

**Removing the Hurdles to the Paperless Classroom:  
A Low-Tech Method for Moving to a Digital Style of Teaching**

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Abstract

As publishers and universities strive to move more towards a digital presentation of course and class information, there is a risk that teachers and lecturers less versed in technology will feel left behind. This paper looks at methods that avoid more involved digital approaches such as Google Classroom and instead focuses on easy to implement approaches. I will describe how I made my classroom paperless except for the student's textbook, as purchasing the hard copy is a course requirement. I begin by discussing the reasons for this change. As well as this paper's goal being to aid teachers in material development, I will also examine the affect it had on my teaching style and classroom atmosphere. Once I outline the techniques I use, I discuss the student survey conducted to examine how students felt about this method of delivery. I conclude the paper by looking at issues that need to be resolved going forward and what other options teachers could look at once they have begun their journey towards a digital teaching methodology. The survey conducted with my classes showed overwhelming enthusiasm for the method, which points to need for teachers to incorporate mobile phone use in their classrooms. Thus, based on this study, it is my belief that adopting a digital classroom benefits both students, who feel more comfortable using their phones, and teachers, who get to spend more time and energy on their lessons than preparation and marking.

## Introduction

The transition to digitally focussed lessons is picking up pace, especially with publishers Pearson announcing that they are limiting their yearly reprints to digital copies only (BBC, 2019). Environmental concerns are also a huge concern for the current generation and this can be easily overlooked given that there is an age gap between lecturers and their students, when talking about this gap, Lisenbee noted that “Twenty-first-century learners need a pedagogical shift in classrooms, so technology is offered for use to construct their knowledge of academic content” (2016, p. 102). Thus, establishing a means of lesson presentation now that counters many of these issues, ensures teachers are better prepared for the future of English language education.

My university’s English classes revolve around either the *Four Corners* or *Interchange* textbooks. My classes use *Four Corners 2* and the student level is around lower intermediate. This book is especially useful for a paperless classroom environment as the latest digital presentation software, Presentation Plus, is both intuitive and comprehensive. The age of the students is between 18 and 19, although some exchange students are as old as 21.

Finally, encouraging the use of mobile phones in class, gives us the possibility of engaging students in a manner they are more comfortable with as Shonfield and Meishar-Ta summarize “Studies have also found that the paperless classroom improves students’ engagement and motivation as well as higher order thinking skills and collaboration” (2017, p.186 see Ferguson, 2017; Kashtan, Ram, Forkosh, & Ran, 2016; Teeter, Madsen, Hughes, & Eagar, 2007) With that in mind, using technology may increase our student’s chances of language retention.

## Methodologies

For the purpose of this methodology, I chose to limit myself to accessible, simple, and easy to implement digital solutions. Despite being an avid technology enthusiast, I was very aware that some teachers were daunted by the idea of adapting their classroom styles to utilize more technological means of teaching. With that in mind, I limited myself to Microsoft PowerPoint for class structure and presentation, QR codes for providing students worksheets or additional material, the online quiz game Kahoot for testing and the aforementioned *Four Corners* presentation software. By keeping the technology simple, it

was my hope that my lessons would be easy to understand for students and my methods would translate well to other teachers no matter their teaching style.

### **Technology Simplification in Action**

As it is the most common presentation software, I chose to construct my lesson plans around Microsoft PowerPoint. This consisted of at least the following content: a warm up question (Figure 1), a lesson introduction or elicitation of the lesson introduction (Figure 2) and answers for the book activities (Figure 3). Depending on the lesson, it also included an additional discussion question or activity (Figure 4) or QR codes that linked to in class worksheets or homework (Figure 5). Via my personal laptop, I used a HD television to present the information as there was one available in every room.

*Figure 1.*

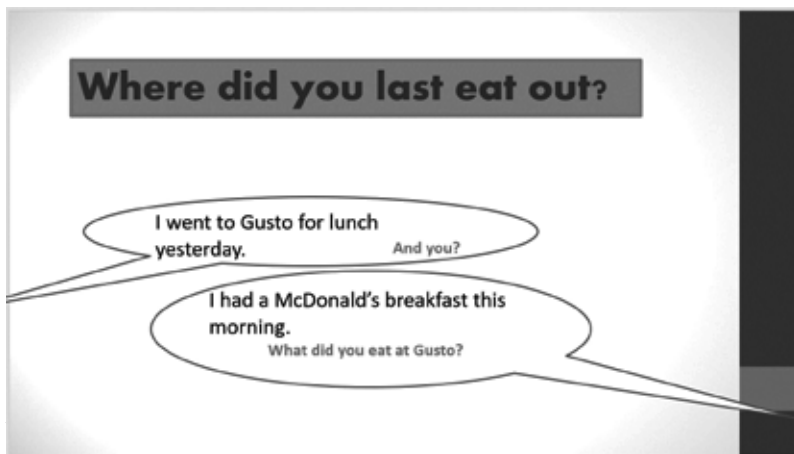


Figure 2.

Is this a/an

- Appetizer
- Dessert
- Main Dish

Or

- Side Dish



Figure 3.

**A** I'm glad we came here. It's a great place.  
**B** So, do you want to share **an** appetizer?  
**A** Sure. How about **the** onion rings?  
**B** Perfect!  
**A** And do you want to get **some** crab cakes?  
**B** I don't think so. I'm not that hungry.  
**A** I'm going to get **the** lamb chops with some rice.  
**B** I think I want **the** steak. I heard it's delicious.  
**A** The desserts are good. I love **the** ice cream.  
**B** Yeah, we should order **a** dessert later.  
**A** Let's find **the** waiter. Where is he?

Figure 4.

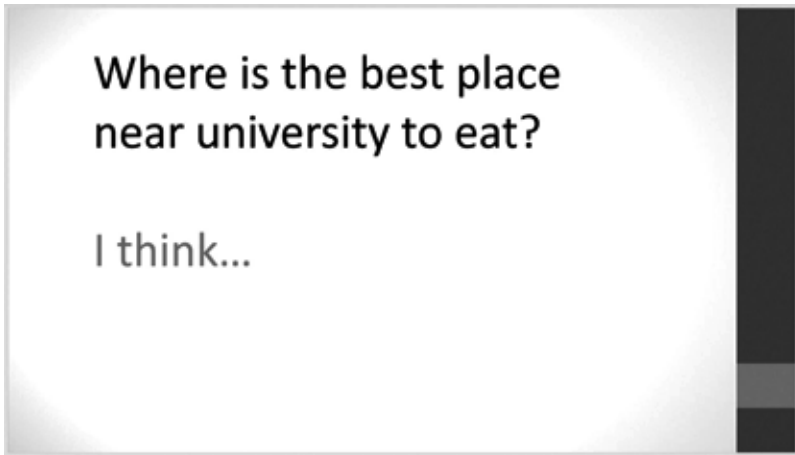


Figure 5.



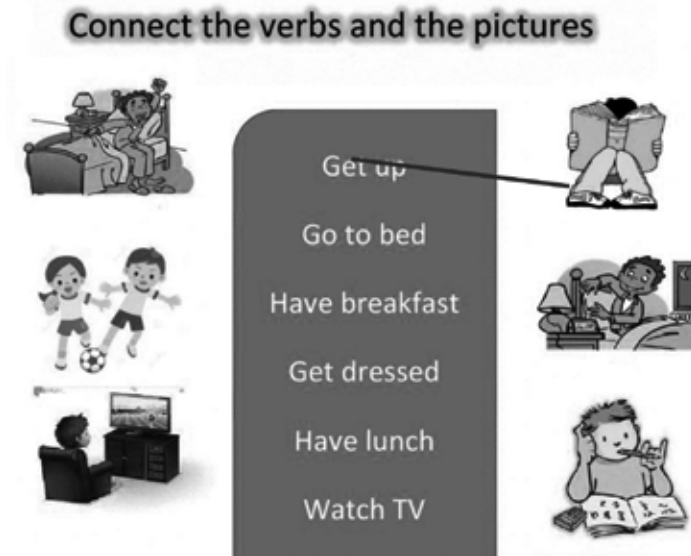
The biggest benefit of this approach was that once the material was created, it did not require any extra time to prepare the classroom and was usable from year to year. It made it possible for me to walk into a room, connect my computer and start teaching. It also removed any hurdles handwriting might play in student comprehension as I was able to use Sans Serif



Figure 7.



Figure 8.



The next way I removed paper from my classroom was to use the game creator Kahoot for all my tests. Kahoot allows teachers to create a quiz, which students then play on their phone. The creation process is straightforward and revolves around making multiple choice questions (Figure 9). I transferred the questions from the *Four Corners 2* tests to the Kahoot system. Once created, I would launch the quiz in the classroom. Students would then navigate to either Kahoot.it or use the app for Android or IOS. Once they input the provided game code, they were then asked to input a “nickname.” I needed a way to track students but also wanted

an element of anonymity, as nicknames are shown on the screen next to a score, so I opted to have them use their student number rather than their name. I also wanted to avoid students feeling the pressure of timed questions, as Kahoot has a time counter, so explained that while the game assigned a score based on speed, their actual test grade would be based on the number of correct answers. Once students finished the quiz, Kahoot allowed me to export the results in an Excel file (Figure 10). This not only removed the need for me to mark the test but instantly showed me graphs illustrating which questions most students got wrong (Figure 11). This would be an excellent resource for teachers who mark on a curve. Thus, the use of Kahoot helped in the reduction of paper as well as improving productivity and giving me an insight into what aspects of my curriculum were not being retained by students.

Figure 9.

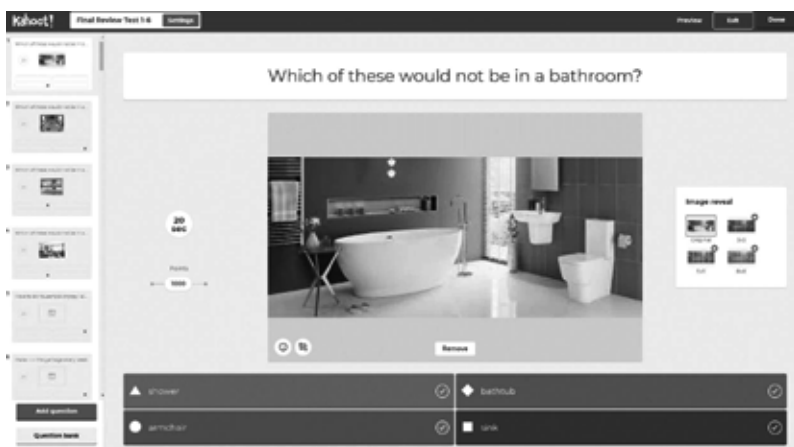




Figure 10.

Rank	Player	Total Score (points)	Correct Answers	Incorrect Answers
1	1 1234567	24170	19	1
2	2 1234568	23738	19	1
3	3 1234569	23671	19	1
4	4 1234570	23541	19	1
5	5 1234571	22778	18	2
6	6 1234572	21290	18	2
7	7 1234873	21170	18	2
8	8 1234874	19738	17	3
9	9 1234575	19608	17	3
10	10 1234576	19474	17	3
11	11 1234577	19222	17	3
12	12 1234578	19324	17	3
13	13 1234579	19094	16	4
14	14 1234580	18791	16	4
15	15 1234581	18676	16	4
16	16 1234582	8848	9	11

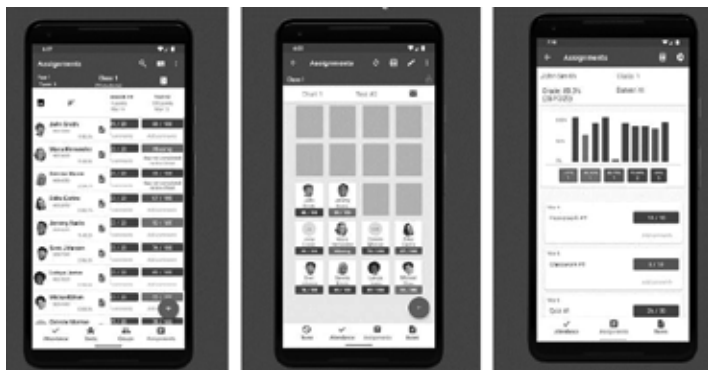
Figure 11.

Q2	Q3	Q4
Lily recommends taking a	Lily thinks Tony...go to a palace.	Lily thinks the food in London is...
1053	1138	1052
1623	1125	1243
1905	1075	9
1628	1063	1185
820	988	0
1038	0	890
1085	1123	0
0	870	0
0	0	600

Finally, I also took attendance digitally using the app TeacherAide for Google Android. This app allowed me to easily create classes, assign students and track their attendance. I could even export an Excel of their attendance at the end of the academic year to help me when grading. However, one of the most useful features in the classroom was the ability to create a seating template and randomly assign students to seats with the press of a button (Figure 12). I could then take a screenshot of the seating arrangement, upload it to my Google Drive and then display it on the screen. This meant I could create a seating

arrangement in less than one minute that students could easily follow. The next step was to try to understand if this method of teaching and testing was seen as positive by my classes.

Figure 12.



### The Survey

As I wanted to do the survey in English, and taking into consideration the level of my students, I restricted myself to six questions written in simple question form. I also included instructions on how to complete the survey in Japanese (Figure 13). Thirty eight students took part across three classes with some students either being absent during the survey or opting not to take part. By the time of the survey, my students had been taking part in this teaching style for twenty weeks. Overwhelmingly, students rated doing tests on paper as being of low desirability with a zero in both the nine and ten columns and only five students rating it in the positive portion of the survey. The positive view of using their phones was even clearer with that choice receiving only one mark below five and eleven students giving it a ten. Surprisingly, the view of PCs for tests was inconclusive as it was so spread across the spectrum. If the goal of a good classroom atmosphere is to appeal to as many students as possible, it could be concluded that using PCs is not a good option. This confirms the assumption presented in the introduction that students prefer to interact with their phones than both paper but the minor rejection of personal computers came as a surprise.

Figure 13.

Student Survey

If 1 is the least true and 10 is the truest, draw a circle around the best number for you.

1が最も当てはまらず、10が最も当てはまるとして、あなたにとって一番近い数字に丸をつけてください。

I prefer to use paper for tests and worksheets.

1 2 3 4 5 6 7 8 9 10

I prefer to use my phone for tests and worksheets.

1 2 3 4 5 6 7 8 9 10

I prefer to use a computer for tests and worksheets.

1 2 3 4 5 6 7 8 9 10

I think it is important for teachers to give paper handouts.

1 2 3 4 5 6 7 8 9 10

I think teachers should not use too much paper.

1 2 3 4 5 6 7 8 9 10

Looking at a TV screen is better for me than the teacher using a chalkboard.

1 2 3 4 5 6 7 8 9 10

**Table 1 Results of Student Survey**  
Students rated their views from one (least true) to ten (truest)

	1	2	3	4	5	6	7	8	9	10
I prefer to use paper for tests and worksheets	9	5	7	5	6	2	1	2		
I prefer to use my phone for tests and worksheets		2			1	3	7	8	7	11
I prefer to use a computer for tests and worksheets	8	1	2	5	5	6	4	6	1	1
I think it is important for teachers to give paper handouts	4	1	7	5	11	3	4	3		
I think teachers should not use too much paper			3	7	6	11	5	7	2	3
Looking at a TV screen is better for me than the teacher using a chalkboard			1	2	6	8	2	14	2	3

## **Conclusion**

Based on the survey, it appears that students are comfortable with this method of teaching and embrace the use of their phones in the classroom. While students are apprehensive about using PCs instead of paper, they overwhelmingly approve of using their smartphones. However, more research is needed on what affect this usage has on their overall performance and if it increases or decreases test scores, class participation and overall grades. Also, there are still some barriers that need to be overcome: more publishers need to provide software that uses both Android and IOS. They should also consider creating tests that can be used in the same way as Kahoot rather than just providing printable options. Also, regarding the perception of paper waste, it would be interesting to explore the view of this in different cultures.

From a teaching aspect, reducing the amount of time I needed to prepare a room, I did not need to write anything on the board or assign seats, as well as removing the need for me to mark tests. This is of huge importance as shown in Matt Walker, Jack Worth and Jens Van den Brande's workload report where more than 50% of teachers felt they were using too much of their time marking (2019, p. 51). By conserving energy in these areas, I was able to focus on the most important aspect of my lesson – ensuring it is delivered in the best manner and style for the class in front of me. This is what technology should do: not cause teachers stress but free them up to more engage with students and improve learning. It is hoped that some, or all of the methodologies, outlined in this paper will help others do the same.

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