DARLENE: Good afternoon, everybody. It's Darlene McLennan here. First, I'd like to start by acknowledging the traditional custodians of country throughout Australia and recognise their continuing connection to land, water and community. I want to pay my respects to them and their cultures and to elders both past, present and emerging. For those who have joined us for the first time on this webinar, I'm the Manager of ADCET and also the NDCO for North and Northwest of Tasmania. Today we're going to hear from Fiona Thomas, who is from Texthelp, on how EquatIO can support students and teaching staff in maths. Fiona joined Texthelp six months ago and hit the ground running. I had the delight of meeting Fiona in person in Launceston last year, I think in October. She had the pleasure of seeing me at an early morning radio interview. Probably not at my best, but she was sparkly and full of information and enthusiasm for her role. For people who have joined us, we're using Zoom technology today. On the ribbon, you can actually find, if you'd like to turn the closed captions on, if you're wanting to read along today as well as hear us speak. That's on the ribbon in the far right-hand side and if you go to "More", you should be able to see the closed caption button to turn on. If you have any technical difficulties throughout this webinar or are having them now, you can email us at admin@adcet.edu.au. That's admin@adcet.edu.au. The presentation will run for around 40 or so minutes. And then we'll have 10 or more minutes for questions. Throughout the presentation, feel free to enter your questions in the question pod and I'll ask those of Fiona at the end. Hopefully, you'll be able to find where the question pod is as well. Alright now Fiona I’m going to hand over to you. Thank you so much for joining us.

FIONA THOMAS: Thanks, Darlene. Hi, everybody. Hopefully you can all hear me. If you can't, please pop something in the question box so that we know. Today, we're going to be talking about EquatIO and how to create digital math on any device. You should be able to see my presentation on your screen. Let's have a look. So, this is me. I wish that I could say that I was as au fait about maths as that little emoji makes me look like. I'm not quite as much, but I've given it my very best shot today to hopefully give you some really rigorous examples of what EquatIO can do in terms of post secondary maths. Please feel free to ask me any questions once we get to the end. You can see on screen my email is f.thomas@texthelp.com, and you can find me at Twitter at Fionamci and my role at Texthelp is learning and teaching specialist. I thought I would be coming to you from right by the Cooks River in New South Wales today. I'm actually in sunny Brisbane so I get around a little bit. Beautiful picture of the Cooks River, just thought I would share it. That's very close to me, and that's my daily walk with my little pug Lucy. I've got a picture of the Australian swamp hens there, because the Cooks River is the dirtiest river -- not that you can tell -- in New South Wales just about. But we've actually got swamp hens coming back and it's coming back to life, to a healthy river. Today, we're going to talk about maths, and I guess for me my personal experience is that there's been lots of things going on in terms of literacy options, but not so much in terms of digital maths options that offer a full range of digital maths. My personal experience is that I have a daughter, she's 22. And this is why it's so close to my heart. She has a central vision loss, and maths has been something that we've always struggled to find a good adjustment for her that worked really well for her. So when I was introduced to EquatIO when I started with Texthelp, it was kind of exciting to discover that there was this tool because she actually didn't continue on with maths from Year 10, because of the issues with being able to see subscript and superscripts and a lot of the signs, division, multiplication, as they get smaller appear very similar to someone who has a central vision loss. So, yes, that's just a little bit of a background about me. When we're talking about digital accessibility, of course we want to think about these four key principles: whether the tool is perceivable, operable, robust and understandable. Now, I'm really lucky that I've had the help from one of the ADCET people in Andrew Downey, who since last Friday, when he and I first reconnected after a little while, has been busily sussing out, I guess is the best way to say it, EquatIO for me from a blind user's perspective and has given me all sorts of information about just how well we're doing this, from someone who has no vision. But to give you a bit of an idea, we want it so that people can operate and move around throughout it. We want the navigation to be easy. We want the information to be understandable. And of course we want it to be robust, that they can do more complex equations. What we know so far about EquatIO is that it's getting there with just about all of these, even for someone who is using a screen reader and navigating through that way. We still have a little bit of work to go, but this is so all sorts of other users are able to use it as well. So, let's have a little bit of a look at what that looks like. EquatIO is a toolbar that works across Windows, the Chrome environment and on an Apple Mac. And it's a little bit different depending on which one you work on. Today, I'm going to be presenting it in both the Google environment and as a desktop app on my Mac to give you an idea of -- it's very similar in terms of how it presents, but just a little bit different in terms of the way you pull it up and things like that. So, it's not to suggest that we don't think that pen and paper is a good idea for maths. Obviously, there are times when pen and paper is really important. And me coming from a primary school background, obviously we spend a lot of time with pen and paper. But we know that there's a whole bunch of students who really struggle to access their maths for a whole range of reasons using pen and paper. So, digital could be a real option for them to more easily access and express themselves in maths and that's where EquatIO comes in. EquatIO for me has so many options that the best way for me to think about it is that it allows our students, and anyone who is using it, to create maths, to consume maths equations and information, to collaborate with people using the maths space. And then finally something that we've only just recently realised is that it allows for the conversion of text relatively easily and quickly and it creates accessible maths text as well. So, I'm going to break it down into those four sections for you today and give you some information on each of those points. So what we want is we want students to be able to create and consume their maths in whichever way is best for them and the EquatIO toolbar does that really, really nicely. This is a screenshot of the toolbar. What you can see is, from the left-hand side, that top screenshot that just shows you the toolbar itself. We've got the blue options menu, which I'll run through. Then we've got each of the tools that are available on the toolbar. So, we’ve got the equation editor is the first one on the left-hand side. We've got the LaTeX language. We've got the Desmos graphing, the handwriting, speech input,.EquatIO mobile and the screenshot reader. What this actually does is it gives all of those methods for students to be able to create and write their maths so that they can share it with people. Then on the far right-hand side of the toolbar we've got the edit math and insert maths button. These are really important, because EquatIO works within either a Word document, if you're in a Windows device or on a Mac device. If you're in the Google Chrome environment, you can use it across those range of G-suite tools to insert equations and things like that. You can see at the bottom of that screen you've got some of the predictive maths text that is available through EquatIO, and it shows you the maths work space, which actually pops up above the toolbar on your screen when you are using it. As I said, we've got all of these ways that students can input their maths via all of those different methods, including using the mobile device. The mobile device doesn't have a full -- just to clarify -- doesn't have the full version of EquatIO on it. What it actually does is allows for you to write onto that device or to take a photo of some maths and then insert it into a document using a laptop or computer. We've got the smart prediction in the equation editor, which I will show you today. And we've actually got a whole equation library. It allows you to use the speech to text to actually say an equation's name. We have got integrated graphing with Desmos and then a completely separate part of it -- not separate, it's on that toolbar -- is the maths space, which allows for a digital maths work space. It's something that can be shared between teachers and students. It allows for multiple students on a public screen, for example, to work on a maths base as well. We've already mentioned that you can use it on a PC, Mac or Chrome environment but I also should mention that with the screenshot reader it allows you to work on the web and PDF and also on digital paper as well and then with the mobile device, even just taking a screenshot, photo of something written on paper, too. What I’d like to do now is that I’ve given you a little bit of an introduction, is give you a run-through of what that actually looks like. I'm going to stay for now in the Google Chrome environment just to get started. Hopefully you can see my document here. What I'd like to do is I'm going to pull up EquatIO and in Google Chrome it's on the ribbon up the top of my screen. If I was in Windows or on the Mac, which I will show you shortly, it comes up as a desktop app that I click on to open. Once I click on it and open it, it comes up at the bottom of my screen and you can see all of those tools are sitting there. What I would like to do first before I run through the ways we can create maths using EquatIO is just show you the options. By clicking on the far left hand EquatIO button I get a range of options. So what I can do is I click on the options and it says to me what type of version I have. And then if I click on the maths options, it allows me to choose the size of the font. I'm going to stick with large. I used extra-large yesterday and it's quite difficult to see inside the toolbar so I'm going to stick with large today and then I can choose the language. It's actually available in English for the UK or US, and Spanish and French. Then I can ask it to show tips. But once I get familiar I can turn those tips off. And then I have to, out of the box, when you get your copy of EquatIO, you will have to go in and turn on all of the prediction, because they don't come turned on when you get the software. So you’re going to turn on the maths, chemistry and the formulas prediction, and this will aid in making sure that some of those more complex equations are actually able to be used in the equation editor. What I'm going to do is, I click on my equation editor, and up pops my maths work space in EquatIO and I can see that it's ready to work, because it's actually got this blue line around it, which means it's ready to go. I've got the tips turned on, so it's going to help me by giving suggestions for those. It also allows me to do all sorts of things in here. Over on the far right-hand side, you can see that it's green. There's a little green smiley face and what that is telling me is that EquatIO recognises that what I'm going to type is maths and if I start to type something that is not maths, it will change to a different colour, usually red and sometimes yellow if it's thinking about it. On this very far right-hand side above the edit and insert maths are some simple little I guess quick ways to find some of the most common things that you might enter into in terms of maths with symbols. The X to the power of A gives you a range of little symbols there that you can quickly put in. There are some other symbols there as well. And then there's some functions, too. And then we're starting to get to maths that -- and then all of the characters for you, too. I click back on the space to start typing there. I have got the equation editor open. So what this is, is actually like a predictive text, so if I start typing something like parenthesis, if I know how to spell it I can start typing it. I click on that, and it will actually give me the parenthesis to actually type my sum into. When I'm finished, I can go past it. That's closed. I can add a sign in there. And then I might add some more parentheses. As it's popping up, you can see the range of options that are there. I'm going to pop that in the bin, because it does recognise it as maths, but that's just giving you a little bit of an example. Now, if we wanted to look at more complex maths, for example, something like the law of cosine or sine, I can type "law". A little bit of a trick is to not go further than "law" because sometimes you lose the range of options that you've got there. But it's got all of those laws there for you, so the law of reflection, law of cosines, law of sine. If I actually click on that, it will insert that for me. One of the things that I can then do is put my curser in my document, whether it be a Word document or a Google document as this is. I can then go over to the right-hand side, click "insert maths".

[pause]

And it will insert that maths into the document for me. Now, EquatIO is really clever because what it does is it actually inserts that maths as a photo, that's how the documents recognise it, that already has Alt text in it. So a screen reader or Read and Write software or anything that will read text aloud will read that out with its Alt tags. So there it reads out exactly as maths. So what I would like to do is just give you an example, a really quick example of what that sounds like. I'm going to pull up Read and Write because that's the one that I have, at the top of my screen. Of course it's not going to play nicely.

[pause]

Just going to refresh my screen.

[pause]

There it is. I'm going to put my curser at the maths -- it's disappeared again. And press play. And hopefully you will -- I'll turn my volume up on my computer -- you'll be able to hear it.

SCREEN READER: A squared equals B squared plus C squared minus 2bc cosine A.

FIONA: It's read that with its Alt text. It's a really clever little way of inserting the maths and making sure that it can be read aloud. If I wanted to look at some of these other ones just to give you some really quick examples of some of the other types of things that we can do with the equation editor, I can - Instantaneous rate of change and there it goes. I could insert that into my document as well. A couple of things that you have to work -- is to make sure that the curser, obviously, is in the right spot for that to happen and then the last example that I've got there, clear that away, is to type ... That's a very long trapezoidal rule for integration. And we're really getting well beyond any maths that ... but you'll be able to see how it inserts that into the document so that it can be read aloud. That is extremely long. I'm more than happy -- we'll see if we can open Read and Write and you can have a bit of a listen to what that sounds like as well.

SCREEN READER: The integral from A to B of f of x dx equals one half the fraction with numerator b minus a and the denominator is n times open paren f of open paren x sub 1 closed paren plus 2 f of open paren x sub 2 closed paren plus 2 f of open paren x sub 3 close paren

FIONA: So you can see that’s how it reads it out. At the moment in a Word document or a Google doc you can't break it up into parts, though Andrew has been looking for us and he thinks he's found a way using PDF to break that image down. If I wanted to interrogate it into small parts, we haven't got that available to us yet, but we certainly have got the capacity to be able to have that read aloud. If I wanted to edit that text, all I have to do is select that formula in my document. And with EquatIO open say "edit maths", and it’s going to return it to the EquatIO work space, where I can actually start editing it and working on it and doing the things that I need to do. That gives you a bit of an idea of the length and complexity of the type of maths that it could handle if it needs to. I'm going to move on to the LaTeX now. That is the second part. Essentially I have struggled a little bit to understand this but I looked it up today and it's called the document preparation system and it uses the text typesetting program for formatting its output, and it's written in the text micro language. It's a language that you have to learn, but it is very useful when we go to use the screen reader a little bit later on. So, I'm going to show that you shortly but that gives you a bit of an idea. It's often used in higher education settings to write out a range of things in terms of a maths language. But it can be used to do things other than maths as well, I'm told. But it's not a format that I am really familiar with. We will move across, because we're still looking at how to create and consume. I have clicked on the graph editor. You can see that it opens up into a new page. It makes my screen much, much bigger. I'm just going to close Read and Write up the top here, now that we're finished. What I can do is I can actually type into this myself, but if I want something that, so let's just say I would like y equals -- now, I'm going to type in the command "over" and what that gives me is then the ability to write a fraction. So I'm going to write x, and then underneath I'm going to write x plus 3. Then I'm going to insert that into my graph editor and you can see that it has produced the graph for me. Desmos is quite accessible. If you are using a screen reader, it has the capacity to plot points and use sound around those graphing things. I have not got a screen reader on to show you but if you go to the Desmos website, it will give you all the information that you need about that. I can also take it away and add to it. I can add multiple graphs onto the same grid. And if I want to insert that into my document, I go "insert graph" at the bottom of the right-hand side. And it's going to insert it into the document that I have open in the spot that I am, and you can see that it's there. That then can be edited. For example, if you wanted to create something that a student could work on, we could click -- with EquatIO open they can click on that particular graph and then edit maths and go back into the work space and edit it into whatever format or whatever they needed to put into it. So, keeping going along with creating and consuming, we have got a handwriting option as well. Now I need to get rid of my maths on the right-hand side so I need to put that into the rubbish. I'm using my Mac and I'm just going to use my little mouse pad, touch pad. You can see "not congruent" just for an example. Then I can do something like -- I guess for me this just gives students a lot -- if they have got a tablet device where they can actually use a pen or write with like one of the Windows Surface Pro or something like that, they can actually do handwriting as well as typing and those sorts of things. I'm not happy with that, because it's not right. So, I’m going to go back and I'm going to have another go and do a squared. You can see that it allows me to have a range of ways that I can format and create my maths. All right. If I wasn't happy with that, I can redo it. I'm going to clear that off. So, that's the handwriting option. The fourth way that we've got to create maths is through speech input and what this is going to do is pretty much I've got the option to turn on the microphone and then just start talking – ‘3 to the power of 1’. And you can see what it does on the right hand -- I often forget to turn that off so I'm improving. Because it keeps typing what I have been saying. You can see on the right-hand side, there is my maths there. If I leave a space -- we will clear that off. And I can say something else. I could say things like, "Cubed root". The really nice thing that it does is it then gives me what that looks like and allows me to insert what I need to put underneath that square root sign. So, that's another example. These are simple examples, but you can see how you can create, when you know what you are typing and what you want to add in, you can create all sorts of maths with those. So if I was to say – ‘one quarter plus three quarters’, it doesn't like my quarters. The other thing that you should notice while I'm doing this is that until that blue box is around the maths it's not actually in that part of -- we will try two quarters – ‘two quarters’. There we go. Okay. So, you can see that probably the most robust part of the creating maths is the equation editor. Just to give you a little bit of an example before we move on to something else, I have popped up on my screen the EquatIO maths prediction list, which is part of the resources that you can access and it gives you the range of things that you can use in equation editor. There is roughly nine pages in this Google document letting you know the types of maths that you can put in with the equation editor. The speech input is not quite as strong yet as the equation editor. That's probably got the greatest range of things that we can have. Via mobile device -- essentially what you can do is -- it's only compatible with Google Chrome and with Safari. What you do is you can scan the QR code on the side of your screen or visit m.eqat.io on your mobile device, and then take a photo or write on the screen so that that maths can be transferred over to the laptop that a student is working on. All right. So, that pretty much gives us a run-through of the type of ways that students can create maths. What we're going to do now is I'm going to go back to my presentation, because we don't have too long to go and I'm going to run through some of the other features. Because that's just about creating maths and possibly – so what we want to do is we want students also to be able to collaborate and work between whether it be the lecturer or the teacher that's providing them with the maths activities and sending it back and forth. We want a digital way to be able to do that. So we don't want students to have to create something that then it’s got to be printed out and those sort of things because that kind of defeats the purpose of having it as a digital. And a public space where they can also work as well. One of those things is the Mathspace Manipulatives. You can see on your screen some very simple ones. This is the maths space sign here. What I will do is just quickly go on to the next slide and show you what that looks like. I have a really simple example. I'm going to show you the graphing example though so I'm going to go back to my document. And actually what I'm going to do -- I'm not going to do that. I'm going to minimise this for a moment, and I'm going to open up the document on my desktop and close EquatIO here. And this is my Word document. I'm going to -- oh, in this Word document, I thought, I had -- that's all right. We will quickly do it so that you can see. I'm going to open up the desktop app, which is EquatIO, from down the bottom of my screen. This is the one that's on your Mac on Windows, you would open it up from the desktop and you would have your Windows document there. For some reason, because I'm sharing my screen it's decided to go over to the screen that you can't see, which is very annoying. Didn't test that bit out before we started. So, maybe I won't do that. Maybe I will just go back and show you the simple example, if that's all right for now. I was going to show you how to insert a maths space in a different way. All right. So, what we want to be able to do is we want to take that, whether it's a Desmos graph like I just showed you, this is a very simple example, it's a tangram. I click on that with EquatIO open, and it recognises that it's maths. If it was a Desmos graph, it would recognise that it's maths. The student clicks on that, edits the maths and it takes us to the maths space where the teacher has created the work that they would like the student to continue on with. And there is -- and now it becomes manipulatable, if that’s the right word. And there’s all sorts of things that can go into this maths space. There's compass. And a range of different things. There's our protractor. All sorts of things that can go into this maths space to support students to work with that. Now, on the top left-hand side of my screen you can see that it says EquatIO accessible final, and it has got the icon for a Google slide. If it was a Word document, it would have the icon for a Word document. It tells me which document I'm putting this maths space into. Then on the right-hand side at the top of that toolbar you have actually got the insert button, which allows for you to insert it into either that Word document or anywhere in the G-suite of tools. It's important to note that you don't want to have more than one document with EquatIO open at a time because that then -- it's a bit of a trap. You end up putting it in different places so you’ve got to be careful in terms of those sorts of things. You can then send that Word document or the Google Slides, whatever it may be, digitally out to students. When they open up that Word document, they click on the open it up and then open up EquatIO. They click on the maths that it recognises there, and it takes them to the work space. It allows them to get straight into the work space without going to all different places and not getting to the right place and doing all sorts of different things like that. So that's the real benefit of the maths space. So, let's go a little bit further along. What we're going to do now is we're going to have a look at the ... conversion of inaccessible materials. This is the fourth part. We have looked at creating. We have looked at the way the maths text can be read back. We have also looked at the way that we can collaborate with teachers and other students. Now we're looking at the conversion of inaccessible maths. Having worked in my past life as a support person across both primary and secondary schools, I spent a lot of my life trying to make sure that whatever was available when I arrived in the class was accessible for the students who were there. So, seeing this, the way that EquatIO can be used in this way is just so exciting, because it means that it can be done quickly and easily and, you know, to some extent even on the fly, which sometimes can be really important. Because often people don't mean to have inaccessible materials, but sometimes it can be. So, let's take a bit of a look at what that looks like. We have got the screenshot reader, which is another part of EquatIO, there’s so many parts, and it uses optical character recognition, which I'm sure most of you are familiar with, to figure out firstly that there is maths in the document or on the web page and then secondly to create that into an accessible format. We then use the screen capture. What people may have been using previously is MathML or MathType to actually create accessible maths and EquatIO will do that with the screenshot reader. So, what we would have had in the past was a PDF that we need some maths text read out aloud. It allows for you to, with the screenshot reader, to copy the LaTeX or the MathML and then insert that into a document. In terms of converting -- sometimes if people had to manually do this with MathType and other sorts of programs, there can be errors, it can be quite time consuming. If the math is correct in the original document, it will be produced correctly with EquatIO. So, it's really, really exciting and it does it very, very quickly. So, what I'm going to do is pop down and show you what that would look like. I was going to do it on my screen. But not to worry; we will do it a different way. I'm just going to zip back to my drive, so I apologise for this, just so that I can show you how it all works. So, what I'm going to do is I have got -- this is actually my son's work so I'm not sharing anyone’s.... Oh, no, we want the other one, sorry. We want the PDF. He had to do this as his final task for some maths that he was doing. You can see there is Pearson's correlation coefficient. At the time, and this was a couple of years ago, the only thing he could do was insert a screenshot of that. So, what I'm going to do is I’m going to pull up EquatIO. And this could be on a web page or wherever you like. I can move that around. I click on the screenshot reader. And around that screenshot it creates the maths. And it will read that

[Screen reader reads equation]

So that's reading that out aloud. But what we can then do is that I can copy it as LaTeX or copy it as MathML, depending on which you feel more comfortable with. I’m going to copy it as LaTeX. I am going to go back to my slide. We are going to go back the other way. And I'm going to open up -- actually, we will do it in my document. That's probably safer. It gets less messy. I am going to open up EquatIO. I am going to open up the LaTeX editor, and I'm going to paste. Now, what you can see on the left-hand side is that language that I talked about earlier, which is a specific way of writing. What we've got on the right-hand side, even though it doesn't look like it, when we actually insert it into the document, which I will do now, which is insert maths (pause) and then minimise my EquatIO, and you can see that it's actually given me an accessible piece of formula that has been able to be inserted into my document. Now, if I wanted to edit that maths -- so I have got the formula. I can then put it back into EquatIO and do that in that way. So, that gives you -- if we're looking at converting an inaccessible PDF or someone has arrived with a piece of paper that has the maths on it, we can use EquatIO mobile with taking a photo. Or if we've got, for example, Read and Write, they can scan that and then put that in and we can open it up and make that maths accessible. You probably have a whole bunch of ways you can do that at your institution as well. But there is a number of different ways to get it to the place where we can then make that maths accessible. If students know LaTeX, we go back to what that looked like, they can actually edit this maths and write their own maths in the LaTeX language and then insert it into their document as well if they are a screen reader user, for example. It’s got a range of different ways that you can use it. You can see down the bottom it still has that "keep going, we recognise that this is maths". So that’s pretty much given you, I hope, a very quick overview of the range of ways that we can use EquatIO to convert and create maths that's accessible, to create and consume maths for the diverse range of learners that we may have, and then also to collaborate either in a public screen, on a public screen, or collaborate between teacher and student if that's a way that we want to be able to collaborate. I should mention that that collaboration at the moment doesn't add to student between student with the math spaces. With the maths space, it is between student and teacher. Just to finish off -- if you're a single licence or a site-wide licence for a university, or a TAFE or a school, EquatIO is available then for students to use at school, at work and then obviously as a mobile version as well. The mobile version for me -- I think that if we were doing some maths out in the field, whether it be some sort of trade, you know, VET course they're doing and they're not close to a computer, they could actually take a photo with their mobile and then take that information back to their computer and their laptop and put it in that way. So, that's pretty exciting. And of course across all of those devices. So, at the moment, as I mentioned, it's Word documents in Mac or a Windows computer and the if we're looking at the Google Chrome environment, which obviously works on both of those, you could use it across the whole suite of G-suite tools. Now, obviously we are going to have lots of questions. Hopefully -- I can see it looks like there are a few questions there. But if you have any questions later on you can -- f.thomas@texthelp.com or directly to our Brisbane office, which is asiapac@texthelp.com. And everyone can access a copy of EquatIO for them to go home and have a play with which I hope you do. That's text.help/freeforteachers. You'll need to put in your email address and your institution or school, and then you can access a copy of EquatIO to use for yourself, and also create accessible resources, I guess, in the first instance. If you are wanting to create resources for the university or TAFE, then that would require a site licence. We’ve got lots of ways that you can get information about EquatIO. We have got lots of training. We have got our Texthelp YouTube channel that gives you lots of little videos and information. We have got blogs and activities and guides, and I'm going to give you the link to a range of resources that you can access, including the quick start guides and those sort of things for EquatIO as well. This is the resources link, so it's bit.ly/ADCETeq. That will give you access to a range of resources that you can -- the quick start guides, some general information about EquatIO, some of the resources that I have created that might be interesting for you to follow through and have a look. Because obviously in 40 minutes it's really hard to show you the breadth of EquatIO; we can just give you a little touch and touch on the various ways that it can be used. Okay. I think that's pretty much -- we let the questions go, I guess, Darlene.

DARLENE: Thank you, Fiona. That's wonderful. I did miss a bit of the presentation but just to let people know, if they got distracted by issues in their backend like we did, the presentation, the webinar will be on ADCET. So, people can rewatch as well. One of the questions someone did miss -- they missed the Chrome extension, the name of the Chrome extension that read the expression aloud, the purple one. What was that?

FIONA: That's Read and Write. That's another of our Texthelp tools. Any of those tools that will read text aloud will read the equation aloud. While Read and Write is a great tool, I don't want everyone to think they have to have Read and Write for the equation to be read aloud correctly.

DARLENE: Okay, that’s great. Someone asked, and I know I heard you say that you were aware of some of the things it could do. Are you able to use for music, the screen capture and convert music with the note taking?

FIONA: No, unfortunately that's not something that it can do.

DARLENE: Okay, very good. So for everybody else, please feel free to continue to put questions to us either in the question and answer pod or the chat pod.

I'm unsure if you are able to do this on the fly here, but are you able to show how to write a complex equation from scratch without knowing what it is called?

FIONA: Yes, I think so. I think we can do that. If I go back to -- I'm just going to clear my screen. The question is, what someone would call as a complex equation. You'd need to know all of the commands so it's like anything you would have. For example, let's see how we go with this one. Did we want to do it with -- I'm not sure whether they wanted it with speech or actually just typing in.

DARLENE: I think typing. They were also looking at handwriting ones as well, but just typing I think should be fine for the moment.

FIONA: Depending on which one I'm in, so I need to be in one of these. If I'm in the equation editor, that makes the most sense. But if I started to, let's just try ... and then just the normal kind of ... I'm just going along doing this. One of the important things you have to notice is you have to leave spaces so that it doesn't say positive or negative; it actually recognises it as a plus -- those sorts of things. Actually I should have done something else first. Let me just go back. I am going to start with "over". This is a command that I have to use to get that fraction. But if I went then … this type of thing -- oops, wrong thing. That’s going to give you -- and then to go underneath, I'm just going to do that. If I wanted to do -- and then I would just start typing whatever, you know, and then can use the parenthesis, those types of things so I can definitely do it. I don't know that you are using it to the best of its ability, but you certainly can do it, yes.

DARLENE: Yep, the other thing was also chemistry equations, can you ...?

FIONA: Yes, absolutely. My chem is probably even worse than my maths. But in terms of the prediction, I would -- I don't actually have an example of a chemistry equation here. But if someone ... how can we share that with them? So, ... that one I may not ... let's just see. I could do it in terms of carbon dioxide. No? It's not recognising that one for me. Let me just…. No, it hasn't got any chem ones. I’m going to have to pass on the chem question, but it certainly can do a range of chem things as well.

DARLENE: Yep, okay. Another question is, can you edit an equation if you take a photo on your phone and it's not correct?

FIONA: What you would do is you would take the photo on your phone, you would insert it using EquatIO Mobile, you would insert it into your document using that feature. Then you would, as I have sort of shown with some of the others, but take the one that is on my screen at the moment. I would click on that equation, that has been inserted and then I would say "edit maths" so that it brings it back into EquatIO for me, and that's the way that I would edit it, yes. So, you absolutely can do those steps.

DARLENE: Okay. Can you show us how a student may be able to input multiple lines of complex equations, like when answering exam questions?

FIONA: Absolutely. If you can see on my screen at the moment it says shift and enter. Now, I'm not going to do a complex equation, but you certainly can. If I was to type in something ... I have got to get my box up --- ‘a’ plus, just for speed. Which I'm just making this up as I'm going along. But shift return actually gives me a new line. Then I can start typing, and do that. But also what we've got is built in a whole bunch of -- and then if I insert this, and again it's a very simple version, I know -- into my maths -- and that's actually what I wanted to show you with the other document that I had as a Word document. So I'm sorry, that was my technology not working. When I go to read this, the way that it will read it for me is it will say line 1, it will tell me how many lines there are, and it will step through each of those lines. If I had inserted more, so if I got to equals c, those equations would line up for you as well. At the moment they're not. If I wanted to do addition … You have got two-digit or three-digit vertical, and it will actually give you almost like a proforma, for want of a better way of saying it. There are ways with indices, and I forget what they're called. Now you are testing my maths. Here we go. Identity matrixes and things like that so that you can actually get the format in there and then fill in the information by editing the box. So, certainly you can do more complex maths. At the moment, you are kind of being limited by my maths knowledge.

DARLENE: Not the technology itself.

FIONA: That's correct.

DARLENE: Excellent. Well, I think that's all the questions that I can see on both of our areas. So is there any final comments you would like to make, Fiona?

FIONA: Not really. Someone’s asked about handwriting and complex equations. I just wanted to show you that you can make the space as big or as small as you would like. Even when we're in the equation editor, if I want a complex equation I just have to enlarge my workspace so that I can actually fit everything in. It's not that you are stuck to that very small space. If I wanted to handwrite a complex equation in there, I could certainly you know, do that sort of thing as well. And then go down and complete, you know, other lines, and it's going to write it for me. As you can see on the right-hand side, it's popping itself underneath it because that's the way that I have set it up to be. And if I was to write a third line, and again I know these are really simple examples, but I just want to show that the technology will actually do that. I didn't like that, so I can redo that part. And I can redo from there, start again and it will just keep going from where I'm up to. There is a lot of flexibility in the way it can be used. As I said, you are kind of a bit limited by -- I had my practice examples.

DARLENE: So, like with touch screens, does it work? So if you were having a stylus with a touch screen, you could be writing in that section there?

FIONA: Absolutely. We only minimise the work space that pops up from EquatIO when we're demonstrating, because you need to be able to see the document behind. If the student wanted to use it a lot more robustly, I guess you could have that as large as you like and then only check every now and again that you have inserted it in the way that you want to do it. So, they certainly can do it that way.

DARLENE: That's brilliant. All right, well any other final comments from you, Fiona?

FIONA: I don't think so. Just if anyone has any questions or if there is something really specific that you did want to see, please, you know just pop an email to me and I will certainly show you with a better example what it can do. I have just tried to give you some general broad examples of the way that it's working. And thanks to ADCET for giving us the opportunity to share all the things EquatIO can do.

DARLENE: No that’s brilliant. So, thank you, Fiona. Its a little bit gobbledygook for me with the maths, but the actual technology is absolutely brilliant. So thank you so much. And it’s going to be great to have as a resource on our website too, just as a demo that you’ve given us. So, thank you everybody for joining us. Just a reminder that our next webinar is actually on Friday, this Friday, which is ‘Meeting the Needs of Our Indigenous Students with Disability’, at the same time. It's unusual for us to have two in a week. But seeing that we had such a late start, we're trying to pump them out. So thank you to everybody for attending, and thank you so much, Fiona, for giving us your time today. It was brilliant.

FIONA: Not a problem. Thanks

DARLENE: Thank you. Cheers