What is the teaching challenge?

In what ways can teachers facilitate learning in an interesting way that inspires students to direct their own learning in the twenty-first century Dramatic Arts classroom?

At the grade 12 College/University preparation level of the Ontario Dramatic Arts Curriculum, students are expected to:

C1.2 use correct terminology for the styles, components, processes, and techniques of drama in creating and critiquing drama works and theatre production

C1.3 demonstrate an understanding of how various media can be used in the production and promotion of drama works

A1.3 and create and interpret a wide range of characters using a variety of acting approaches (p. 100, 104).

How can educators facilitate achievement of these curriculum expectations in a fun and new way that engages learners?

What are possible technology-enabled solutions?

The role of the teacher has drastically changed from the twentieth to the twenty-first century. Considering the role that technology has taken in our society today, students’ learning needs are more different than ever. Students now have access to the world’s largest information tool and it is the teacher's job to facilitate learning instead of using direct instruction. There is a push/pull element to teaching whereby teachers must "push” enough information onto students in order to interest them and enough to "pull” them into the idea of seeking out further information about a given subject.

The technology-enabled solution that I found to address the challenge of delivering course content in a new and exciting way that inspires students to direct their own learning is the use of Augmented Reality (AR) in the classroom, specifically the application Aurasma. Aurasma is an online platform that allows anyone to create and publish his or her own augmented reality as well as view augmented realities that have been created by others. Essentially, this platform allows any object, place, or image to “come to life” through the camera of your personal device.

Learning Activity with Aurasma: Instead of giving a traditional lecture about theories of acting styles, we can use Aurasma to create AR by selecting objects or images (e.g. a photo of Stanislavski) and attach an animation or video that was carefully chosen by the teacher to provide the content knowledge as well as an example of the technique. Students will explore the room, learning at their own pace, viewing the augmented realities the teacher has created through his or her personal devices.
How will this technology support learning?

Augmented Reality has very recently gained popularity with the population at large due to the availability of technologies needed to participate in AR. There has been significant research involving AR and its potential uses in the field of education, however in my research I did not find an abundance of quantifiable data that proves exactly how these potential uses support learning. I do believe that since technologies are so readily available and will continue to be, there will be further research proving AR usage in supporting learning in education, particularly in elementary and secondary schools. Since the capabilities of AR are so broad, depending on the technologies and budgets available, the research I have done speaks specifically to the basic capabilities of the Aurasma Application which is conducive to any classroom.

AR Categories and Potential Uses in the Drama Room

In an article written by Steve Chi-Yin Yuen, Gallayanee Yaoyuneyong, and Erik Johnson (2011), “AR applications fall into three main categories: (a) presentation and visualization, (b) industry, and (c) edutainment” (p.123). Aurasma certainly falls within these categories, each one relevant in its own way to the drama curriculum. Firstly, presentations and visualizations are everyday occurrences in the drama room. Teachers can use this app to have students record themselves performing a piece inspired by a picture or an object. They will have opportunities to watch themselves perform in playbacks as they create their augmented reality with the Aurasma app. This will provide the students with self-assessment opportunities as well as provide immediate feedback from peers. This will result in a richer learning experience as students collaborate with one another. Regarding industry, students can research the theatre industry and various ways one might promote a production. Students could use Aurasma to promote their own show using AR, perhaps by adding a short “teaser” to a promotional poster in the hallways of the school. This gives students the opportunity to demonstrate their learning through creativity. Lastly is “edutainment” whereby students are learning course content (such as theories of acting styles) but the nature of the AR makes learning entertaining and fun thereby enhancing their learning experiences.

Potential Implications and Benefits of Using AR in the Drama Classroom

There are numerous potential implications and benefits of using AR in the classroom. According to an article written by Kerawalla, Luckin, Seljefot, & Woolard (2006), “[AR] has the potential to engage,[stimulate], and motivate learners to explore material from a variety of differing perspectives” (p.2). In a traditional classroom setting students learn content from textbooks or videos which they are often expected to explore independently. This does not stimulate the mind of the student in the twenty-first century classroom because it does not reflect how they learn in their everyday lives in their interactions with technology. The nature of AR is new and exciting and therefore students may be automatically more engaged in what they are learning because the mode of learning is closer to how they interact on a daily basis with technology.

The article continues, explaining that “[AR] has been shown to be particularly useful for teaching subject matter that students could not possibly experience first hand in the real world” (p.2). This feature of AR is most impressive because it provides students with opportunities that they may not otherwise have. This specific article is making reference to far more sophisticated implementations of
AR, particularly in the field of science and technology, however this can translate into the dramatic arts classroom seamlessly. Drama is experiential therefore, “taking advantage of using the inherent spatial nature of AR may be useful for practicing physical skills” (Shelton, 2002). For example, most students will not have the opportunity to get professional training from acting instructors. Being able to have AR in the classroom allows students to see examples of a wide variety of styles and techniques that the drama teacher may not be extremely familiar with. Using the Aurasma app, the simplest way to implement this is through the use of videos that have been attached to photos or objects. Unfortunately, at this point, unless the teacher has sophisticated software to create original 3D videos, the student will not be able have a 360 degree perspective of acting styles. The prompted video or simple animation is more conducive to today’s typical classroom and will ideally result in the same engaged reaction from the student.

Fostering student creativity and imagination is another benefit of AR according to Klopfer & Yoon, (as referenced in Yuen, Yaoyuneyong, Johnson, 2011). The Aurasma app makes creating AR fairly simple and the nature of its capabilities could inspire students to use their imaginations in ways that allow them to create products they never could have be able to before AR. For example, students could very well create an AR which allows them to jump over the moon.

Another benefit to using AR is that it “Help[s] students take control of their learning at their own pace and on their own path” (Hamilton & Olenewa, 2010) “…and create[s] an authentic learning environment suitable for various learning styles” (Classroom Learning with AR, 2010)” (Yuen, Yaoyuneyong, Johnson, p. 127). This is a crucial potential benefit in terms of representing my teaching challenge. When you use AR in your classroom you’ve set up a learning environment that reaches a great deal of different learners. AR allows you to integrate text, image, media, video, animation etc. in your classroom, which is bound to reach a variety of students. Furthermore, because students are able to use their handheld devices with the Aurasma app, they are at liberty to learn at a rate that is comfortable for them. They are not put under any pressure by the pace at which the other students in the class are performing. Students are also able to decide which path they want to take. For example, if I were to set up seven ARs in my classroom the students would get to decide how they wish move forward with their own learning.

Student Collaboration with AR

Although students will have the ability to direct their own learning they are doing this simultaneously; students will work together better because they share a common workspace in a classroom setting (Billinghurst, 2002). More than one person can view AR at once and this “results in conversational behaviour that is more similar to natural face-to-face collaboration than to screen based collaboration [such as sharing one computer screen]” (Billinghurst, 2002). This is because “in a collaborative setting speakers use the resources of the physical world to establish a socially shared meaning” (Billinghurst, 2002). Together students will experience the AR that has been prompted by the image, object or place and this will naturally result in conversation and collaboration between students resulting in a more meaningful learning experience.
What are the considerations for enabling this technology in the classroom?

To create Auras, there are two options:

1. Download the application onto your personal device that is available, for free, on iOS5.0+ and Android 4.0+. (The application is not yet available for Windows devices.) This option is great for creating simple Auras on the go. It also offers an extensive pre-loaded gallery of animations, called “Overlays”, which the website does not offer.

2. You may also create Auras online, using your computer, at https://studio.aurasma.com/login. You will need to create an account, which is free, and then build Auras in your browser. This option is preferred when you want to create a more complicated Aura. These complications include uploading your own animation, which you have created with your own sophisticated software or Photoshop.

To view Auras:

Simply download the Aurasma application to your Smartphone or Tablet, sign up for free, and start viewing auras that were created for the public OR subscribe to a specific channel (private) through the camera lens.

How would you gather evidence of learning or change in the classroom?

The first indication of change in the classroom using this app would be the amount of conversation generated by the activity. Initially, students would be talking about the capabilities of the app itself, however it is expected that since the app has prompted conversation students will remain on this trajectory and ultimately be discussing the content matter with one another. If there is very little conversation generated then it is time to reconsider whether the app is being used to its full potential in the classroom. Evidence of learning can be achieved by having the students gather together after the learning activity and further discussing what they have learned as a class. Students could be asked to gather further information of the subject matter of the “Aura” they found most interesting, and share that with the class the following day. They can also be provided with time to practice certain techniques during the following class and illustrate what they’ve learned.
Tips for using this technology

First and foremost it is important to exercise patience upon learning this technology. There is a fairly steep learning curve, however after some practice and exploration the experience becomes easier and most importantly your students will love it. The following pictures and videos will provide detailed direction for creating an Aurasma on both your computer and hand held device.

Trigger= Object, image or place that has been selected to prompt an Overlay
Overlay=The video or animation that comes to life on your hand held device
Aura=Your completed augmented reality that includes the Trigger and Overlay

Creating an Aura on the Aurasma App

The first screen of the app immediately allows you to start viewing Auras. To Create an Aura hit the triangular icon at the bottom the screen.

Figure 1: First page inside the app Hit + to begin creating your Aura.

Figure 2: Choose an animation Overlay or add your own by hitting “Device”.

Figure 3: Upload your own Overlay by hitting +. This will bring you to all the images and videos you have loaded on your handheld device.
Augmented Reality in the Dramatic Arts Classroom

Step 4
Figure 4: After uploading your own video hit the desired video and select

Step 5
Figure 5: Capture Trigger image make sure the circle is in the green

Step 6
Figure 6: Give the Aura a title, select a channel and hit finish. You’ve Done it!

The next time you put your Trigger image into your camera screen through the app, it will load like this and your Overlay will play on your handheld device!

To create an Aura, please see the YouTube instructional video.
Augmented Reality in the Dramatic Arts Classroom

## Tips for using this technology

### Images

The Trigger needs to be very clear. When uploading a trigger to the Aurasma Studio website it will inform you whether the image is ideal in terms of being recognized once the Aura has been completed. I have often ignored this warning and have found that almost all of the Triggers have been recognized once tested.

The app has a small bar at the bottom of the camera screen that captures Trigger images. It will only allow you to capture the image if the circle is in the green portion of the bar.

### Video

Aurasma does not allow you to select a video that is four minutes or longer, files that are more than 100MB will not be uploaded to be used as an Overlay.

Since Aurasma only accepts videos that are less than four minutes, it is often easier to record a portion of a video, from YouTube for example, onto your phone camera and upload that as an Overlay.

### Animations

There is a gallery of preloaded animations on the Aurasma app, however the gallery of animations is not available for your computer.

As long as an animation is less than 100MB it is possible to download one onto your computer and use it as an Overlay.

### Viewing Auras

Students will only be able to view the Auras that you made if they subscribe to your channel. They can easily search for the name of your channel through the search option on the Aurasma App and click “follow.” Your Auras will only be seen by those who subscribe to your channel. You can create as many channels as you would like.

The lighting in the room can often obstruct the ability for the Aurasma App to recognize a Trigger. Make sure there is no glare, reflection, or “crinkles” on your Trigger.
Closing Thoughts

I have not always been an advocate for using technology in the classroom. Before having any first-hand experience in the classroom I always thought that I would have a more “traditional” teaching style. During my practicum I was lucky to have an Associate Teacher who was very well versed in various technologies and their uses in the classroom. I saw so many potential uses for the technologies but unfortunately I had very little time to spare in order to explore and analyse their uses in the classroom. The Alternative Practicum Experience gave me the time I needed to explore various technologies, particularly Aurasma, which I was most excited about. What I learned in my own research and the research of my colleagues was that there are endless technology-enabled solutions to a wide variety of teaching challenges.

Using discretion in choosing which technologies to use in the classroom is important. Teachers often use technology for the sake of using technology. This is not ideal. Ideally, the technology should foster teaching and learning in a way that was otherwise impossible without the use of that technology. Teachers should be able to use the technology to interact with students in ways never before thought possible and the technology should provide the students with the capabilities to produce products or explore ideas in a richer and more meaningful way.

My advice to fellow teacher candidates is that technology is an integral component to the twenty-first century classroom and that it should be embraced. Frustrations and complications often arise in the process of learning and using technology, however with time and patience you will make the technology work for your teaching needs as well as your students’ learning needs.

Explore technology in your free time and challenge yourself to learn something new and exciting every few months as a way to continue your personal development.