Chapter 19
Using Mobile Technology for Formative Assessment in the Classroom

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ABSTRACT

A Bring Your Own Device Policy (BYOD), although open to criticism, has many benefits. One significant benefit of a BYOD policy is the opportunities for formative assessment opened up when students can access devices on an individual level. BYOD policies are often implemented in an effort to place a device in the hands of every student when district funding would not allow it. The value of formative assessment lies in its ability to provide teachers with information about the level of student understanding. This chapter provides an overview of BYOD, formative assessments, and where they can intersect. States possible concerns and issues associated with the use of personal student devices in an educational setting along with possible ways of addressing these concerns and issues. It also gives specific strategies for developing and implementing formative assessments in a BYOD classroom. This chapter also includes specific tools as well as their strengths and weaknesses.

INTRODUCTION

Technology will never replace good teaching, but effective use of technology by a good teacher will take a classroom to a new level. Technology can be a valuable tool in education when used correctly. The use of technology in any classroom should be done in a thoughtful and well-planned manner with the objective of optimizing student learning (Gustafsson, 2016). Unfortunately, technology is often used simply for the sake of saying technology was used.

Technology tools can be used to provide a more student-centered approach or enable students to engage in a more authentic level of learning. Teachers can also use technology tools to administer both formal and informal formative assessments. Students can use a range of devices that from clickers to tablets to laptops. One possible obstacle teachers may encounter regarding educational technology budgetary constraints. This is a legitimate area of concern. However, it is surmountable.

Some school districts institute a Bring Your Own Device (BYOD) policy. A BYOD policy allows students to bring and use their personal devices to class. Possible devices students can bring to class include smartphones, tablets, Chromebooks, and laptops. By doing this, students are helping to improve the student to device ratio. There are both benefits and limitations to instituting a BYOD policy that should be considered.

The primary, and most obvious, benefit of a BYOD policy is that it places more devices in the hands of the students for educational purposes. This benefit comes without the district investing a large sum of money that could possibly be redirected for other benefits (Bruder, 2014). These options include purchasing and maintaining a smaller set of devices for students who cannot provide their own. Being able to purchase and maintain a spare set of devices addresses a commonly stated limitation of a BYOD policy. This limitation is how to address students who do not have their own devices. Another limitation of a BYOD policy relates to monitoring students for appropriate use of the various devices in the classroom. Although this concern is warranted, it is also surmountable and will be discussed later in this chapter. The benefits of a BYOD policy outweigh the limitations.

Using student devices in class opens up possibilities that would not be available otherwise. Allowing students to use their own devices can give them access to online resources without reserving a computer lab. This provides steady access to tools like those that the ones discussed in this chapter, and provides more opportunities to teach digital citizenship skills. Students for classroom assessment, research, and promoting discussions can access many tools.

The tools discussed here are cost effective, and they can be used for formative assessment or to initiate class discussions. There are tools accessible for school or district wide purchase that could accomplish similar if not identical tasks, but they are cost prohibitive for many school districts. Each of these tools could easily be discussed in a paper about other topics like assessment as well. Although, those topics may be mentioned here, the focus will be on promoting discussion.

The tools revealed in this chapter are included because of their usefulness for formative assessment. They also provide a voice to students, who may not participate otherwise. They can take part in a class discussion in various ways with these tools. Feedback can be obtained about student opinion or points of confusion. This information can be used to create talking points in class. Some tools, like TodaysMeet, can also be used to facilitate backchannel discussions to maintain class discussion flow without interrupting conversation midstream or losing students to confusing concepts.

The growing implementation of Bring Your Own Device (BYOD) policies in K-12 public schools have opened up new opportunities for using technology as a formative assessment tool. Whereas district-purchased clickers, tablets, and other handheld assessment tools were previously cost prohibitive in all but the most affluent public school districts; the students themselves can now provide resources. This chapter offers both a research-backed and experience-based discussion of effective classroom-level strategies for using personal devices to foster formative assessment opportunities.

This chapter is written with two particular audiences in mind, although others may benefit. The first audience is classroom teachers. The second audience is those educational stakeholders who develop, schedule, or deliver professional development to classroom teachers. My intentions with this chapter are to:

- Provide an overview of BYOD, formative assessments, and where they can intersect.
- State possible concerns and issues associated with the use of personal student devices in an educational setting along with possible ways of addressing these concerns and issues.

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