

# Whiteboards in the classroom: is the marker mightier than the phone?

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## Introduction

Quizzes have been shown to be beneficial in improving student understanding and as part of a flipped classroom approach (Foon & Kwan 2018). Formative assessment at the start of a lesson allows students to self-assess their understanding and facilitates lecturer identification of troublesome concepts that require further explanation. Audience-response smartphone/tablet applications, such as Socrative, are widely used to facilitate these quizzes, enabling immediate response processing and learner feedback. However, like any classroom-based technology, problems or shortcoming may arise when employing these teaching tools (table 1).

## Table 1. Digital quiz software drawbacks

Inconsistent/unreliable wi-fi in classrooms

Students must have a smartphone/tablet with them that's charged and has the relevant app downloaded on to it

Getting everyone online and connected initially can take some time – students may lose focus

Faster students may spend a lot of time waiting for others

Time required to write and test the quiz before class

Somewhat limited in the type of questions and responses you can use

Still need to print off a few hard copies as backup

Originally purchased as a low-cost alternative to quizzing software (primarily due to inconsistent wi-fi availability), these whiteboards (figure 1) have become a useful and flexible teaching tool in their own right. (Jawah et al. 2004) identified seven principles of effective feedback (table 2). The whiteboards are a tool facilitating the application of these principles in formative classroom feedback cheaply, quickly and effectively.

**Figure 1. Whiteboard & marker**



**Table 2. Seven principles of effective feedback (Jawah et al. 2004)**

1. Facilitates the development of self-assessment (reflection) in learning
2. Encourages teacher and peer dialogue around learning
3. Helps clarify what good performance is (goals, criteria, expected standards)
4. Provides opportunities to close the gap between current and desired performance
5. Delivers high quality information to students about their learning
6. Encourages positive motivational beliefs and self-esteem
7. Provides information to teachers that can be used to help shape the teaching

Advantages of the whiteboards (table 3) include their speed of deployment and simplicity of use, with no downtime waiting for students to connect to online quizzes or choose an answer option. They can be used to indicate students' responses to queries included in the lecturer's slideshow, thereby saving time, as the lecturer does not have to prepare and integrate class material on more than one software program.

**Table 3. Advantages of individual student whiteboards**

Cheap and durable

No maintenance required, always ready to use

Rapid deployment, students hand them around

Tactile experience, students use their hands

Flexible, no barrier to using diagrams, illustrations, formulae, drawings

Foster creativity, students can draw designs/plans

Avoids data breaches and students getting distracted by other phone apps

Fun, students respond positively and ask me to use the whiteboards

The students know that I don't have a record of it if they don't know something! (unlike Socrative), promotes "have a go"

The whiteboards also facilitate a broad range of responses (multiple choice, true/false, calculations, reasoning, ranking, diagrams, illustrations etc.) and allow rapid class feedback e.g. "on a scale of 1-5 where 1 is not at all and 5 is totally, how confident would you now feel about performing this task on a live animal?"

They have proven to be especially helpful in tackling topics that students frequently struggle with, such as calculations. They give the lecturer insights into where the lack of understanding is arising, allowing more effective guidance to be delivered. The most striking thing has been the level of student enthusiasm they evoke.

## Take home message

Whiteboards are a flexible, low-cost and useful tool that are worth considering as an addition to your teaching toolbox.

Whiteboard supplier: [www.abcschoolsupplies.ie](http://www.abcschoolsupplies.ie)