

Analysing changemaker attributes

Values: reflective, internal locus of control, social intelligence, values-driven, empathy

Intellect: innovation and creativity, critical thinking, problem solving, action orientation

Social engagement: emotional intelligence, social intelligence, self awareness

Performance: leadership, communication, self-confidence, perseverances

Changemaker attribute	Key words	Quotes	Summary
Self-confidence	point of view, challenging assumptions, dealing with issues, collaboration	I overcame them by typing instead of speaking, and clarifying by asking them questions multiple times, and eliminating background sounds (TT)	Trying different communication strategies.
Perseverance	optimism, resilience, adaptive, tolerant, grit, facing adversity	<p>Learning how to effectively communicate with people in a different timezone and who you don't have face to face contact with was very good. (TT)</p> <p>Figuring out how to create the initial picture for the AR, we eventually learned how to do it (TT)</p> <p>Some of the technology we looked at in Belgium was fantastic but unfortunately some of it was either unavailable to us or not affordable. This was a shame as the technology they had was incredible! We found alternatives which did what we needed them to do. (DLAB)</p> <p>A pandemic was probably the main thing! It meant we were unable to complete the project as intended however I think we did well to overcome this and complete the project digitally.(DLAB)</p> <p>The use of technologies with which I had little experience that I overcame using those technologies and reading about them. (DLAB)</p>	Resourceful in solving problems to do with communication and technology. Finding alternative solutions. Drive to overcome difficulties in order to complete the projects.

Internal locus of control	self-regulated, self-directed, record of achievement	We weren't exactly sure how to do all of the things that were required, but asking questions and exploring the platforms on our own helped. (TT)	Self-directed learning. Showing initiative. Taking control.
Self-awareness	aims and values, growth mindset, independence, self-author	<p>I have learned that children are very innovative when it comes to approaching projects such as this and bring interesting insights based on their experiences - many which differ from my own. (DLAB)</p> <p>I felt I was less "tech-savvy" than others on the project, but learnt more by asking questions and observing - this project was an excellent CPD opportunity. (DLAB)</p> <p>It was a unique experience...and I am looking forward to continuing to work and learn. (DLAB)</p> <p>Because of meeting all the students it made me eager and enthusiastic to become a teacher one day (DLAB)</p>	Understanding personal attributes are not fixed and can be developed. Evaluating the impact on self and others.
Action orientation	action planning, initiative, goals, ambition	<p>It is best to plan ahead to see which type of technologies would be most appropriate for certain situations.(TT)</p> <p>I think AR/VR is a useful and cool way to show something in your business. I think the technology is cool enough to attract people. (TT)</p> <p>During the coronavirus the Mind and Makerspace made their own gowns and masks for the various care providers in the area (DLAB)</p>	<p>Planning to use technologies in the workplace: entrepreneurship and education.</p> <p>Applying makerspace skills to address a need.</p>
Innovation and creativity	original, inventive, lateral	Given that I had the area of retail, I learned mostly that AR and VR are the future of this industry (TT)	Creative vision for real world applications of VR/AR. Authenticity. Link between creativity

	thinking, future-thinker	<p>This project was very different which is something I liked. It was cool to see how we could apply this technology to the real world and actually make it useful. (TT)</p> <p>The opportunity to create amazing experiences in both AR and VR domains (TT)</p> <p>I also liked making the AR experience because it was a very creative task. (TT)</p> <p>I loved the fact that we were free to explore tools for VR and AR and be creative. (TT)</p> <p>It is a good way to creatively connect with customers. (TT)</p> <p>Working hard about something I am passionate (breaking boundaries - going outside of normality/using creativity to teach) (DLAB)</p> <p>We got a lot of inspiration from the museum and then put it into the project (DLAB)</p>	and motivation. Digital making in an authentic international context. Conditions for changemaking/innovation.
Critical thinking	evaluate a range of evidence, understand knowledge as uncertain, evaluate methods, question assumptions	<p>How to combine ideas to have a better idea (TT)</p> <p>I also really liked the meetings/ brainstorm, such a nice cool ideas that came from these moments. (DLAB)</p>	Metacognition about the idea-generation process. The power of group thinking amplifying the creative process.
Empathy	understanding others' perspectives	<p>I learned how to deal with timezone differences while collaborating, and how to speak more effectively with ESOL students. (TT)</p> <p>Is not easy to work with someone that you can't meet face to face (TT)</p>	Empathising with language difficulties and time differences. Developing mutual

		<p>It took some explaining to get the time difference and language barrier, as well as varying lifestyles and schedules (TT)</p> <p>Colleagues in America were very open for discussing other things, not just about the project (TT)</p> <p>While collaborating with your international partners you can share different parts of your life and see the impact it has on virtual reality. (TT)</p> <p>I got to see similarities and differences between things in America and in Romania. VR showed the similarities and differences more than AR. (TT)</p> <p>For the most part, it seemed like our two projects were very similar, showing us that some things are not all that different between the two countries. (TT) When other groups presented we got to see photos of different places in Romania that are a part of their culture. (TT)</p> <p>I think if anything this project made me see how similar I can be to people across the world. The use/knowledge of AR and VR saw that the Romanians and I were basically on the same page. (TT)</p> <p>You can have an actual conversation to better understand one's culture. However, it may be possible that a certain partner refers to certain culture which may be easier to experience through VR or AR. For example: Spain having Toreros will be definitely easier to see through VR than speech itself. (DLAB)</p> <p>Understanding of culture was ascertained through conversations (DLAB)</p> <p>We did use some virtual tour tools to provide tours of our schools and show each other around our spaces. (DLAB)</p>	<p>understanding of similarities and differences. Cultural understanding developed through talk and through technologies.</p>
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		I believe this (video conferencing) was effective in developing empathy in the children as they were mindful of the clarity of their speech to alleviate any language barriers. (DLAB)	
Reflective	active reflection, written reflection	<p>The VR increased our positive experience, because it made the whole scene more immersive, and the talking characters were useful in informing us about Unirii Square. (TT)</p> <p>It brings a different way of learning possibilities. For myself I know I will have an easier time remembering and focusing with a 360 video in VR about a certain war or any kind of topic as such. (DLAB)</p> <p>I'm studying geography so this is an easy way to take my students to places. So they can see it in 'real' life. When they are able to see it, it will be easier for them to understand. (DLAB)</p> <p>This project has been absolutely fascinating and I have learnt so much from being part of it, both personally and professionally. (DLAB)</p> <p>I'm not interested in history but if you see the history of a city through VR you cannot help but pay attention. If all of my lessons had been given this way I'd know I was a history teacher. (DLAB)</p> <p>The mind and makerspace is a place where every creative person feels at home.</p>	Reflection on how people learn and on own learning: personal and professional impact. Immersive nature of the AR/VR technologies. Telepresence.
Communication (includes digital literacy)	literacy, cross-cultural, influence, negotiation, networking, co-	<p>Communication was a large factor in working on this project and getting experience communicating with international students was a learning experience I valued greatly. (TT)</p> <p>The most important things that I've learned is communication between two vastly different groups (TT)</p>	Valued the international aspect. Impact on communication skills. Technology supporting the development of

	<p>construction, cooperation</p>	<p>Being able to participate in an international collaboration (TT)</p> <p>Meeting our partners from America and seeing a bit what college life is like for them. (TT)</p> <p>Working with great people from a completely different place (TT)</p> <p>You need to communicate a lot with everyone. So on communication level I have learned a lot, even my English is getting better trough the project. (DLAB)</p> <p>Meet people from other cultures and apply projects developed with other countries.(DLAB)</p> <p>I will never forget the people I've met through this project. (DLAB)</p> <p>Working with people you are not used to and who present different working methods, this is overcome through communication and dialogue. (DLAB)</p> <p>I have met many cultural aspects of the rest of the countries and the AR and VR media have had some relevance in this field. (DLAB)</p> <p>In order to work on an international project there must be a good group feeling. That group feeling was already there but it was intensified after this activity (VR swimming) DLAB.</p>	<p>cultural literacy. Co-construction of knowledge.</p>
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<p>Emotional intelligence and social intelligence</p>	<p>Social awareness, positive use of emotion</p>	<p>I learned that communicating can sometimes be difficult which makes international business endeavours complicated. (TT)</p> <p>Talking in front of an audience. It's just a fright... So what I do is I step in front anyways and just go for it. Then whatever happens, happens. (DLAB)</p> <p>Felt like I did not belong in my own "team". So I tried to understand them better and tried to get used to it. (DLAB)</p> <p>I have thoroughly enjoyed working with such an interesting and diverse group of people who all bring different skills and expertise. We have been able to share our work and learn from each other. (DLAB)</p> <p>People just helped by encouraging and by saying that you can make mistakes, just giving you confidence. It was a lot of work, but with the help of my partners in my group it went all really well. (DLAB)</p> <p>A changemaker is a person who is constantly evolving so being a changemaker is a set of mind and you have to be a person who identifies problems and wants to create solutions to them. They always want to make things better than they were before and that is the true quality of a changemaker. We can all be changemakers (DLAB)</p>	<p>Acknowledging difficulties. Overcoming negative feelings. Appreciating diversity. Learning from others.</p>
<p>Problem solving</p>	<p>strategies, evaluation</p>	<p>The Romanian VR did not exactly match with the concept of retail in our AR; however, we overcame this by attributing it to a cultural difference and explored why retail was perceived in this way. (TT)</p> <p>Creating the AR - found help in the Sandbox. Uploading some videos to OpenVM - uploaded to YouTube first and added the link (TT)</p>	<p>Problem solving through the development of cultural understanding.</p> <p>Testing strategies to solve technical issues.</p>

<p>Leadership</p>	<p>inspire others, decisive, vision, articulate, implement change</p>	<p>Its prevalence is increasing in many fields. It will soon be integrated into our daily lives. (TT)</p> <p>It could give a unique and creative view of the business (TT)</p> <p>It's the future. (TT)</p> <p>There is so much potential for using immersive technology in teaching. I think AR is more accessible than VR for everyday teaching. It is so vast in its potential uses and I have been exploring how AR apps can be used for specific curriculum subjects.(DLAB)</p> <p>This project provided excellent and valuable CPD which, as a trainee teacher, I will utilise in my future career. I can share this knowledge with future colleagues to also improve their teaching. (DLAB)</p>	<p>Future focused in entrepreneurship and education.</p>
<p>Values-driven</p>	<p>Ethical, global citizen, environmental steward, social justice, wellbeing</p>	<p>Going to Bruges and working with the partner University's teachers, lecturers and ITT students provided an insight into new technologies and pedagogies to use in the classroom, thus enabling a better cultural understanding - the use of AR and VR had an impact on this upon the return to England. These tools also helped the children in England to understand the international partner country's cultures. (DLAB)</p>	<p>Changemaker impact based on international collaboration developing new pedagogies. Passing strategies on to new international collaborations between school pupils.</p>
<p>Values driven includes global citizenship, Internationalist/internationalism/global mindedness/mindfulness</p>	<p>sustainable development and lifestyle, active and responsible global</p>	<p>This project also enabled me to develop my cultural awareness. (DLAB)</p> <p>I enjoyed working with people from the other side of the world. It was also fun exploring uses of VR and AR in different industries. (TT)</p>	<p>Exposure to an international environment helps to develop changemakers.</p>

	<p>citizenship, respect for cultural diversity, intercultural competence, global perspectives, global mindedness</p>	<p>The team was awesome. I liked working with people from another region or continent. You make new friends, you can change thoughts. (TT)</p> <p>I believe the project is a great way to meet new people from different places and learn their ways of being.(DLAB)</p> <p>I got to know many aspects of the different cultures of the member countries, some shared and others completely different.(DLAB)</p> <p>In order to become changemakers we need to reach beyond ourselves (DLAB)</p> <p>I've worked with so many people. Each and everyone of them have learned me something new about their cultures. (DLAB)</p> <p>The importance of carrying out projects at the international level to improve the field of interculturality. (DLAB)</p> <p>The second thing I learned is how to work together on something this big. We managed to organise two international days with our five countries while we were all divided by hundreds of miles. It seemed like a normal thing to do at the time but looking back I'm really impressed. (DLAB)</p> <p>The fact that they did it together with students from other countries reinforced the overall experience so in addition to having this thing which they had created and feel so strongly about they also managed to create relationships with other students across different countries, across boundaries. So it was a fantastic experience for them and for us to have the privilege to watch it.</p> <p>Not only did the children learn about becoming a changemaker and using immersive technology to combine gaming and physical activity, but they learned that technology can be used to facilitate learning about cultural differences and encourage open mindedness to lives that are different to their own. (DLAB)</p>	
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<p>Communication attribute: digitally literate/ digital competence</p>	<p>Information and data literacy, communication and collaboration, digital content creation, digital safety</p>	<p>Creative apps such as AR and VR can be the answer for a brilliant start up. (TT)</p> <p>I have learned how technology can be used in the classroom to connect children from different schools/classes to allow for trans-cultural learning and collaboration. (DLAB)</p> <p>They seem to me like tools with which you can work various subjects and through which we can create content for students that is motivating and fun and at the same time helps them to learn. (DLAB)</p> <p>I have learned how to use a myriad of tools that I had never considered using before and I have found ways to integrate this into the classroom to support learning. (DLAB)</p> <p>The DLAB2 project enabled me to develop professionally as I gained an awareness of new technologies to use within an educational setting. (DLAB)</p> <p>I believe that through using technology in this way pupils have gained a better understanding of what a changemaker is. (DLAB)</p> <p>I believe that the use of immersive technologies and the fact that this was effected live across countries was really impactful as children expressed their excitement about the project, being creative and becoming changemakers. They were actively using this term as part of their vocabulary in their discussions.</p>	<p>Digital technology enables immersive, self-directed learning. The digital environment allows students to interact, share and co-create. They found authentic real life applications for VR and AR in education and entrepreneurship.</p>
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PERSONAL	COGNITIVE	EMOTIONAL	SOCIAL	GLOBAL / DIGITAL?
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Self-confidence	Innovation and creativity	Empathy	Leader	New attribute: Internationalist/internationalism/global mindedness/mindfulness
Perseverance	Critical thinking	Emotional intelligence and social intelligence	Communication	New attribute: digitally literate/ digital competence
Self-awareness	Problem solving		Values-driven	
Reflective	Action orientation			
Internal locus of control				

<p>'Learning how to effectively communicate with people in a different timezone and who you don't have face to face contact with was very good.' (TT)</p> <p>'I have learned that children are very innovative when it comes to approaching projects such as this and bring interesting insights based on their experiences - many which differ from my own.' (DLAB)</p>	<p>'This project was very different which is something I liked. It was cool to see how we could apply this technology to the real world and actually make it useful.' (TT)</p> <p>'Working hard about something I am passionate, breaking boundaries, going outside of normality, using creativity to teach' (DLAB)</p>	<p>'I learned how to deal with timezone differences while collaborating, and how to speak more effectively with ESOL students.' (TT)</p> <p>'Not only did the children learn about becoming a changemaker and using immersive technology to combine gaming and physical activity, but they learned that technology can be used to facilitate learning about cultural differences and encourage open mindedness to lives that are different to their own.' (DLAB)</p>	<p>'Communication was a large factor in working on this project and getting experience communicating with international students was a learning experience I valued greatly.' (TT)</p> <p>'A changemaker is a person who is constantly evolving so being a changemaker is a set of mind and you have to be a person who identifies problems and wants to create solutions to them.' (DLAB)</p> <p>'In order to become changemakers we need to reach beyond ourselves' (DLAB)</p>	<p>'The importance of carrying out projects at the international level to improve the field of interculturality.' (DLAB)</p> <p>'The second thing I learned is how to work together on something this big. We managed to organise two international days with our five countries while we were all divided by hundreds of miles. It seemed like a normal thing to do at the time but looking back I'm really impressed.' (DLAB)</p> <p>'Creative apps such as AR and VR can be the answer for a brilliant start up.' (TT)</p> <p>'I have learned how to use a myriad of tools that I had never considered using before and I have found ways to integrate this into the classroom to support learning.' (DLAB)</p> <p>'I believe that the use of immersive technologies and the fact that this was effected live across countries was really impactful as children expressed their excitement about the project, being creative and becoming changemakers.' (DLAB)</p>
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