# Augmenting Classroom Practices With QR Codes

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The use of mobile devices in the language classroom can help accomplish innumerable learning objectives, yet many teachers regard smartphones and tablets as obstacles to lesson goals. However, as portable technology continues to infiltrate classroom boundaries, it is becoming increasingly clear that educators should find ways to take advantage of mobile devices' enormous educative potential. Quick response (QR) codes, a type of matrix barcode, offer a simple solution to educators' concerns. By creating these scannable codes, educators allow students to quickly and easily engage with relevant online materials, including videos, podcasts, images, and more. In doing so, the separation between the classroom and the "real world" is blurred, and students become more accountable for their own learning by applying their language skills to a wide variety of English stimuli using their personal devices. After reviewing the benefits of mobile assisted language use (MALU), this article introduces practical resources for creating and scanning QR codes and outlines a multi-part lesson that incorporates QR codes. The article also presents a variety of successful, classroom-tested ideas for integrating QR codes into collaborative and communicative lessons.
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**Due** to the rise of recent technological developments, the ways in which we learn are becoming progressively more multifaceted (Perifanou, 2011). Moreover, the realities of today's technological world entail virtually incessant interaction with a variety of media forms (Prensky, 2001). Consequently, more than ever before, English language education requires a space where students are constantly engaged with, and challenged by, authentic, relevant, and stimulating materials as a foundation for learning. Because

mobile devices are crucial for accessing authentic digital resources, the relevance of this tool for English language teaching (ELT) is apparent. One simple and effective method for students to take advantage of their mobile devices is through the use of quick response (QR) codes.

QR codes are a relatively recent type of matrix barcode that, when scanned by a mobile device, redirects the scanner to the URL that the QR code is linked to. Currently employed primarily for advertising, QR codes afford ample opportunity for educational purposes. When used for communicative and collaborative learning in the classroom, QR codes are a valuable pedagogical tool because they blur the line between the classroom and the "real world." Through adopting a utilitarian approach to mobile devices in which "phones are . . . put to use in the service of language learning and student engagement" (Brown, 2014, p. 73), the incorporation of QR codes in lessons can help address unique challenges brought upon by this rapidly changing digital landscape.

Indeed, with the ever-expanding ubiquity of smartphones, most of our students already come to class armed with this valuable device (Burston, 2014; Campbell, 2006). However, many teachers hesitate to experiment with the educative capabilities of mobile devices. This skepticism is understandable: there is certainly little doubt that mobile devices can invite distraction (Burns & Lohenry, 2010). Unsurprisingly, concerns related to mobile device usage during class time are not restricted to the field of language learning (Campbell, 2006). Many, if not most, teachers have encountered students whose attention has strayed during a lesson due to smartphones; the visible upward thumb scroll is evidence enough that Instagram and Facebook threaten the carefully curated learning environment teachers foster. Educators' responses to this obstacle run the gamut from outright mobile device prohibition to permissivism of their use (Brown, 2014). However, beyond the physical removal of smartphones from students' possession as a preventive measure, it is becoming increasingly clear that, if we as educators cannot ignore the steady intrusion of portable technology into educational spaces, perhaps we should instead embrace its enormous potential (Kukulska-Hulme, 2009; Prensky, 2001; Smikle, 2013).

An emerging body of research pertaining to mobile assisted language use (MALU) and mobile assisted language learning (MALL) points to the mounting importance of mobile devices for a wide variety of social and academic reasons in a second language, such as using social media in English, obtaining information online, and playing online games (Jarvis & Achilleos, 2013). One need look no further than the ways in which today's English language learners (ELLs) access diverse materials online to conclude that the exclusive use of a textbook in class does not align well with modern modes for seeking knowledge (McDonald, 2010). As learners continue to rely on digital sources for information, promoting students' electronic literacies is essential (Ancker, 2002). This consideration is of particular importance, as reading from a screen may be more cognitively demanding and pose a greater challenge to comprehension than paper-based materials (Jabr, 2013). Furthermore, some resources such as video and podcasts cannot be printed at all, and others, including infographics, blogs, and webcomics, are best viewed on a screen.

QR codes readily address the above concerns by providing an efficient vehicle through which innumerable student learning objectives can be quickly and seamlessly interwoven with authentic materials. For educators who already employ diverse digital resources in class, QR codes offer a quick fix to the timely process of manually entering lengthy URLs into web browsers. Moreover, by relinquishing control of the media to students, learners are able to replay audio and video, and enlarge color images for closer examination. Through examining media on their own or in small groups, students are more accountable for their own learning. Additionally, the mystery enshrouding the linked materials of the QR codes often piques students' curiosity, which is an additional catalyst for class participation.

The process of creating and integrating QR codes into lessons is simple and requires little practice. There is an abundance of websites that educators can use to create custom QR codes for free; one example is http://qr.kaywa.com. Copy and paste the URL of an online article, video, podcast, or image into the indicated field, and the website will generate a QR code that links to the URL. This QR code can then be copied and pasted into

printed handouts or projected on a large screen for students to scan with their mobile devices. QR codes linking to text fewer than three hundred characters can be created by visiting http://goqr.me. Most mobile devices now come equipped with a QR code scanner, but there are several free apps such as *i-nigma* available for download. Scan Figures 1 and 2 for examples of QR codes linking to text and an image.

Figure 1. This QR code links to text

Figure 2. This QR code links to an image

Because QR codes serve as gateways for an infinite array of resources, they can be customized for all learners and help accomplish numerous pedagogical goals. Unfortunately, while a cursory online search for QR code activities leads to several promising results for general educative purposes, there are few examples that pertain specifically to ELT. Over the past several years, the author has created and implemented QR code-based activities across a host of diverse curricula and for students of all levels of English proficiency. What follows is but one example of an interactive, multipart activity using QR codes that aims to encourage intermediate-level adult ELLs to think critically about specific authentic materials and work together. For more successful and engaging classroom-tested ideas appropriate for a variety of levels of ELL instruction and corresponding example QR codes, refer to Table 1.

TABLE 1. QR Code Activity Ideas

| Focus | Example Applications | Examples |
|---|---|---|
| READING | Create comprehension and discussion question QR codes of an article (http://goqr.me). Copy and paste the QR codes in the margins of a paper article. Students cannot preview questions before reading, but must instead read small sections before scanning and responding to the questions. |  |
| | Prepare infographic QR codes related to the lesson's topic from www.infographicsmania.com. Divide the class into groups and set a time limit to skim an infographic. Each group must create two or three questions using information from their infographic. Groups rotate their infographics and must locate the answers to the other group's questions by scanning their QR codes. |  |
| | Select several political cartoons that address the theme of focus, and copy and paste their image URLs into a QR code generator. In groups, students scan the QR codes and interpret the meaning and slant of each political cartoon. |  |
| LISTENING | Create QR codes of short YouTube videos to be used for jigsaws. For example, The American Museum of Natural History has several brief videos about dinosaurs that students can watch and then answer accompanying comprehension questions. Students form new groups and share information they learned. |  |
| | Take notes on some common errors made in class, and then make individual recordings of these errors using websites such as www.vocaroo.com and www.audioboom.com. Create individual QR codes for each recording. In small groups, students must scan and listen to each recording, and dictate exactly what is heard. Finally, students work together to correct the errors. |  |
| | Use the above recording websites to record excerpts of interviews found on sites such as www.npr.org, and then create QR codes of these snippets. Students can synthesize the content of the interviews with other materials studied in class. |  |

(Continued)

TABLE 1. (Continued)

| Focus | Example Applications | Examples |
|---|---|---|
| SPEAKING | Give each group a short poem that exhibits strong rhythm, such as works by Shel Silverstein. Include a QR code on the handout that links to an audio reading of the poem. Students mark words that receive more stress than others, and then scan the QR code to check their answers. Students practice the rhythm by shadowing the audio recording, and then present their poem to the class. | |
| | Copy image URL addresses and create QR codes of the images. Use the images to spark discussion, compare and contrast, or synthesize. For example, a lesson on noun clauses of uncertainty (e.g., "I don't know who they are") can use engaging pictures to elicit the noun clauses. | |

## LESSON EXAMPLE

For a theme related to food, begin by creating QR codes of the old and new American food pyramids (see Figures 3 and 4 to view these food pyramids). Have students scan the codes either from a projector or on a handout, and then compare and contrast the two

Figure 3. Old American food pyramid

Figure 4. New American food pyramid

food pyramids with respect to dietary information and aesthetics. As a follow-up activity, students can research their country's food pyramids as homework or while in class using their mobile devices.

Assign "How Advertising Targets Our Children" (Klass, 2013) as an out-of-class assignment. If there is a prepared handout for this article, include a QR code linking to the article on the handout so that students can practice screen-based reading on their mobile devices. For the next lesson, have students discuss the content of the article. Prepare a handout with four or five QR codes that link to food websites (e.g., Coca-Cola, McDonald's Happy Meals, and Frosted Flakes). Divide the class into groups and instruct each group to scan the QR code linking to their assigned website. Have groups investigate the level of difficulty in finding the product's nutritional information; its aesthetic appeal for children; and whether it has images, videos, or games aimed at children. Students must then decide if and how the website targets children according to Klass's (2013) article. Finally, students share their results with members from the other groups, who can scan the presenting group's QR codes and follow along with the presenting group's answers while exploring the website in question. As one possible homework assignment, students can search for another food website that targets children and explain its manipulative features to their peers during the ensuing lesson.

## CONCLUSION

Prudent use of QR codes for language learning activities offers a promising approach to incorporating authentic and relevant content into lessons. As with most emerging technologies used for educative purposes, the successful implementation of QR codes in the classroom requires several considerations. ELLs' age, mobile device availability and permission for their use, and a reliable Internet connection are potential limitations. Moreover, the educator must reflect on the best use of classroom space and how many devices are needed for group activities. For instance, one mobile device per group is usually sufficient for QR codes involving audio. Perhaps most critical is keeping in mind that, if new technological tools are to be

used, then they must be thoughtfully integrated into pedagogical frameworks to assist in achieving the desired learning objective (Ancker, 2002; Brown, 2007; Dieterle & Dede, 2007). Despite these concerns, QR codes have the potential to positively channel technology's wayward march into the classroom.

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## REFERENCES

Ancker, W. P. (2002). The challenge and opportunity of technology: An interview with Mark Warschauer. *English Teaching Forum*, *40*(40), 2–9.

Brown, H. D. (2007). *Teaching by principles: An interactive approach to language pedagogy*. White Plains, NY: Pearson Education.

Brown, J. (2014). Teachers' stances on cell phones in the ESL classroom: Toward a "theoretical" framework. *TESL Canada Journal*, *31*(2), 67–78. doi:10.18806/tesl.v31i2.1177

Burns, S. M., & Lohenry, K. (2010). Cellular phone use in class: Implications for teaching and learning. *College Student Journal*, *44*, 805–810.

Burston, J. (2014). MALL: The pedagogical challenges. *Computer Assisted Language Learning*, *27*, 344–357. doi:10.1080/09588221.2014.914539

Campbell, S. W. (2006). Perceptions of mobile phones in college classrooms: Ringing, cheating, and classroom policies. *Communication Education*, *55*(3), 280–294. doi:10.1080/03634520600748573

Dieterle, E., & Dede, C. (2007). Building university faculty and student capacity to use wireless handheld devices for learning. In M. van Hooft & K. Swift (Eds.), *Ubiquitous computing in education: Invisible technology, visible impact*. Mahwah, NJ: Lawrence Erlbaum.

Jabr, F. (2013, April 11). The reading brain in the digital age: The science of paper versus screens. *Scientific American*. Retrieved from http://www.scientificamerican.com/article/reading-paper-screens/

Jarvis, H., & Achilleos, M. (2013). From computer assisted language learning (CALL) to mobile assisted language use (MALU). *TESL-EJ*, *16*(4). Retrieved from http://www.tesl-ej.org/wordpress/issues/volume16/ej64/ej64a2/

Klass, P. (2013, February 11). How advertising targets our children. *The New York Times*. Retrieved from http://well.blogs.nytimes.com/2013/02/11/how-advertising-targets-our-children/?_r=0

Kukulska-Hulme, A. (2009). Will mobile learning change language learning? *ReCALL*, *21*(2), 157–165. doi:10.1017/S0958344009000202

McDonald, L. (2010). iTESOL: Analogous practices in the SLA classroom. *TESOL in Context*, *20*(2), 42–51.

Perifanou, M. (2011). My personal mobile language learning environment. *International Journal of Virtual and Personal Learning Environments*, *2*(4), 49–62. doi:10.4018/jvple.2011100105

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, *9*(5). Retrieved from http://www.marcprensky.com/writing/Prensky - Digital Natives, Digital Immigrants - Part1.pdf

Smikle, L. (2013). Sold on cell phone activities. *Contact*, *39*(1), 11–14.