

Queen Mary Academy

Exploring the learner perspective on the use of Virtual Reality to develop employability skills in the legal sector.

January-July 2023

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Executive Summary

This study employed a mixed-methods approach with a three-step process: an initial survey, a Virtual Reality (VR) trial, and a second post-experience survey.

Twenty-two Centre for Commercial Law Studies (CCLS) students took the first survey and four students (including a mature student), volunteered for a VR experience, using Meta Quest 2 VR headsets and the *Clear communication* module offered by the company Bodyswaps.

Findings revealed that 81.8% of respondents think their training at Queen Mary University of London (QMUL) could be enhanced with technological solutions, the remaining 18.2% being neutral.

- 95.5% of survey respondents thought tailored VR training would be beneficial for them and help them develop more confidence towards achieving their career goal. This number raises to 100% for those who have participated in our VR trial.
- 95.2 % of survey respondents said they would be interested to borrow VR headsets to complement their study. This number raises to 100% for those who have participated in our VR trial.
- 100% of participants thought choosing a role in a virtual moot court and making decisions at key stages would be of value to their training.
- 100% of participants would like to observe a professional legal case scenario of their choice, using a VR headset.

There is an undeniable appetite and readiness for VR training among CCLS students. They would like to use VR to complement their study and they massively believe training in a virtual environment would develop their employability skills.

As a result of this project, the following is recommended:

- Offer VR training as an extra opportunity to learn by doing.
- Offer bookable slots for self-paced training, one hour a week, until learners are happy with their VR training outcomes.
- The VR learning experience should be embedded in a social constructivist pedagogical approach.
- Using Meta Quest 2 VR headsets and existing VR training offered by the company Bodyswaps is a suitable solution, however options offered by competitors and in-house solutions should be explored.
- Developing a suite of technical and pedagogical support to successfully engage learners in the immersive training world.

The findings and recommendations included in this report give CCLS strong evidence of their learner's preferences for VR training and should be a solid basis for a business case, not only for CCLS, but for any of QMUL departments.

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Introduction

The learner-Virtual Reality project aims to explore Centre for Commercial Law Studies (CCLS) learners' views on Virtual Reality (VR) training to prepare them to experience legal professional scenarios; and by that, check if VR training can help them develop employability skills. The double benefit of this project was to collect data on the perceived likeliness of VR to enhance learners' employability as well as gather learners' views on the optimal VR training support they would require.

This project was undertaken as part of the Queen Mary Academy's Learner Intern Programme.

Background

Queen Mary University of London: mission

By 2030, Queen Mary aims to be the most inclusive university of its kind and unleash people's potential equally. To enable this goal, the Active Curriculum for Excellence (ACE) approach provides a strategy to deliver a "world-class education [...] enhanced by the latest technological developments."

In our modern digital era, understanding how technology can *open the doors of opportunity* and foster employability is paramount. "It is suggested that VR technologies increase students' memorisation of the concepts learned (Buttussi & Chittaro, 2018; Meyer et al., 2019), transfer of knowledge (Chittaro et al., 2018), and increase their emotional performance affecting learning outcomes (Cheng & Tsai, 2020)".

Centre of Commercial Law Studies (CCLS)

The CCLS has a strong background in innovative teaching initiatives and the rationale for this specific project was to investigate whether learners think they would benefit from a training in a VR immersive environment.

Following conversations with CCLS leaders, this study specially focused on learners' opinions on VR's ability to improve communication in legal scenarios and to develop employability skills. Communication skills were especially needed for:

- moot-court practice,
- and to rehearse professional discussions in the legal department of a commercial firm.

This was an opportunity to explore two pillars of the ACE approach in depth, Excellence in Learning Environment and Excellence in Student Employability.

VR background

Starting in the late sixties, designers and programmers have investigated technological solutions to develop a virtual environment that would stimulate all the senses, not just sight and sound.

Since then, both head-mounted displays and computer-generated environments that respond to the people in it have been made a reality and the variety of VR headsets and software available on the market are adapted to a wide range of users.

Its primary use in the aviation and military training industry was followed in the medical field over the last ten years. Nowadays, VR can be equally used as an alternative to training in high-risk environments or as a family-friendly entertainment experience. It is now described as "an interactive virtual environment that perceives the user's position and actions, provides feedback to one or more senses, and mentally fits the natural world in the simulation environment" (Sherman & Craig, 2019). Evidence shows that training first responders (e.g., police

officers, firefighters, and emergency medical services) in virtual reality can significantly reduce training costs and improve performance (Koutitas et al., 2020).

One indisputable advantage of VR is that students can repeatedly practice scenarios in the unique safe space offered by the virtual world. To build on Hamilton's findings, this possibility "has challenged the conceptual definition of what constitutes a learning environment" (Hamilton, 2021).

This study explores how students working in a VR environment could develop accrued confidence in communicating in professional situations and manage stress to enhance their employability.

Graduate attributes and employability at QMUL

Tapping into [Queen Mary Graduates attributes for students](#), the following topics were included in the VR study project surveys to measure an eventual correlation between VR training and likelihood of improvement of employability skills:

- Communication (i.e., effective listening skills, interview skills, argue a case...)
- Problem solving (i.e., innovative ways to solve problems)
- Emotional intelligence (i.e., recognising your/ other people's emotions)
- Self-awareness (i.e., identify your own strengths and areas for development)

Questions on stress management and perceived confidence towards achieving career goals were also included.

Methods

Survey design

"Exploring the learner perspective on the use of Virtual Reality to develop employability skills in the legal sector" study employed a mixed-methods approach with a three-step process: an initial survey, a virtual reality trial, and a second post-experience survey. The entire project was reviewed and received ethics approval from the Queen Mary Ethics of Research Committee (QMERC23.029).

Students could participate either only in the first survey or in both the first survey, and the VR trial followed by the second survey. The initial survey was open to all 1455 CCLS students for five weeks.

The data collected was pseudonymised (e.g., learner 1), and learners were incentivised to take the survey by offering a draw of e-vouchers.

The initial research stage consisted of a survey containing 33 questions and sub-questions, with the estimated completion time being 15 minutes, including reading and signing the Consent Form and Participant Information forms.

The survey covered VR experience for Moot courts and professional legal case scenarios, asking learners personal views on the likelihood of VR training to enhance their learning experience and impact on their soft skills and employability.

The survey questions are available in Appendix A and Appendix B (pages 17 and 20).

- The first survey unfolded as below:
 - general questions about learning experience with and interest in virtual reality and technology-enhanced learning,
 - description of two training situations where VR would be used as a substitute for real-world experience to both practice moot court and to rehearse professional conversations.

The first set of questions was around passive participation, asking learners to imagine they would just observe a legal scenario in an immersive environment, without any personal interaction. The second set of questions was around active participation, where the learners would imagine they could answer questions and make decisions at key stages, choosing from different options that pop up.

The second set of questions was asking learners how confident they felt this kind of VR training would enhance their employability skills and the third one was around the support students would require to optimise this VR experience.

- As a second step, learners who had taken the first survey were invited to a virtual reality trial on 24th April 2023 to probe the initial findings.
- As a final step, after trying a professional communication VR training, participants completed a second survey, following roughly the same structure as outlined above so as to facilitate a comparative analysis between those interested in virtual reality before and after trying it.

VR experience trial

The company Bodyswaps offers relevant communication training scenarios and was recommended by Pedro Elston and Gian Paulo Canale from Institute of Health Sciences Education (IHSE). They both kindly trained the LIP research intern and manager to use the VR headsets and lent us two Meta Quest headsets for the purpose of this project (picture in Appendix C page 22).

Bodyswaps offered a free trial with full access to their professional communication skills library.

Keeping in mind how facilitators' presence combined with working with a potentially new device could be uncomfortable for participants, a short pre-VR training was created to help them get familiar with the devices and the software (images of the PPT files are in Appendix D, on page 23, and the full in-house training package is available upon request). Participants would sit and wear the headset to immerse themselves in an office environment. When comfortable with wearing the headset and with the controller buttons, participants will engage in professional discussions around a virtual table.

The participation was gradual as the training started with an observation phase, learners would then take part in the conversation by either choosing or reading their answers, and at the end, they would record themselves (being represented by an avatar) talking to their colleagues, minding their body language and discursive arguments. They will be able to watch and listen to their intervention and access a dashboard with behavioural and semantic analytics, including tips to improve communication skills.

Participants could sit for the whole VR training nevertheless, we had consulted Health and Safety department and took extra precautions to avoid dizziness, headaches or motion sickness. The training offered would not exceed 20 minutes of immersion in any case and someone was permanently present in the room to offer support if needed. Our participants were informed they could stop the training at any point, with no consequences on the voucher incentive. Risks and mitigations detailed in the mandatory Consent Form and Participant Information Sheet were explained again.

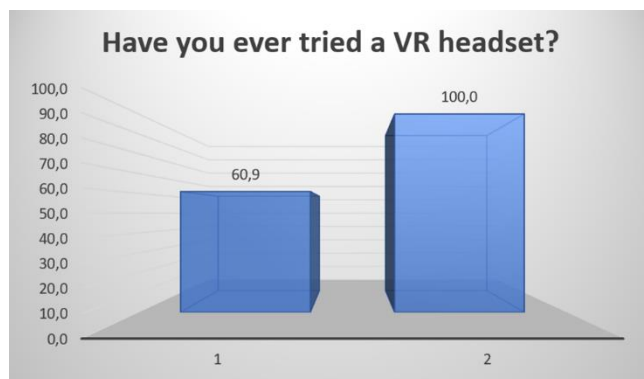
Ultimately, we had twenty-two respondents for the first survey. Of those, four students attended the VR trial, and all took part of the subsequent survey.

On top, Academics from CCLS, IHSE and a colleague from TELT joined and took the opportunity to try an immersive training experience.

Results

General findings

60.9% of the twenty-two Survey 1 respondents had previous experience with VR headsets, while this number rose to 100% of survey 2 participants, highlighting at least learner curiosity in VR and at best a steady trend.



There is an indisputable appetite for VR training within CCLS students: firstly, all participants were interested to observe a professional legal case scenario of their choice, using a VR headset. Secondly, they all indicated choosing a role in a virtual moot court and making decisions at key stages would be of value to their training. All of those who tried the VR trial confirmed the propensity of VR to develop their confidence, leading to the development of career goals.

Learners declared they were ready to enhance their learning experience with the use of VR headsets. 95.2 % of them said they would be interested to use VR headsets to complement their study. This number raises to 100%, for those who have participated in our VR trial.

- 87% say they are interested in new technologies, with mention of Virtual Reality, Augmented Reality, Artificial Intelligence and Metaverse
- 81.8% of them think their training at Queen Mary could be enhanced with technological solutions.

Regarding the stress level management prior to similar work experience in the real world, the results were more divided though the vast majority remained positive, with 68.2% thinking VR would help with stress management without the VR trial and 100% following the trial.

Moot court and professional legal scenarios

Scenario 1: Moot court

Passive participation

90% of respondents said wearing a VR headset and observing a pre-recorded moot court of their choice would be valuable for their training. 81% of respondents said this it could raise their confidence prior to experiencing similar scenarios in real life.

Students felt this next best experience would enhance their exposure and preparation to a real-life experience. Some of the comments include: *"I would be able to practice my advocacy skills and also have better understanding of what happens in a court room."* and [VR] *"Prepares us for real life experience, including distractions and noise."*

However, a participant who had real-life moot court experience highlighted that *"the joy after listening to a wonderful argument and sharing it by way of a smile or a slight nod with your bench partner is an experience that VR cannot give."* They see it as a potentially "isolated experience".

Active participation

All participants thought choosing a role in one of the banks of VR moot court scenarios available, and answering questions about making decisions from the different pop-up options was valuable. 90.9% indicated such an experience with VR would raise their confidence prior to experiencing similar scenarios in real life.

Comparing the active-passive participation scenarios, respondents seem to have a preference for the active scenario given the 9% increase in confidence levels for this latter option.

Scenario 2: Professional legal conversation

Passive observation

All participants would be interested in observing VR professional legal case scenarios of their choice. The scenario could be for example: interview clients before giving them legal advice, negotiate a contract with a client and have a debate on a legal issue. 95.5% believe such a VR experience would raise their confidence prior experiencing similar scenarios in real life. They explained that this exposure to professional legal case scenarios would prepare them to work in the legal field based on familiarity with some scenarios and give them an overview of different law fields, with an opportunity to *"make informed or rather experiential choices"*.

One participant indicated *"It would help me to know what to expect and how to respond. It would help me translate my bookish knowledge of law to a revenue generating skill."*

Active participation

81.8% of respondents indicated choosing a role in the bank of VR professional scenarios and answering questions and making decisions, choosing from different options that pop up, would be of value for their training. 72.7% thought such a VR experience would raise their confidence prior to experiencing similar scenarios in real life.

We observed a decline in the likelihood of professional legal scenarios, compared to the first scenario (observing and/or choosing options in the moot court) to contribute to both raising confidence (18.2% drop) and stress management (16% drop).

A student explained why they are less confident with participating in this virtual scenario *"Actual legal practice would likely require more nuanced answers which a fixed set of responses cannot cover. Although depending on the question put forth, there could be some best logical responses suggested which would not stray too far from what comes to mind for most people logically."*

However, for most of the respondents, this option is still in line with the perceived benefits VR training would give them: “As stated before, it would help me understand what type of legal scenarios to expect and the way to respond to them.”

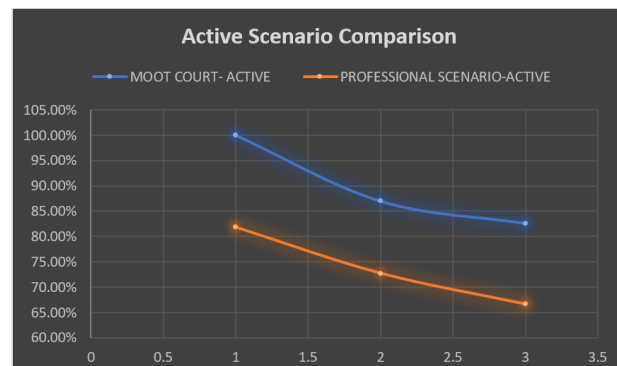
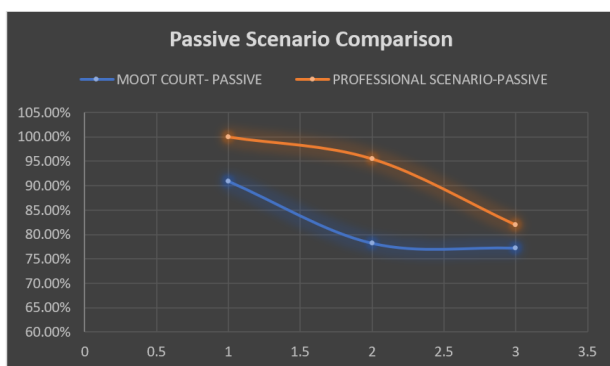
One consistent highlight of VR training is it brings a safe place to train, make mistakes, work on areas of improvement and develop strengths further.

Comparing scenarios: which scenario was best liked and why?

As our survey is based on four different scenarios- moot court and professional legal scenarios with each active and passive versions, scenarios were analysed to check which was the most popular. This analysis revealed the professional legal scenario as more valuable than the moot court scenarios in the respondents’ eyes.

Similarly, the active scenarios were analysed and revealed the moot court as more valuable in this instance.

The figures on the axis correspond to participants answers on questions on: 1. Value of training, 2. Potential to raise confidence, and 3. Preparation for the field.



As a final step, the four scenarios’ values were compared to reveal the most powerful tool. The passive professional scenario emerged as being the best liked, followed by the active moot court scenario.

Employability

In the United Kingdom, employers deplore a disconnect between what students are taught at university and what they expect from them on a daily job.

QMUL is addressing this situation by defining a series of [graduates' attributes](#) that highlight the main skills employees should constantly portray.

Employability can be described as *the possession of certain skills required for a job*. Following discussion with CCLS leaders, the following “soft skills” or “people skills” were identified as key for students in their professional life:

1. communication
2. problem-solving/innovation
3. emotional expression
4. self-awareness

- 81.8% of the survey respondents were very confident or somewhat confident that training with a VR headset could help them develop communication (i.e., effective listening skills, interview skills, argue a case...).
- 81.8% of respondents were very confident or somewhat confident that training with a VR headset could help them develop problem solving/ innovation.
- 68.2 % were very confident or somewhat confident that training with a VR headset could help them develop emotional expression (i.e., recognising their/ other people’s emotions).
- 72.8 % were very confident or somewhat confident that training with a VR headset could help them develop self-awareness (i.e., identify their own strengths and areas for development).

To identify further trends around VR and soft skills training, the difference of answers between those who had taken the first survey (represented as „no trial”) and those who had taken the second survey (represented as „trial”) was analysed.

The figures below indicate the percentage of participants who were „confident” or „very confident” that VR could improve their employability based on selected soft skills.



The positive response rate of those who were part of the virtual reality trial was constantly higher than those who were not. On this basis, the trend supports virtual reality as a catalyst of employability skills in the legal sector.

As the data analysis from the two scenarios indicates, students assume virtual reality training will have a positive impact on their employability. While some remain on the fence given the *“lacking human touch which the legal field has”*, the majority considers it quite likely or very likely that undergoing virtual reality training can *“broaden my perspective, boost confidence, better communication skills”*.

Discussions

The learning experience

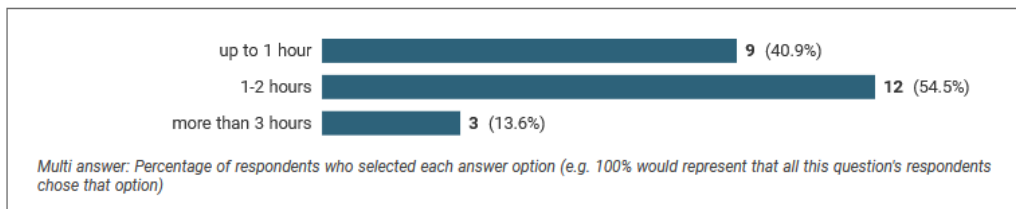
Formats

- 95.2 % of participants would be interested to book VR study slots during which they would borrow some VR headsets and choose the employability skills they want to improve on top of their studies.

Ideally learners would be able to access a library of VR professional scenarios, and self-pace their training.

- Learners would be able to dedicate at least one hour a week for self-paced VR training.

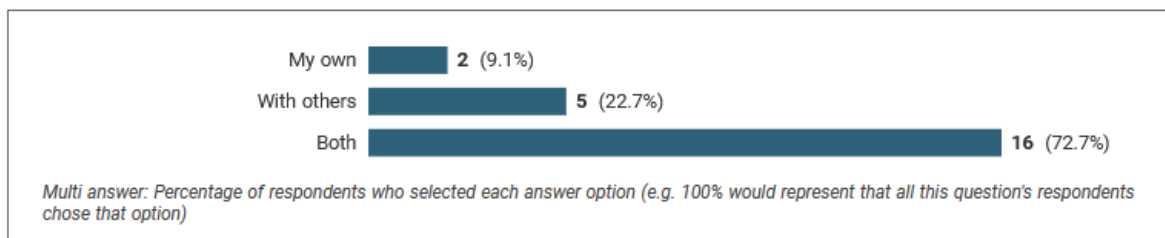
How many hours a week could you put aside to do your own self-paced VR training?



- Learners would like to observe training scenarios before practicing, similarly to what is practiced for Aviation Education in flight simulators. Professor Richard Susskind, a widely cited legal author, when speaking about the Future of Justice at Brick Court Chamber in 2021, pointed out how “immersive VR solutions may facilitate education in the global legal practice market similar to astronauts training for space missions”.

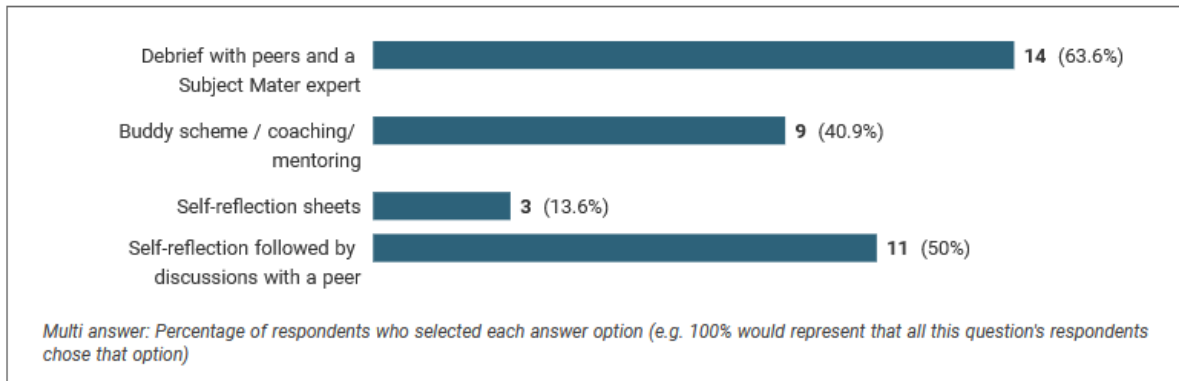
- 72.7% of survey respondents would like to train both on their own and with others when training with VR headset. They indicated their preference would depend on the training situation.

Would you prefer training with VR headset on your own or interacting with other participants in the immersive space?



Pedagogical approaches

- Learners indicated the VR learning experience could be complemented by:
 - o A debrief with peers and a Subject Matter Expert (63.6%)
 - o Self-reflection followed by discussion with a peer (50%)
 - o Participate in a buddy scheme/coaching /mentoring (40.9%)
 - o Individual self-reflection sheets (13.6%)



Learners are manifestly keen to engage in social constructivist pedagogies (i.e., engaging in peer-led reflections). In addition, it is recommended to co-create any VR experience or training programme in consultation and close collaboration with the learners, in line with the ACE education approach.

On top of the collaborative approach to learning, self-reflection is key to acquire soft skills and immersive training platforms like Bodyswaps invite learners to assess their confidence on the skill trained before and after the training. At the end of every module, a dashboard helps to compare any variation at a glance.

Another specificity of the Bodyswaps approach is the possibility to access a personalised learning screen that displays behavioural and semantic analysis with individualised tips. The data collected should generate a reflective process for the learners and based on the surveys, this reflective element could be reinforced by further discussion with a group and/or self-reflection follow-up template to support learning by creating new neuronal pathways.

Summative assessment is generally not embedded in VR immersive training as it could put learners in a situation of stress that would not be compatible with the learning process.

In any case, the principles of evaluation and assessment (if any) in VR, should be decided in agreement with learners and carefully explained before the training.

The learning environment

Practicalities

- A safe learning environment is paramount for learners to embark confidently in a VR training journey. This includes a room free from any tripping hazards, with a clear area around users (2 metres), but also a safe mental space, when learning by mistake is part of the training process.
- Prior to any first experience in VR education, a preliminary training should be offered. It should include a presentation of the software and educational principles of the training along with an explanation of how to use the headset and controllers (see Appendix E, page 24).
- Learners must put the headset on correctly, otherwise it can negatively affect their learning experience (see picture Appendix F, page 25).
- In terms of Health and safety, motion sickness, eye strain and existing health conditions are to be considered.
- Participants should be able to stop the experience at any point.
- Participants should not use the VR headset if they are sick.
- Manufacturers suggest a 10-to-15-minute break for every 30 minutes of VR immersion.
- VR headsets should be cleaned with antibacterial wipes and charged between users.

- Ideally, learners would access an “immersive Library” with VR headset spaces available on a booking system.
- This is, as an example, a reflection of the diversity of VR training and projects that can be offered (on the left hand-side) <https://www.mmu.ac.uk/creativear/projects/moot-court-vr/> (Manchester Metropolitan University).
- Some companies like Bodyswaps offer a mobile and desktop version of the training, where the experience is no longer immersive but can be used as a portable content refresher.

Other considerations for VR training

Prices

- A *Meta Quest 2* VR headset costs £299 + VAT
- Access to an existing bank of scenarios (from companies like Bodyswaps) will cost minimum £3000 + VAT, either for user license or device license (see Appendix G, page 25). It is recommended to opt for user license to offer learners a personalised experience, where they can choose their avatar, track individual progress, access a dashboard and get a completion certificate, which is not possible with a device License.

Existing vs tailored training

- Another option is to develop tailored scenarios that are fully suitable for the learners’ specific realities. This can be done in partnership with a company (in the United Kingdom, a variety of companies offer this service, for example Bodyswaps and Meta Learning etc.) or in-house like Faculty of Dentistry did with a 360-degree camera.
 - o The advantage of creating bespoke VR training is that it can be in line with students’ training needs and realities, but it is costly and time-consuming. One other inconvenience is that there is no available in-house expertise at the moment.
 - o The advantage with working with an external company is to benefit from their experience and delegate the production aspect. However, VR companies often prefer contracts where they become owner or the IP, otherwise the service is more costly (a complex VR training could cost around £100,000.)

The surveys revealed 87% of respondents were interested in new learning technologies, with Virtual Reality, Augmented Reality, Artificial Intelligence and Metaverse being most mentioned. This appetite and a readiness for other immersive environments should not be neglected and should be explored further.

Recommendations

Based on the data collected from both surveys and building on the literature research and best practice from the VR learning field, the following are recommendations that could form the basis for developing an educationally-sound VR experience. These recommendations aim to develop a supportive learning environment to assist learners in their new immersive learning journey and empower them to become owners of their VR training.

All relevant stakeholders have a role to play in the development and delivery of these recommendations.

1. Offer VR training as a complement to existing CCLS curriculum training

Learners see VR as a safe space where they can develop their soft skills further, through learning by doing, as a complement to their studies.

Directors of Programmes and Module leads could map the VR activities into the existing curriculum to define the most suitable time for learners to take a given VR training in soft skills, in parallel to their studies.

Similarly, the Director of Programmes and Module leads should highlight the employability skills learners have the possibility to work on in each VR course, and establish their relevance on the legal job market to help learners understand the relevance and importance of the VR complementary training.

2. Encourage self-paced activities and reflection

Administrative staff and/or Library services should put in place a booking system for learners to autonomously borrow VR headsets and benefit from a quiet and safe space to complete their training.

The staff development unit could be involved in supporting both technical and pedagogical aspects of the learning experience. For example, TELT could develop technical guidance on how to use VR and get familiar with the headset and controllers and QMA could co-create a guide on personalised VR training for learners. The latter would include tools to assess their confidence levels, recommendations to interpret and use their dashboard and performance analysis (if included in the VR training) and guides to reflect on their VR experience after each session, using an action plan template.

3. Embed The VR learning experience in a social-constructivist pedagogical approach

Directors of Education and Directors of Programmes could work with QMA and learners to co-create pedagogical guidance on how to optimally integrate VR in students' training, including:

- Guidance for Debrief sessions with peers and a Subject Matter Expert on soft skills training.
- Guidance and benefits for buddy scheme/coaching /mentoring to build on self-reflection.

School/programme managers could plan the Debrief sessions as well as a system to pair-up students to work in either a coaching or a mentoring scheme.

4. Pilot with existing Library of VR training

CCLS Directors of Education and Directors of Programmes could initiate the VR learning journey by using an existing suitable VR training offered by a company like Bodyswaps.

This will give them the advantage of measuring the impact of VR training on their learners, before contemplating next steps (for example, production of tailored VR training).

CCLS would need to invest in Headsets (four Meta Quest 2 VR headsets at £299 + VAT each) and individual learner Licenses to allow personalised feedback and access to bespoke dashboard (cost in excess of £3000 + VAT for 100 Licenses).

Limitations and conclusion

The findings of this study underscore the keen interest and readiness among CCLS students to embrace VR as a complementary tool for enhancing their learning experiences. A significant proportion of participants expressed their belief that VR could significantly contribute to their employability by refining critical soft skills such as communication, problem-solving, emotional intelligence, and self-awareness. This positive sentiment was further amplified among those who actively participated in the VR trial, which attests to the tangible impact of experiential learning through VR.

It is important to bear in mind, though, that these study results are limited by the small size of the samples.

As highlighted by one student “although not substituting the real-life experience, VR is at least providing a window for a glimpse of it for students who have absolutely no clue what to expect”.

As much as VR “has challenged the conceptual definition of what constitutes a learning environment” (Hamilton, 2021), it remains a technological tool that can enhance the Learning Environment and boost Student Employability, but it is not pretending to be a perfect replica of the reality.

Students engaging in VR training should be happy with a new kind of learning agreement that contains immersive experience in a virtual world, personal reflection, and self-commitment to reach personalised learning goals.

As technology continues to evolve, this research offers a steppingstone toward a more immersive and effective approach to training and learning within the legal field and beyond.

We are delighted that q Legal, School of Finance, School of Engineering and colleagues working on Graduate Attributes at Queen Mary Academy have already referred to this survey to build a business case, organise further VR trials and discuss the pedagogic approaches that would support students to make the most of their VR experience.

This LIP-VR project has highlighted the perceived efficacy of VR and raised its attractiveness amongst students and staff.

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Appendices

Appendix A- Student Survey questions without VR trial

1. Technology Enhanced Learning and you

- Have you tried a Virtual Reality (VR) headset before?

Yes/ no

If yes, was it for:

-recreational purposes (e.g., gaming)

- educational purposes (for training, learning with serious games etc...)

(participants can chose both options)

- In general, I am interested in new technologies for learning.

- Yes No

If yes: Which new technology or device are you particularly interested in?

- In general, I quickly adapt to new devices / platforms. Y N

- I feel confident in integrating technologies into my learning. (scale strongly agree to strongly disagree)

- Please detail:

- I think my training at Queen Mary could be enhanced with technological solutions. (scale strongly agree to strongly disagree)

-Do you have any example?

2. Virtual Reality Scenarios

2.1 Background information:

VR headsets can be used to train learners by immersing them in virtual environments, to simulate a setting or scenario, like a moot court, or a meeting with clients.

Ideally, each scenario lasts up to 15 minutes.

2.2 Scenario 1: moot court

a. Observing

Imagine you put on a VR headset and can choose which pre-recorded moot court you would like to observe. The actual courtroom is recreated in highly detailed virtual reality to allow you to walk around the room and look from every angle. The audio is also designed to emulate a real-world court room setting, making the experience as realistic as possible.

Questions:

- Would such an experience be a value to your training? Yes/No

-Why?

- How likely would such a VR experience raise your confidence prior experiencing similar scenarios in real life? Likert scale (Very likely to very unlikely)

- How likely would such a VR experience prepare you work in the legal field? Likert scale

Why?

b. Participating

Now imagine you can choose a role in one of the banks of moot court scenarios available for training in the virtual environment. At key stages, you will be asked to answer questions and make decisions, choosing from different options that pop up. Your answer will determine next steps and how successful you are in this scenario.

Questions:

- Would such an experience be a value to your training? Yes/No
Why?
- How likely would such a VR experience raise your confidence prior experiencing similar scenarios in real life? Likert scale (Very likely to very unlikely)
- How likely would such a VR experience help you manage your stress levels prior to similar work experience? Likert scale

2.3 Scenario 2: bank of professional situation scenarios

a. Observing:

- Imagine you put on a VR headset and can choose which professional legal case scenarios you would like to observe. The scenario can be for example: interview clients before giving them legal advice, negotiate a contract with a client and have a debate on a legal issue.

The environment is recreated in highly detailed virtual reality to allow you to walk around the room and look from every angle. The audio is also designed to emulate a real-world professional environment, making the experience as realistic as possible.

Questions:

- Would such an experience be a value to your training? Yes/No
-Why?
- How likely would such a VR experience raise your confidence prior experiencing similar scenarios in real life? Likert scale (Very likely to very unlikely)
- How likely would such a VR experience help you manage your stress levels prior to similar work experience? Likert scale
- How likely would such a VR experience prepare you work in the legal field? Likert scale
Why?

b. Participating

Now imagine you can choose a role in the bank of professional scenarios available for training in the virtual environment. At key stages, you will be asked to answer questions and make decisions, choosing from different options that pop up. Your answer will determine next steps, and how successful you are in this professional scenario.

Questions:

- Would such an experience be a value to your training? Yes/No
Why?
- How likely would such a VR experience raise your confidence prior experiencing similar scenarios in real life? Likert scale (Very likely to very unlikely)
- How likely would such a VR experience help you manage your stress levels prior to similar work experience? Likert scale
- How likely would such a VR experience prepare you work in the legal field? Likert scale
Why?

2.4 VR training suite/ approach

VR training is often complemented by discussions and activities, following the session with the headset. It allows students to talk about their experience and share their learning.

- Which formats do you think could complement a VR experience well? (Choose as many as relevant)
- Debrief with peers and a Subject Mater expert
- Buddy scheme / coaching/ mentoring
- Self-reflection sheets
- Self-reflection followed by discussions with a peer

Are they any other formats that would complement VR training well? Free text box

2.5 Student-paced training

I generally prefer working on my own, True/False Why? Free text box

In some Queen Mary schools/ institutions, VR headsets are available for students to complement their study. Students can choose the scenario or skills they want to train on. They can book a slot to train on VR, as many times as they want/need.

- Would you be interested in such an offer in your school/ institution? Y/N
- How many hours a week could you put aside to do your own self-paced VR training? Choose Up to 1 hour - 1 to 2 hours- more than 3 hours
- Would you prefer training with VR headset on your own or interacting with other participants in the immersive space? Chose on my own, with others, both
- Are there any other technologies you would find useful to be trained with?

3. Employability:

How confident do you feel tailored training with a VR headset could help you develop top employability skills, such as:

(scale very confident to no confident)

- Communication (i.e., effective listening skills, interview skills, argue a case...)
- Problem solving/ innovation (i.e., solve problems)
- Emotional expression (i.e., recognising your/ other people's emotions)
- Self-awareness (i.e., identify your own strengths and areas for development)
- In general, do you think you would benefit and develop more confidence towards achieving your career goals from getting tailored VR training? Y/ N – Why?
- Do you think a tailored VR learning experience could help you to manage your stress levels better?
- How likely would a tailored VR experiences prepare you work in the legal field? Likert scale
- Why?

End of Survey 1

Appendix B- Student Survey questions after VR trial

1. About yourself

- What is your age?
 - 18-30 years
 - 31+ years.

1.1 Technology Enhanced Learning and you

- Had you tried a Virtual Reality (VR) headset before this experience at Queen Mary?

Yes/ no

If yes, was it for:

- recreational purposes (e.g., gaming)
- educational purposes (for training, learning with serious games etc...)

2. Situation

You have now tried a VR headset on.

- How was your experience overall? (very good to very bad)
- Did you experience any discomfort whilst wearing the VR headset (dizziness, motion sickness, eye strain, headache)? Y/N If yes, please describe

3. Future use of VR

Imagine you can use VR headset to work on relevant scenarios for your legal career, chose a role and answer questions and make decisions, choosing from different options that pop up.

Questions:

- How likely would such a relevant VR experience raise your confidence prior experiencing similar scenarios in real life? Likert scale (Very likely to very unlikely)
- How likely would such a relevant VR experience help you manage your stress levels prior to similar work experience? Likert scale
- How likely would such a relevant VR experience prepare you work in the legal field? Likert scale
Why?
- Would such an experience be a value to your training? Yes/No

Why?

- I feel there could be barriers for me to integrate VR training into my learning. (scale strongly agree to strongly disagree)
- Please detail:

3.1 VR training suite/ approach

VR training is often complemented by discussions and activities, following the session with the headset. It allows students to talk about their experience and share their learning.

- Which formats do you think could complement a VR experience well? (Choose as many as relevant)
- Debrief with peers and a Subject Mater expert
- Buddy scheme / coaching/ mentoring
- Self-reflection sheets
- Self-reflection followed by discussions with a peer

Are there any other formats that would complement VR training well? Free text box

I generally prefer working on my own, True/False Why? Free text box

3.2 Student-paced training

In some Queen Mary schools/ institutions, VR headsets are available for students to complement their study. Students can choose the scenario or skills they want to train on. They can book a slot to train on VR, as many times as they want/need.

- Would you be interested in such an offer in your school/ institution? Y/N Why?
- How many hours a week could you put aside to do your own self-paced VR training? Choose Up to 1 hour - 1 to 2 hours- more than 3 hours
- Would you prefer training with VR headset on your own or interacting with other participants in the immersive space? Chose on my own, with others, both
- Are there any other technologies you would find useful to be trained with?
- Some Immersive virtual worlds look they are here to stay. Do you think learning in those Immersive virtual worlds (like Metaverse or Twitch) could help you understand this kind of emerging technologies better and be useful for your future professional life ? Y/N Please describe

4. Employability:

Referring to [Queen Mary Graduates attributes for students](#), how confident do you feel training with a VR headset could help you develop top employability skills, such as:
(scale very confident to no confident)

- Communication (i.e., effective listening skills, argue a case...)
- Problem solving/ innovation (i.e., solve problems)
- Emotional expression (i.e., recognising your/ other people's emotions)
- Self-awareness (i.e., identify your own strengths and areas for development)
- Do you think a tailored VR learning experience could help you to manage your stress levels better?
- Do you think a tailored VR learning experience could prepare you better for the job market? Y/ N – Why?
- Do you think a VR learning experience could help you see your future job environment from other perspective? Yes / no
Please describe (advantages or disadvantages)
- Do you think you would benefit and develop more confidence towards achieving your career goals from getting tailored VR training? Y/ N – Why?
- I think my training at Queen Mary could be enhanced with technological solutions. (scale strongly agree to strongly disagree)
-Do you have any example?

End of survey 2.

Appendix C- Pictures of VR trial



Appendix D- Sample of in-house training package

Bodyswaps VR training

- This is a VR training on clear workplace communication.
- The scenario reproduces a challenging professional situation.
- You will rate your confidence levels in engaging in difficult conversations (before and after the training).
- You will observe a difficult conversation between colleagues, noticing the dos and don'ts of communicating with impact.



How Bodyswaps[®] works

The unique **Bodyswaps[®]** learning format is based on the latest research and best practice in the fields of both adult learning and embodied virtual reality for behavioral change. It combines evidence-based principles and ethical design practices, all the while taking full advantage of the immersive medium.

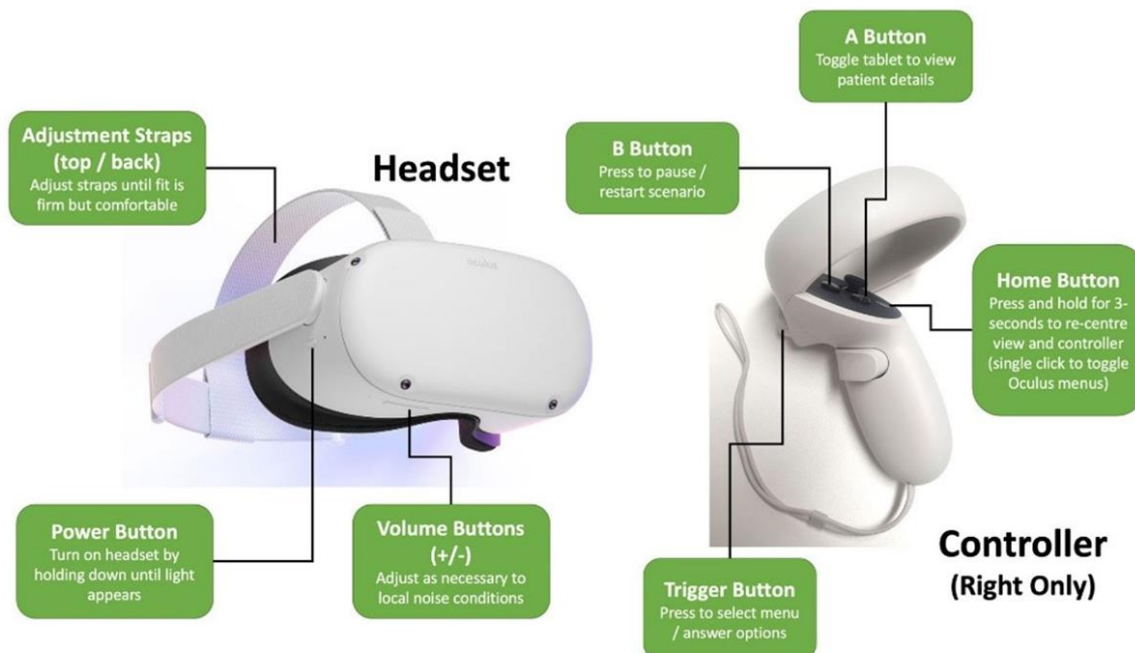


Appendix E- Headsets and controllers

The Oculus Quest 2 headset

A few functions :

- “enter”: press A button with thumb
- Use finger to “poke” (sometimes this requires a long stretch)
- Use right index of controller to “select”
- Pay attention to the end of section: there will be a white display appearing



Appendix F- Correct headset position



Secure headset comfortably: you can adjust this from the back



Appendix G- Costs and License for Bodyswpas

This is an exclusive offer for June-July 2023.

1. **User Licence**
 - 100 Learners
 - 12 Months
 - Full Access to the Library
 - VR, PC & Mobile

Total Investment: £3,000 +VAT

2. **Device Licence**
 - Unlimited Learners
 - 12 Months
 - Full Access to the Library
 - 1 x Device

Total Investment: £3,000 +VAT

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