resulting the different thinking pattern regarding dichotomous approach. It would be useful to recruit more foreign informants and some course instructors for future study.

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