DARLENE MCLENNAN: Good afternoon, everyone. It's Darlene McLennan here and on behalf of ADCET and Attend, I'd like to welcome you to this webinar. Firstly, I would like to pay respects to and acknowledge the traditional custodians of the land on which we all meet today and I’d like to pay my respects to the elders past, and present. Today our presenter is Greg O'Connor and Greg will be introducing us to a new tool for making digital maths and STEM simpler for students and teachers to create mathematical equations and formulas and graphs. It is absolutely fantastic. Greg is from TextHelp and probably needs no introduction to those of us in the disability sector but, as he's kind of a great friend of us over many years, and it's always a pleasure to listen to him as he speaks with such passion and enthusiasm for his topics. Before we begin, I want to do a few housekeeping items. Today's webinar is being captioned by Bradley Reporting and will be recorded. The recording will be placed on ADCET and after about a week or two the recording will get captioned. The GoTo Webinar platform is not as accessible as we would desire for people who are using screen readers. If you are a screen reader user and if you have any questions or any comments you can email us at adcet.admin@utas.edu.au. All participants have been muted. This is to ensure as little background noise is received during the webinar. The presentation will run for around 50 minutes if Greg keeps to time and we will have a few minutes for questions at the end. Throughout the presentation, feel free to enter your questions in the question pod and I will ask Greg at the end of the presentation, or he will answer them himself. If you have any technical difficulties during the webinar, please email adcet.admin@utas.edu.au and I hope you enjoy this webinar. So, over to you, Greg.

GREG O'CONNOR: Thank you, Darlene, and hi everybody and thank you to ADCET for this opportunity to have a chat to you and demonstrate a couple of, I think, cool tools to make maths and STEM digital in the post-secondary education sector. I'll just get my slides over here. So my name is Greg and I'm part of the TextHelp Asia Pacific team and I provide technology innovation and implementation across the Asia Pacific region as part of that team. Today we're going to have a look at this thing called STEM, STEM being science, technology, engineering and maths and I want to really focus on mathematics mostly, a little bit of science, and how do we support STEM in the post-secondary education sector, particularly now in this digital world where we are constantly using computers to support our students and our students are using technology themselves. Just a bit of background as we start to think about STEM - going right back into the school, we know that as students progress through school their proficiency in things like mathematics gets progressively lower as they go through school and the way that students access STEM is a real issue for us and there's a lot of debate happening in the media currently and in the political arena. A couple of problems that exist because of all this - one is that it's most important that our students have access to STEM and are engaged in STEM subjects at school and in the post-secondary environment and we know that, for instance, the first problem we have is that when students are leaving school, if they've had persistent problems around say mathematics as an example, we know that they're less likely to graduate high school than their peers and they're even less likely to attend university and this is compounded even more by those students who have additional barriers at school, barriers around, say, their literacy, a learning disability, students with English is not their first language, it's compounded, this issue is compounded. The second problem we have is that lots of people's attitudes to STEM is actually formed right back in primary school, you know a lot of people go "I'm no good at STEM. I'm no good at maths, maths isn’t what I am good at" and this is compounded again by the students we work with and the people that we work with who are presented with the barriers in whatever education process they're in because they might be struggling around literacy but they're also then just not even considering STEM as an option for themselves. And we know this is a problem because it's not only a problem at school but it's an issue for us all in terms of employment. STEM jobs are growing at a much faster rate than non-STEM-based jobs in our economy, at the moment over 1.5 times the rate of non-STEM jobs. So lots of the folks that we support and work with are missing out on that employment and we also know that employers value STEM as a qualification in the workplace and they also see STEM employees as probably their most innovative workers so there is an issue here and we need to address it. But one of the things we have is actually when we're in education, both in school education and post-secondary education sector, we see a couple of barriers that exist for our students and I want to kind of address two of them on this webinar and look at two particular tools that TextHelp has to support the removal of these barriers to give our students access. As I said, I'm going to focus mostly in mathematics, a little bit of science but this is generally around the STEM idea. And the first barrier that we see is actually the literacy of mathematics and literacy of STEM and the difficulties around the reading and writing in that area and then the second barrier is the fact that how do you make something non-digital become digital and in particular a simple thing like generating a maths equation? It's probably the major barrier in the digital world for us is that when students come to write a simple equation, how do they do it in a Microsoft Word document? How do they do it in a Google doc? How do they access that information? So what I want to do in this webinar is explore how we can remove those barriers and make access to STEM in the digital environment for all our students that we support. And the really important background pedagogy to all this, the thing that I have to all this is that the bottom line is what I'm passionate about is actually that these tools are the tools of the learners not the tools of the system or the support staff. What generally happens for lots of people that we work with in the education sector is that if they need access to any kind of accommodations or adjustments, they're provided by others and they have to wait for those to be given to them. What I love about some of the tools I'm going to show you is it's actually the tools belong to the learner and the learner can access them 24/7 when and how they need and it’s this issue of agency, agency being you have the power to act yourself and so I want you to be considering that what these tools are about is actually learner agency. So let's jump in and have a look and I want to start with the first barrier I mentioned, is literacy. I'm going to spend a little bit of time around literacy in mathematics in particular and then I will then get on to the second part of the webinar which will be around actually this issue of generating maths equations and actually being able to express yourself mathematically in the digital world. So for those who are following on the slides, who need the slides, I'm currently on slide 14. I'll be going through the slides and pretty soon I'm going to be jumping out and doing demos. I want to demo stuff and show you how the different tools I'm talking about work so I'll be jumping from the slides in and out and I'll make sure that I remember to tell you which slide I'm jumping back into as I do that. When it comes to literacy and mathematics, research has shown that mathematics texts and STEM texts have more concepts per sentence and paragraph than any other type of text. In other words, mathematics and STEM texts is the most difficult text that we get to read. It’s difficult not only because of the words but because it contains lots of numeric and non-numeric symbols to decode. There's a whole bunch of stuff in there we've got to kind of get our heads around and also there's graphics that are included that we need to make sense of if we actually are to understand the complementing text. With that in mind, we need to think about that and we need to think about the literacy of our students. If we have - in a post-secondary environment, if we have any student, for whatever reason, is reading English below 100 words per minute, those students are spending all their time decoding the text in front of them and not actually comprehending what they read and that's compounded in the world of mathematics and science and STEM. So that's the first thing, we actually need to ensure that students who are reading below 100 words per minute have some other way of actually having that text read to them. And we also know that when you get read to you listen and understand, you comprehend above your current reading level so the ability to actually have stuff read to you is really important as well. So, in the digital world, the digital tool of text to speech, of having what's on your screen read back to you is just really, really important and for me it's one of these simple features that are available in the digital world that we just need to utilise. Here at TextHelp we have a tool - I just want to kind of quickly go through this first with you - it's called Read&Write. Read&Write is a toolbar that appears for a student wherever they are. It's a toolbar that actually is available in Mac; it's a toolbar available in Windows. They're both downloadable software on both those platforms. They also work off line. Read&Write is also a Chrome extension, it's also an extension in Microsoft Edge and it's also available via iPad or android tablet. So when you actually have Read&Write you just get access to this toolbar that appears on your screen wherever you are and that toolbar is available with a whole range of features. I'm on slide 23 currently and you'll be given access to these slides at the end of the webinar or after the webinar, I'm happy to provide these to you. On slide 23, there's a link there, bit.ly/RWChart. That's just a link to an online chart that shows you all the different versions of Read&Write across the platforms and all of the features that are available across the different versions. The cool thing is that when you get Read&Write you actually have access to all versions on all platforms. If you wish to access a program like Read&Write you just need to go to our website, texthelp.com/en-au, find the Read&Write link and there you can go to "Try now" and you can download a free 30-day trial in whatever platform that you wish. So Read&Write, one of the tools it provides is text to speech. As I mentioned before, when we actually have any text in the STEM world we know it's actually difficult to read to start with, let alone if I'm actually having any difficulties with literacy myself. So if I go across here - I'm just going to jump out here and go to a document. Here I have a document. I'm actually in the Chrome environment, so I'm using a Google doc but this is exactly the same if I'm using say a Microsoft Word document on a Windows machine or Mac. I've got access to this text. I need to be able to read this text. I just need to find my Read&Write symbol which is the little purple puzzle piece because I've got Read&Write installed, click on that and I get a toolbar that appears and on my toolbar I have a number of features. What I'm going to do is I'm putting my cursor at the beginning of the first sentence I want read. I then find the play button, I press the play button. [Computer speaking] “Science and technology may be partly responsible for many of the problems that face us through a day. The problems are the advancement...” and so it has that text read to me. So anywhere I can have that text on a - here, I'm in a Google doc, I'm in a Word doc, I could also be on a website, a PDF, an e-book. Having that text read back to me is most important so I'm removing that barrier straight away by having text to speech available and I can make all sorts of adjustments to that, the way it's being read, the speed, the voice, even visually how it's being read. As it was reading then it was actually highlighting each sentence yellow and then highlighting each individual word blue. I can make all sorts of adjustments around that as well. Jumping back to my slide deck and going to slide 26, the other thing that Read&Write does is not only supporting me with text to speech so I can actually have that information read to me to support my understanding and comprehension. It has a number of other tools that I can use particularly useful in the STEM environment, for instance it has a tool we call the Voice Note tool so when you're using Read&Write in a Google doc, in a Microsoft Word document and also a PDF, which I'm going to briefly show you, students can go to their document - and I'm just jumping back to my Google doc that I've got open here - I can highlight some text and after having read this text I can highlight some text and I can leave myself a voice note. And I do that by highlighting text, choosing the Voice Note feature on my toolbar, clicking on that. It then provides me with a microphone and a play button. I can record myself and then insert that recording into my document and I have made one here earlier. Here I've actually highlighted the words "water pollution website" in my document and I needed to make a note to myself as it was read back that I needed to actually follow up on that website so I recorded my Voice Note and when I come back I can play that Voice Note again. [Voice note] “Research the water pollution website and find more data to support this statement”. So that was just a quick note I left for myself in that document so that's another feature that I can use to support my reading and also my research and study. Going back to my slide deck and now just going to slide 27, as I'm doing that I'm also realising that I'm in the STEM world, in my post-secondary education, I get lots of STEM material through course notes, through journal articles, wherever I am, and sometimes that material is actually not digital and I know that I actually need to make it digital because by having it digital I can access things like text to speech and Voice Note for instance. So Read&Write has built into it OCR capabilities, OCR standing for optical character recognition. So with Read&Write, you can have - you do have access to a scan feature and Read&Write allows you in both Windows and Mac and in the Google environment to scan in any images. The great thing about that, again coming back to that concept of learner agency, is I don't have to wait for someone to scan it for me if I've got access to a device with a camera, I can take a photo of any text I encounter, upload that text into whatever platform I'm in and convert that text to a format that can be read back. As an example, I've done that - if I just go back up to here, back up to another tab in my window - I have just gone to a tab where what I'm showing here is I took a photo of a page from a textbook and Read&Write was able to convert that to a PDF and once it's converted to a PDF, when you actually have Read&Write it also gives you access to what we call the TextHelp PDF Reader so it allows you to access that PDF, have it read back to you and do a whole bunch of other things as well. So I'm on this here, I can choose this from this toolbar so TextHelp PDF Reader gives me this inbuilt tool bar for my PDF Reader, I've got to “Click to speak” tool. I then go and choose where I want it to be read. It's now reading back the text from that PDF. [Computer speaking] “Algebraic geometry is being applied to control theory in this ...” I'll just stop that for the moment. That was but a few minutes ago an image, a jpeg, and it's been converted to whatever format I wish to have. If I was using the Windows or Mac version of Read&Write, I could have also converted that to a Microsoft Word format. I can also have converted that to an e-pub format and also html format too which is great if I need to make adjustments to the background colour and the text size as well. In the Read&Write - sorry, the TextHelp PDF Reader, it also has the ability to provide things like - I'll just highlight that word. I've highlighted a word in the document called algebraic – actually what I'll do is I’ll highlight algebraic geometry - and I can now leave myself a voice note there as well to follow up on that particular issue but I can also, as well, with TextHelp's PDF Reader, tag that PDF by choosing the typewriter feature on my toolbar, I then click on my PDF, it brings up a window for me, I can type in my notes so that I can annotate the PDF, I can use the word prediction, so as I type it's got word prediction so I can annotate with word prediction and it's also got voice recognition so I can annotate - I can use my voice to type so I just use speech recognition to use my voice and it came up “I can use my voice to type” on the screen. I have annotated my PDF and I can then have that annotated on my PDF. Jumping back to my slides, that was back on slide 29 so that's using the TextHelp PDF Reader. And just finally, before I leave Read&Write and get on to the next section of our webinar which is around generating maths equations and more, just as well as the issue of literacy around reading and accessing content in the STEM environment, I also need to research that area and Read&Write is a great tool for students when it comes to research as well. If I go back to my - jump out of my slides here and go back to another tab in my browser here and I've got a tab where I've been looking at issues around nitrogen and phosphorus in terms of pollution so I've called up this website and normally what I may do is have that read to me which I can using Read&Write, maybe copy and paste, but I need a better way to actually support my research and study. If I go back and find my Read&Write toolbar - there it is - if this time I'm looking for the Read&Write symbol up in my extensions - I'm in the Chrome browser - I can do this in different ways if I was using Internet Explorer or any other browser in any other platform. With that there, I've actually - I've read this page and I want to start collecting information for whatever research I'm doing so I can highlight some text that I've read. On my toolbar, I've got number of highlighters. I'll just choose one. I've got a yellow highlighter so I'll choose yellow. It's now highlighted that text on that website yellow as an example and I can be highlighting more text on that website if I wish but on the toolbar, if I go back to the toolbar, there is a collect highlights feature on my Read&Write toolbar. When I click on that, it's now going to ask me what I want to do and I want to collect these highlights in yellow, whatever colours I've chosen. The other colours I could have are blue, green and pink so I can have multiple highlights in different colours but I'm OK with what I've chosen just in yellow. I press OK. Read&Write will now take what I've highlighted and put that into a new document, collect that in a new document, and also at the same time it's provided me with a link where I got that information from so I can actually go back and quickly get that information again, so it actually helps me keep track of what I'm doing. If I'm using Read&Write in the Windows environment, for instance, not only will it do that but it will do it from multiple websites and documents and when it comes to generating a web link from where I got the information from it will do more than that, it will generate a bibliography for me at the end of my document in whatever citation format I want. That's a really cool research and study feature built in to Read&Write as well. Going back to my slide deck, obviously there's a lot of issues around literacy that I need to support and Read&Write is a program that can really support students around STEM in a post-secondary education space. But the other barrier that I identified and I want to discuss now for the rest of the webinar is actually this idea about STEM and in particular mathematics and to a lesser extent science but mathematics, how do I actually go from pen and paper to this digital world where I actually have to generate simply math equations in a digital world? Slide 32 is a double up, it should be slide 34 so I'll flick through to slide 33. Currently, when we want to make maths digital we've used tools in the past like Microsoft's equation editor which is really difficult to use, well I find it difficult to use and for many students find it difficult to use and it's only available in Microsoft Word and it has limitations and there are other programs out there similar to that. What we need to be able to be thinking about - this is on slide 34 - we need to empower our students - again, the idea of learner agency - to communicate their thought processes in the methods that they prefer. We need to give them multiple ways they can tell us what they know in terms of STEM and multiple ways they can generate things like a maths equation. How do they do that and not have a one-size-fits-all modality happening for them? That's when the second tool I want to show you comes into play, and it’s called EquatIO. What EquatIO is on about is really about making maths digital. What EquatIO does, it provides multiple ways students can express themselves mathematically and also in science as well. It does this by allowing things like speech input, using your voice to generate math equations; predictive text, where you can actually generate maths equations using predictive text around maths, chemistries and particular formulas; handwriting recognition that if a student has access to a touchscreen it will convert their handwriting into mathematic equations and text as well; and also the ability to generate graphs using EquatIO. I want to jump in now and actually just demonstrate some of those features to you, about how we can do that. If you want to access a copy of EquatIO for yourself, if you're a Chrome user you can go to the Chrome web store. Just go in and Google Chrome web store. When you get there, type in "EquatIO" and you'll be able to access the Chrome version of EquatIO or you can - again, you can go to our website, www.texthelp.com/en-au and there you can find the EquatIO section and you can get a trial version of EquatIO and when you get EquatIO though you might get an initial trial version in the Chrome environment but it also gives you access to EquatIO across a number of other platforms which I'm going to show you in a moment. Well, actually, I'll show you now. What I'm going to demo this for you is EquatIO for Google so it's an extension in the Google environment. It is a Chrome extension for Google docs. So Chrome is an extension for Google forms and it’s an extension for Google slides as well and EquatIO is also for in Windows and Mac where it's a desktop application for Microsoft Word, it's in the Chrome environment and it’s also in Windows and Mac for Microsoft Word. Just let me jump in and I’m just going to show you how this works. So I'm leaving my slides now and going in to another tab in my browser where I've got a Google Doc. So I’m going to use the Google version of EquatIO but what I'm going to demo here is exactly the same info as using Microsoft Word on a Mac or Microsoft Word on a Windows machine. And what I’ve got, I've got EquatIO installed and when it's installed it gives me a toolbar at the bottom of my screen with a number of features available and I mentioned before that EquatIO has speech input built into it, it has handwriting recognition, it has a graph editor, it's also got predictive text via an equation editor and for those who are interested it also has LaTeX as well. So, let’s just kind of jump up here now and I've got this document open and I've given myself a couple of headings to remember what I need to write in here. I need to write the Pythagorean Theorem. I need to type in - I need to have in this document A squared plus B squared equals C squared and how do I do that? I can do that with pen and paper, sure, but how did I do that digitally, how did I do that in a digital environment, in a Google doc, in a Microsoft Word document, for instance and lots of other places as well? Well, let's have a look. Let's look on our toolbar. If I just go down to my toolbar here and choose speech input to start with, using my toolbar, I've got my cursor where I want this text to go. I can press the start speech input. A squared plus B squared equals C squared. So I've dictated that to my machine, it's recognised what I've said and it's converted that in my toolbar at the bottom of my screen to A squared plus B squared equals C squared. On the right-hand corner I've got two buttons now, edit maths, insert maths. I want to insert that into my document so I press "Insert maths." EquatIO now inserts that where my cursor was. I now have that inserted into my document. It's inserted it as an image but the image is accessible in terms of I can actually do a couple of things with that. One, I can have that read back and particularly if I've got Read&Write, which I do have installed, if I click on that A squared plus B squared equals C squared in my document, I can then press the play button. [Computer speaking] “A squared plus B squared equals C squared”. So I can have that read back which is really important because I need to actually get that feedback that what I put in there is correct. I can also - if I've made a mistake, I can also press the "Edit maths" button and it will actually bring that back into my EquatIO toolbar and I can go back and edit that if I need to edit that as well. That's using the speech input method and I'm just going to delete what I've done and start again. I've also got on my toolbar handwriting recognition. So when I click on that I get given a space to do handwriting and of course I don't have a touchscreen that I'm using but I'll do my best. But if I was using a touchscreen device, you know, I might have a laptop, a Surface Pro or I might have a Chrome Book that actually has a touchscreen. I can do things like, as I start to write on my screen it will convert what I've written to - I'm doing a pretty good job, I think, of pretending to do that, so you can see then again it's actually taken my handwriting, converted it into math, put my cursor in my document. I then come and press "Insert math" It's now going to insert that equation into my document as well. The other way that I can insert math into my document is what we call the equation editor. I'm just going to get this fixed up here a bit. I'm going to delete what I've just done with my document and start again. And this time with the equation editor, if I want to use my keyboard to insert math into my document, I can use it in terms of predictive text so I've typed A then I'll start to type the word squared, SQ, and EquatIO automatically recognises that I'm typing a maths terminology so it's giving me a drop-down menu where it's got squared, as in squared with the power of 2, as a squared root, a square metre. I'm given a number of different options so I choose squared then I can simply start typing in plus. Again, it gives me options for that as well. I choose plus. Start typing in B squared. Choose that. Then I can start typing in equals. Choose that. C squared. Choose that. And I quickly have actually generated A squared plus B squared equals C squared by using predictive text on my screen. I can make a couple of adjustments as I'm doing that in terms of the settings. If I go into settings, which is down on the left-hand corner of my EquatIO toolbar which is on the bottom of my screen, and go to options, in options I can choose to have various sizes of my font so I'm choosing the extra large size so I can choose extra extra large, large, regular or small size font and I can also change, currently there's either UK English, US English and there's currently Spanish as well and I also have here the ability in terms of predictive text, not only to predict in terms of mathematics but I can also predict in terms of chemistry and formulas and I've got those turned on as well. Now, the reason I would do that is because I've got here, for instance, on my document here, I've - I need to write the quadratic equation, quadratic formula. So if I go back to my equation editor on my EquatIO toolbar and this time I'm going to start typing in "quadratic" and as I start to type that in, you can see one of the predictive options that turns up is - I've just typed in the letters Q-U-A, I have got the option of a quarter, I have got the option of quantity, but my third option comes up is quadratic formula and so automatically it's actually then giving me the quadratic formula. I can put my cursor in my document, go "Insert math". It's now going to insert the quadratic formula into my document. Again, if I've got Read&Write installed and I want to have that read back to make sure that's what I want, I can press on my toolbar the Play button and it will now read that back to me. [Computer speaking] “X equals the fraction with numerator negative B plus or minus the square root of B squared minus 4ac and denominator 2a”. So I'm also getting access not only to the - sorry, to putting the equation into my document but I'm getting access to the terminology and understanding what I'm actually writing about as well and I could have done that with my voice as well, voice input. Quadratic formula. So what I did then I went to my EquatIO toolbar and chose voice input, said, "Quadratic formula," and it's automatically converted that for me. If I needed to actually have the quadratic formula as LaTeX, if any of you are understanding what LaTeX is which is basically a way of scripting maths for journals or for publishing, I can choose on my toolbar the LaTeX editor button and it will automatically convert whatever I've got there into LaTeX as well. The really cool thing about LaTeX is when you've got the LaTeX of that and copy that, LaTeX is a great way if you've got a maths equation of doing a search in a browser so if I have gone to a new tab in my window and I want to know a bit more about what that equation is, I can paste in the LaTeX version of that equation, press enter and automatically you can see it's automatically done a search and it knows it's the quadratic formula and it's automatically kind of found that for me. It’s a great way as a research tool as well. I'll just get rid of that tab now and go back to my document. I'm going to go now and clean that up and delete that so you can see that on this toolbar I've got, again, I've got an equation editor, a LaTeX editor, handwriting recognition and speech input. One other tool that EquatIO has is a graph editor. So I need to put in the graph of a parabola there and I know that I can do a simple parabola by having 3x squared as an example. So I can type in 3x and using my equation editor type in SQ, gives me predictive text, I choose the first one for squared. That now gives me 3x squared. If I want to convert that, have that shown as a graph and also I want to insert the graph into my document, I go onto my toolbar and find the graph editor. EquatIO has a graphing tool by Desmos built in and you can see on the screen that it's automatically converted that 3x squared, what it looks like as a parabola. I can also do things like change the 3 to an unknown factor, turn that into a slider and now I have an interactive graph as well and if I'm good I can - I want to insert that into my document so I put my cursor there and I'll go "Insert graph" and now EquatIO will insert that graph into my document as well. I can bring that graph back out to edit that by going "Edit graph" and now the graph can come back and I can actually do more editing on the graph and reinsert it if I wish. OK, so just to - so I have a number of tools there that automatically just changes what I can do. All of a sudden I have the ability to generate maths equations with my voice, with handwriting. I have the ability to generate mass equations using a keyboard with predictive text and editor. I also have the ability to generate graphs and I’ve got the ability to use something like for instance LaTeX. If I go back to my slide deck here and go back to slide 48, there's a couple of other features around EquatIO that make it doubly exciting. One is, with any EquatIO subscription that you have or access to EquatIO, you also get access to what we call EquatIO Maths Space. With EquatIO MathSpace, you just type in EquatIO.texthelp.com and it gives you access to an online in-the-cloud maths space and here's one that I have started here. You can see it’s again around the equation of a parabola. When you've opened up that MathSpace, it's literally its own web page. At the bottom of the screen I have my EquatIO toolbar. I’ve got a couple of extra tools available because I am on this MathSpace and I can now actually insert a whole bunch of images if I need. I also have the ability to do freehand drawing and insert text. I guess the way I think about this is it's a bit like a whiteboard effectively or a space or a large bit of butcher's paper that I'm just generating a whole bunch of content on to. You can see there that I've generated a whole range of information around a parabola that I might want to share with others so I want to generate the content in a more usable space for myself. The cool thing about MathSpace is that when I generate text it automatically comes built in with the text-to-speech. I have just chosen some text I've written and now I can actually press "Read aloud". [Computer speaking] “A quadratic function is one of the form fx equals ax squared plus bx plus c, where a, b ...” I'll stop that. It will read those equations back to me. I have chosen another equation on my MathSpace. Again, I can read - I can have that read back to me. So the MathSpace has text to speech built in to it. So that’s a really cool feature, a really cool aspect of EquatIO. If I wanted to share that MathSpace with somebody else, on the top of my screen on the right-hand side there's a Share button. I choose that. I go "Continue" and it gives me step one, it's saying, "Share this with friends, colleagues or other students." It will now generate a link to that MathSpace, its own unique web link. Here it's generating it now. Taking a minute. Once it's generated that link it will - I can copy that link and now I can essentially just copy that and share that link to anybody else and they'll have access to the MathSpace that I have developed. It’s actually a great teaching tool but also a great way that students can generate ideas, thoughts, do assessments and not only share with their teacher but also share with other students and in more of a collaborative way. So that's called the EquatIO MathSpace. But just because I'm looking at the time - I've got to finish in a couple of minutes, I just want to kind of show you two other really cool new features that EquatIO has. What we've realised is that often a lot of information that students have needs to be available in other formats and they need to be able to generate math digitally from what they've already done with pen and paper, for instance, or actually via a mobile device. We now have EquatIO Mobile. So with your EquatIO subscription you also get access to EquatIO Mobile which means your phone or a tablet gives you the ability to use the hand writing recognition feature, to use the voice recognition feature and also has built-in OCR where you can actually take a photo of any math in your environment and it will convert it for you. What I'm going to do is show you how that works. I'm going to go back to my Google doc here that I had where I need to put in this formula, this A squared plus B squared equals C squared and what I'm going to do is, I’m just going to highlight it. I've got my iPad - I'll just log in here. You can see on the right-hand side of the screen, I'm just scrolling there. With EquatIO Mobile, any device I have, I just need to open up that device and use the native browser of that device. Because I'm using an iPad I'm going to use Safari as the browser. If I was using an Android device I would use Google Chrome. So I’ve opened up Safari and I’ve actually typed in EquatIO.io into that. It automatically gives me access to my - I log in with my account, it gives me access to EquatIO Mobile. I then ask it to find any active documents I have open at the moment and I just need to make sure that - yep, I've got this maths doc simplified, that's the name of this document. You can see on the screen here that it's saying it's seeing that I've got this document open. I choose it and I’ve just clicked on that screen on my iPad. And down the bottom of my iPad screen you can see that I've got handwriting recognition, a microphone and a camera. If I choose the handwriting recognition I can choose to write on my device - A squared plus B squared equals C squared. There's a green arrow there - a green button with a tick, sorry. Choose it. It's asking whether I want to save it as maths or as an image. I'm going to save it as maths. It's now converted my hand writing to digital format. A squared plus B squared equals C squared and at the bottom of my iPad there's a blue button with an insert arrow. Press on that. It's now going to insert and you can see on the left-hand side of my screen it's inserted that text straight into my document. That's cool, to be able to do that. I'm just going to go back to here and delete that. I could have also - going back to my iPad over here - I can also use the microphone button and now I'm going to record myself. A squared plus B squared equals C squared. Of course you should always try this before - I'll just do that again. A squared plus B squared equals C squared. I think because I've got my different microphones working it's actually getting confused but it will basically work the same way if I wasn't all logged in as I am now, it would actually - here it goes. A squared plus B squared equals C squared. So now it's getting very confused with me so I'm just going to get rid of that. The third feature that I can actually do though is on my device is a really important one, it is the camera. With the camera, I have the ability to take a photo of any text that I've got in my environment so I'm going to just choose camera. My device is asking me to allow access to the camera. I choose allow. I've got a document with some text I've written here on a piece of paper. You can see this is my piece of paper there. I can take a photo of that. So I've taken a photo of that. I'm going to crop it. I just want to get the math that's actually there, I want to just grab that so I go - I put a crop box around the maths that I want. I then have the green button with the tick and I choose OK. It's asking me whether I want to save it as mathematics or I want to save it as an image. I want to save it as maths. It's now going to convert that into mathematics and you can see it's also because it was multiple lines it's converted that into multiple lines. I'll then choose the blue button to insert. It's now going to insert that and it’s going to insert that where my cursor was in the document and there I have that text now, that equation’s now been inserted into my document. The other cool thing I could have done is if I go back to the camera, if I go back to looking at my iPad on the right-hand side, I might wish to actually collect all that information because I've got a diagram there, I've done a whole bunch of other information that I want to also collect and this could be the whiteboard of my lecturer who's been writing on a whiteboard and I have problems taking those notes from the whiteboard, for example, with EquatIO Mobile, I just need to take a photo of that whiteboard, choose the green button with the tick and this time rather than saying save as math, I'll save it as an image. It's captured and I'm going to now insert by choosing the blue button. Just give it a minute. There it goes. It's now going to insert. Just give it a second. It's going to then where my cursor is in my document, it's going to insert that as an image as well not just the text of the equation so I can actually start to collect that information as well into my document. Just give it a minute. It's going to turn up on my screen. I'll just drag the screen across here, back here, so I can see it. And there it is. It's turned up and I've actually also just embedded that whole screen into my document as well. Things like using - back to using the Read&Write toolbar and if you remember that feature with the voice note, I could now attach a Voice Note to that explaining more about what was involved in that diagram, for instance. Lots of different ways I could use these features in combination together. I'm looking at my screen and it's 1:53, I really need to get a wriggle on here and finish up. I just wanted to finish up by quickly doing one last thing, Darlene, if that's OK, just one last feature.

DARLENE: That's fine. We’ve only got two questions so we're fine at this stage.

GREG: One last thing. The mobile version is a fantastic tool for our students in lectures, in tutorials, in whatever they're doing generating their own content. Even for teachers and staff themselves to be able to generate content by writing what they need on a piece of paper and it will convert that into digital text for them. The last thing is we've also now got a thing called EquatIO Screenshot Reader and this is slide 52. With the - now you have the ability to - I just lost that. Here we go. I just need to go to - sorry, I'm just going to go to - just quickly. Just give me a second. I had it up on my screen. I just need to find this. I've just got this document - here we go. Just quickly finding it. Screenshot. Here it is. So, here is a document really quickly - I've got a picture of a T-shirt. The T-shirt has an equation on it. It says what's your definition of beauty? I don't know what that is. I can call up EquatIO. So my toolbar comes up. I have taken a picture of this person's T-shirt with this formula which I don't really know what it is and it's saying underneath the formula, "What's your definition of beauty?" We now have a thing called EquatIO Screenshot Reader. It’s on my toolbar, when I choose that, it turns my cursor into a crosshairs. I can now draw a box around that equation that's in that photo. Screenshot Reader will now analyse that and convert that into an equation. It will read that [Computer speaking] “e raised to the pi i power plus 1 equals zero” It's read that back to me but more importantly, what I can do is I can now copy that equation. I want to find out what that is because it was saying it was the definition of beauty. I copy that equation, I'm going to a new tab, I'm pasting in what I copied, doing a quick search and it's actually come up - the search has come up. That equation is in fact Euler's identity which is, if you're a mathematics person, apparently is the most beautiful equation ever and so now I’ve quickly been able to find out what that is and I’ve even been able to do things like it's taking me to a Wikipedia website with a whole bunch of equations there. And I remember one of these equations I thought was something to do with a circle. It's this one here that I'm moving my cursor around. Look, I've got EquatIO on my toolbar up here, I click on it and on any website I have access to the Screenshot Reader. I click on the Screenshot Reader now. I go back over here. I want to grab that equation off the website. It's now going to grab that equation for me. It will read it back to me and I'm going to copy that, go back to my document here, put my cursor there. Because I've got EquatIO open, I'm going to paste in what I just copied from that website. Now I'm pretty sure that equation is something to do with the circle I'm going to choose the graph editor and I can see automatically by choosing the graph editor that, yes in fact it is. I've graphed it as a circle. So using the Screenshot Reader I'm able to quickly go in and not only grab stuff that hadn't been accessible for me but also use it in a whole bunch of innovative ways. That was my last little bit there that I just wanted to show you around equation editor - sorry, EquatIO Screenshot Reader that gives you the ability to screenshot math anywhere you are. So just to finish, to say that Read&Write and EquatIO more importantly - in essence what we're talking about is giving our students access and the ability to use the information they need in ways that are meaningful for them. We need to remove those barriers around literacy and not being able to make maths digital by actually making our learners engaged and empowered to do that and again back to the issue I mentioned at the beginning about giving them learner agency. If you want to know more about either of those tools, Read&Write or EquatIO, you can go to our YouTube channel for TextHelp at YouTube.com/texthelp. Or just to finish up, if you need any support around what I've come to demonstrate today in this webinar, if you download either Read&Write or EquatIO and you're having any problems, you can contact our technical support team here on the Asia Pac team via support@texthelp.com or if you just want to know more, contact myself or anybody else on the Asia Pacific team, you can contact us via AsiaPac@texthelp.com and I think that's it, Darlene.

DARLENE: Brilliant. Thank you, Greg. That was very informative and I've taken lots of notes so hopefully I'll be able to pass on that wealth of information to others and we'll be able to share the webinar. We received a couple of - probably three questions that need answering but because we've hit the 2:00 mark, what we might do is we will have those - Greg's happy to answer those questions but we'll put them on the website under the video so people can get back to work at 2:00. If you have any other questions, please put them in the question bit now or email us in the next 5 minutes and Greg will spend some time answering those. So thank you very much. It was a fantastic presentation. I really - I'm really excited about learning this. Next - I think I still haven't quite mastered TextHelp Read&Write goal. I like new things and I'm pushing my brain to new boundaries.

GREG: That’s right. Can I just jump in and say I'm happy to provide these slides for anybody. So I'm happy to provide the slide deck to anybody either as - whatever format they need. That can be arranged as well.

DARLENE: Excellent. They'll also be up on the website. Thank you everybody for attending today. Thank you heaps, Greg, for joining us. We haven't got another webinar booked in as yet but hopefully we will have soon so in finishing I just want to recognise Mal, the captioner, for her great work today, and, yeah, thank you very much, Greg, and hopefully we'll, yeah, see you at a conference or at a presentation soon. Thank you, everybody.

GREG: Thank you.