Towards a framework for the implementation of virtual reality in legal education and training

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Introduction

Legal education
Law students need holistic education: legal knowledge, practical skills, ethical awareness *(Sullivan et al., 2007)*

Simulation
An effective tool to teach practical skills *(Newbery-Jones, 2015)*

But limited!

Virtual reality
Increasingly being used in education to facilitate simulation (Kavanagh et al., 2017)

Need to investigate the potential of using VR in legal simulation!

Literature Review

Legal Education

Simulation -> Practical + Experiential *(Philips, 2012)*

Limitations

Lack of realism

Lack of engagement

(Waters, 2016)

Technology -> Can enhance engagement + motivation -> Enhanced learning *(Maharg and Nicol, 2014)*

Virtual Reality Education

Used widely -> healthcare, engineering, soft skills training *(Kavanagh et al., 2017)*

Benefits

Enhanced engagement + immersion

Contextualised learning

Repeated practice in safe environment

(Etienne et al., 2023; Kavanagh et al., 2017; Scheveneels, 2019)

Research on VR in legal education is scarce *(Cho et al., 2021; Thanaraj, 2016)*

General Thoughts…

1. What matters when implementing/measuring VR as a learning tool?
2. Is VR effective in improving practical legal skills?
3. [redacted]

Research questions (academic)

How does VR technology impact simulated learning in legal education?

How suitable is VR technology for facilitating simulated learning in legal education?

What is the role of immersion and emotion in VR legal education?

Environment Design Considerations

Visual fidelity

Impacts transferability of skills + task performance (Ragan et al., 2015; Allen et al., 1986)

→ Use of photo-realistic avatars

→ Environment modelled on real mock court room

Learning objectives

Technology must be tailored to learning (Newbery-Jones, 2015)

→ Facilitation of reflection (Casey, 2015)

→ Take notes into environment

Methodology

To answer "what matters when implementing/measuring VR as a learning tool"...

- Comparative case studies between two universities (UK and Belgium)
  → Provides refined insight into phenomena as they can provide within-case analyses as well as cross-case analyses (Eisenhardt, 1989; Yin, 1984)
  → Students have different expectations / learning methods
  → Universities have different teaching systems / curricula

- Semi-structured interviews conducted with 9 and 14 participants respectively (Glaser and Strauss, 1967)
  → Not really a quantification of learning outcomes, but more of an explanation

Case Study 1 (UK)

Themes	Sub-themes	Quotes
Learning	Knowledge and skills acquisition	*"it would help to build those mooting and presentation skills"* *"it gives you a backbone on what you already know"* *"putting what you know into practice"* *"solidify the knowledge that you've learnt in your degree"* *"catalyse my confidence"*
	Learning context	*"famliarise yourself with how a courtroom may be laid out"* *"what it feels like to be a lawyer"* *"regular mooting is more spontaneous and virtual mooting is more planned and straightforward"* *"the ability to cut you off whilst you're talking"* *"give students the opportunity to see what other career options they might have"* *"by itself, it would not be as effective"*
	Reflection	*"practice makes perfect"* *"makes you more aware of your body language… not just verbally but physically too"* *"allows for critical element of improvement"*
	Feedback	*"things [that] might be missed online, contrastingly might be noticed in virtual reality"* *"feedback, I think that would help… that is catered to you specifically"*
	Learning method	*"new thing for me.. Very engaging… take a different approach"* *"switch off from the distractions and just focus on what matters"* *"would be really helpful to just practice in my own time"* *"actually experience it for myself rather than just listening"* *"easier to bring people together"* *"safe environment. You can make a mistake without consequence"* *"haven't had the opportunity to use [a real courtroom]"*

Themes	Sub-themes	Quotes
Immersion	Realism	*"the breathing was quite forced"* *"in the back of your mind, you know they aren't real"* *"doesn't look like an English and Welsh court.. Similar to the International Criminal Court"* *"there is an etiquette… a way to talk and present yourself in court"*
	Sense of presence	*"being able to put yourself into that mind space to optimise my learning… from anywhere"* *"actually looked at you and followed you"* *"felt like I was a real person in this virtual reality"*
	Enjoyment/Engagement	*"helps me retain the information"* *"I would love to keep doing it and to have another go"*
Technology	Usability	*"adding a detailed introduction at the start [would help]"* *"it was quite difficult to read [the notes]"* *"made me feel a little sick"*
	Accessibility	*"viable option for people who have struggled getting into court rooms"* *"[mooting] requires a lot of time and resources… [using VR], people are more inclined to squeeze things in"*
	Functionality	*"can be abused in competitions"* *"the notes were good… very similar to reality"*

Case Study 2 (Belgium)

Themes	Sub-themes	Quotes
Learning	Knowledge and skills acquisition	*"if someone is afraid… it would be good to use virtual reality so that person has a preview"* *"good to learn to speak"*
	Learning context	*"allows you to understand the real thing"* *"you could see that they reacted, they weren't robotic people who were static"*
	Reflection	*"allows you to see your mistakes"* *"nice to see it, otherwise I wouldn't have noticed"* *"good way to practice"*
	Feedback	*"not rated… less stressful"* *"good to have a neutral point of view, thanks to virtual reality"*
	Learning method	*"I could be sure of good preparation"* *"at the university, we never had a mock trial"* *"with everything that is currently distance learning, we can perhaps improve them with virtual reality"* *"to prepare in a more… real context"* *"it would have been an advantage to be able to rehearse with the person"* *"it is not completely adequate… you're not going to evaluate something based on an environment that isn't adequate for reality"* *"I think that there are things that I wouldn't do on the d-day"*

Themes	Sub-themes	Quotes
Immersion	Realism	"*we capture his attention with his head nodding… I have the impression that he is shaking his head and passing judgement*" "*the people I was facing didn't move much*" "*you could see that they reacted, they weren't robotic people who were static*" "*virtual reality really places us in the same conditions, since they are dressed as such*"
	Sense of presence	"*in my living room, it really makes for a real environment*" "*not real people and therefore the pressure won't be the same*"
	Enjoyment/Engagement	"*it generates an interest and curiosity in everyone… may be inclined to return*"
Technology	Usability	"*I didn't know how to take the notes*" "*physically, it's a bit annoying, it's the headset*"
	Accessibility	"*[I could] have that at home… I would have all day to train*"
	Functionality	"*the number of characters [in the notes].. I think there are strong improvements to be made*"

Cross-Case Analysis

Knowledge and skills / Learning context

UK
"adding a detailed introduction at the start [would help]"
"putting what you know into practice" *"solidify the knowledge that you've learnt in your degree"* *"it would help to build those mooting and presentation skills"* *"things [that] might be missed online, contrastingly might be noticed in virtual reality"* *"feedback, I think that would help… that is catered to you specifically"*

Belgium
"it is not completely adequate… you're not going to evaluate something based on an environment that isn't adequate for reality" *"I think that there are things that I wouldn't do on the d-day"*
"not rated… less stressful"

Main finding

Much more emphasis for UK than Belgium study

Why?

UK → practicing advocacy + competitions

Belgium → assessment

Feedback

UK	
Reflection	*"practice makes perfect"* *"makes you more aware of your body language… not just verbally but physically too"* *"allows for critical element of improvement"*
Feedback	*"things [that] might be missed online, contrastingly might be noticed in virtual reality"* *"feedback, I think that would help… that is catered to you specifically"*

Belgium	
Reflection	*"allows you to see your mistakes"* *"nice to see it, otherwise I wouldn't have noticed"* *"good way to practice"*
Feedback	*"not rated… less stressful"* *"good to have a neutral point of view, thanks to virtual reality"*

Main finding

UK → opportunities for tutor feedback

Belgium → self-criticism and individual learning

Why?

UK → practice for improvement and competition

Belgium → assessment

VR as a learning method

UK	Belgium
"there is an etiquette… a way to talk and present yourself in court" *"being able to put yourself into that mind space to optimise my learning… from anywhere"* *"fun… helps me retain the information"*	*"we capture his attention with his head nodding… I have the impression that he is shaking his head and passing judgement"* *"the people I was facing didn't move much"* *"you could see that they reacted, they weren't robotic people who were static"* *"virtual reality really places us in the same conditions, since they are dressed as such"*
"what it feels like to be a lawyer" *"give students the opportunity to see what other career options they might have"* *"switch off from the distractions and just focus on what matters"*	*"in my living room, it really makes for a real environment"* *"not real people and therefore the pressure won't be the same"*

Main finding

UK → focused on learning impact

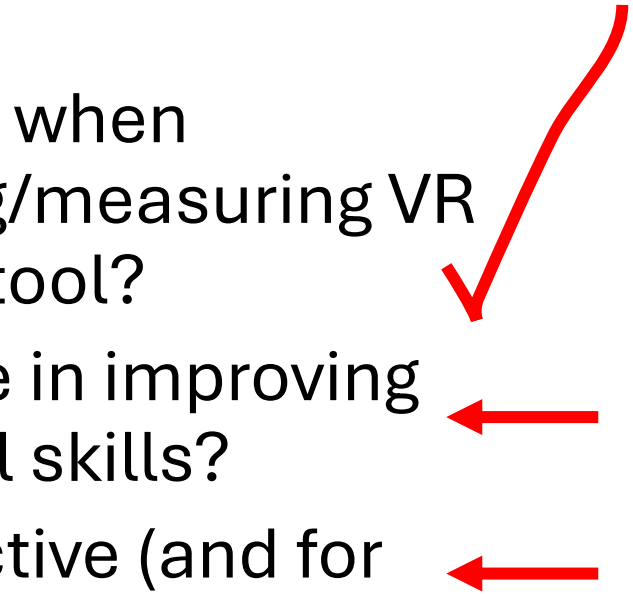
Belgium → focused on suitability of technology

So… why does this matter?

Some closing thoughts…

Similarities	Differences
Realism	Knowledge and skills acquisition
Sense of presence	Learning context
Enjoyment/Engagement	Feedback / Reflection
Usability	VR as a learning method
Accessibility	
Functionality	

1. What matters when implementing/measuring VR as a learning tool?
2. Is VR effective in improving practical legal skills?
3. Why is it effective (and for whom)?



Thank you!

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