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Little things do matter and I love the story I read this week in Andy Andrew's book called the little things about an air rifle and the Lewis and Clark Expedition- This week I'm going to be giving away five copies of this book, The Little Things, and also tell you how you can get Andy Andrew's free curriculum for this and his other books. So stayed tuned

"To be that immigrant in Ellis Island to be that explorer discovering the pyramids. Those are experiences that simply can't be recreated two dimensionally or watched through a video. If I can immerse myself in that environment, I can get a truer sense of what it's like."

The Ten-minute Teacher podcast with Vicki Davis. Every week day you'll learn powerful practical ways to be a more remarkable teacher today.

VICKI: Happy Thought Leader Thursday. Today is the day we try to really think about where education is heading. And today we have someone who always makes me think, Steven Anderson @Web20Classroom, one of my favorite people on Twitter. So Steven, help us understand, what is augmented reality? It sounds so intimidating.

STEVEN: Yeah, thanks for having me, Vicki. So augmented reality is something that's actually pretty cool that you can take a two-dimensional device and using your mobile phone or another tablet or something like that, you scan this static two-dimensional image and using an app or software you bring that two-dimensional image to life. And so we're seeing augmented reality in the consumer space. So Yelp <https://www.yelp.com/mobile> <http://www.wikihow.com/Use-the-Augmented-Reality-Monocle-on-the-Yelp-for-iPhone-App> has an augmented reality part of their app where you can scan as you're walking down the street, you can see kind of the buildings rise up, the restaurants and all of the different places that would offer reviews or things like that kind of pop up on your app and you get a better sense of the restaurant or the location.

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You can scan magazines now. <https://www.youtube.com/watch?v=D8gOWqMWvCg> Actually, while you're reading an article, scan a particular place in the article or in the magazine and the article itself will come to life. Now, for students, there's a lot of different types of applications. I've seen some really cool apps that involve elements of the periodic table. <http://elements4d.dagri.com/> So there are three cubes that you can then scan with an app. I used to be a science teacher, and so you can bring the cube to life and now you're actually looking at a nitrogen atom or you're looking at a gold atom or you're looking at what that element physically looks like. And then using the app, you can manipulate it, turn it around, see what it looks like in three dimensions.

So it's really to take two-dimensional objects and to bring them to life into three dimensions.

VICKI: Yeah, and of course Pokemon Go <http://www.pokemongo.com/> is kind of the first – I guess, most famous app. But we can do virtual fieldtrips in Google Cardboard, <http://amzn.to/2moOSzb> what's all that about?

STEVEN: So I love my Google Cardboard. So I have two young daughters, seven and three and all of us have our Google Cardboard and I just have old mobile devices, I update my phone every chance I get so I have these old phones sitting around. All you need is a phone that and connect to a wireless connection. You put the phone in the Google Cardboard and now you can be whisked away. One of my favorite ones is you can experience what it was like to be an immigrant on Ellis Island. <https://www.scholastic.com/teachers/activities/teaching-content/interactive-tour-ellis-island-immigration-activity/> And so you fly into Ellis Island and you actually can take a journey of what it was like to be an immigrant arriving there, you go through the different stages and you read about the history of what it was like for these folks arriving to a brand new country in a brand new time and really see what that's like.

You can do tours of the pyramid. There's a really great aquarium app where you can learn about sea life. And so it's to take something that may be very out of reach.

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It would be very difficult to take students to Ellis Island. It would be a very, very cool experience. But now by just using some cardboard and an old mobile device now we can virtually go there and have that same similar sort of experience.

VICKI: Right. And for my super technical friends, we actually just stepped from augmented reality into virtual reality. So explain for us the difference between augmented and virtual because people do get it confused.

STEVEN: Sure. So augmented reality is that whole notion of taking that two dimensional object and bringing it to life into 3D where virtual reality, you're placing yourself in the experience. So I think a lot of us, especially this past holiday, I think a lot of people saw Samsung VR <http://www.samsung.com/global/galaxy/gear-vr/> which is a headset that you can wear, you're completely immersed in this environment and can really feel like you're a part of it. There's great videos on YouTube of people experiencing that virtual reality. It really feels like you're in this experience because it's a complete 360 degree view of where you are.

Where augmented reality, you're taking something static. Crayola has a great augmented reality app <http://crayola.daqri.com/coloralive> where a student can color a picture and the using their AR app can actually make that two-dimensional coloring three-dimensional and you can turn it around and see dinosaurs, what was that like to be a brontosaurus or a tyrannosaurus and to learn about that object, where virtual reality, you're immersing yourself in that environment totally.

VICKI: So Stephen, which has you most excited for education? AR or VR?

STEVEN: I think AR can show a lot.

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I especially like the science examples that I've seen. Aurasma <https://www.aurasma.com/> is a great app for all type, for being able to create AR. But I really like this notion of being able to immerse yourself into a virtual world that we wouldn't otherwise be possible for students to travel to. I mean, imagine being able to put students in front of their desks and have them all travel to Mars and being able to be an explorer on Mars. <https://unimersiv.com/review/titans-of-space/> We're quickly heading towards actually sending humans to Mars, well now, kids could do that virtually. And having those experiences can really add to and enhance a particular lessons or a type of content that we're trying to teach. So I think being able to immerse ourselves in those environment and get a sense of what it would be like to be that immigrant in Ellis Island or to be that explorer discovering the pyramids. <http://www.3dmekanlar.com/en/the-pyramids.html> Those are experiences that simply can't be recreated two-dimensionally or watched through a video.

If I can immerse myself in that environment I can get a truer sense of what it's like. I like them both but I really think we're headed towards VR becoming something more and more we're going to see in the classroom.

VICKI: My students love them both. I mean, we have [Sphero] <http://amzn.to/2n2Exui> and you can make a little augmented reality-type thing up here on top of the Sphero. But, you know, the only thing with virtual reality, where the kids are actually wearing the Google Cardboard Headsets which are really, really cheap, by the way, that I have found is is I have to appoint a watcher, like somebody to watch the person who has on the headset because they literally forget where they are.

STEVEN: You really do. There are some really hilarious videos of people who are experiencing VR for the first time and you really forget that where you are you can become disoriented and you start to walk around because you can walk around in these environment with these headsets. It's very easy to run into a wall or run into a door. So it's true, you have to kind of be careful with the environment that you do it in. But being able to be immersed in that environment can really, really lead to some incredible learning.

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VICKI: Okay. Stephen, so besides going to your website or following you on Twitter, where are some places that teachers can go to kind of get a simple introduction to AR and VR?

STEVEN: So I love Edutopia. I think Edutopia has some really great articles on augmented reality, <https://www.edutopia.org/blog/ar-apps-for-student-learning-monica-burns>

there are also some great articles on Google Cardboard. EdSurge <https://www.edsurge.com/news/2017-02-07-beyond-the-hype-5-ways-to-think-about-virtual-and-augmented-reality-in-schools> also has some good stuff. But the Google Cardboard community <https://plus.google.com/communities/103070326999809122127> – you can just simply do a Google Cardboard community – has lots of examples of how educators are using Google Cardboard in their classroom and there so many different apps in the App Store for Google Cardboard and how they're being used. It's really incredible the kind of stuff that folks are sharing.

VICKI: So teachers, we've kind of brought you something a little bit new and a little bit different, bringing you to the leading bleeding edge; augmented reality and virtual reality, they are so much fun. I know I did it at the very beginning of the school year and it really got the students talking. It is easy, it is simple. You could pick up a Google Cardboard headset, for example, for \$10. So it's not out of the price range and a lot of these augmented reality apps are even less expensive than that.

So if you want to add some spice or excitement to your classroom, take a look at these new technologies because they're really going to be transforming and bringing some exciting things in to education.

So my book of the week this week is *The Little Things* <http://amzn.to/2mJOTzb> by Andy Andrews. I'm giving away five copies of the book. Just head over to iTunes or Stitcher to be entered to win and leave a review along with your twitter or Instagram handle. Also, head over to his website at andyandrews.com/media-education to take a look at all the really cool free curriculum that he has there for you. Now, get out there and be remarkable.

Thank you for listening to the Ten-minute Teacher Podcast. You can download the show notes and see the archive at coolcatteacher.com/podcast. Never stop learning.

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