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Stepping into the Future: Virtual Reality Training for Community Interpreters Working in the Area of Family Violence

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ABSTRACT

Since the beginning of 2020, the COVID-19 pandemic has forced universities around the world to engage quickly and efficiently with online teaching platforms. Yet even before the pandemic hit, many programmes had been addressing challenges related to globalisation and technologisation within the teaching and learning context by moving to online or blended teaching and learning modes. In both the immediate pre- and post-pandemic context, movement towards the use of innovative technologies such as virtual reality (VR) to enhance the student experience have occurred in disciplines that heavily rely on practice-based learning (such as the health sciences and psychology). This paper describes an innovative approach to community interpreter training, which is in high demand in Australia. The VR project under examination here aims to provide evidence-based, pedagogically-sound, authentic, situated learning scenarios in a safe, virtual environment so that students are better prepared to deal with the complexities of the role of an interpreter in family violence (FV) settings. Using the VR platform, trainees will be given the opportunity to engage in simulated interpreting tasks working with victims of FV, social workers, police and other field-specific protagonists. In this article, we outline the methodology applied to the provision of interpreter training in this specific VR context. This methodology will serve as a blueprint for other institutions — particularly those offering specialised interpreter training — looking to minimise the threat to face-to-face contexts introduced by the pandemic, but also eager to expand into more experiential teaching offerings that reach beyond traditional modes used for interpreter training.

KEYWORDS

T&I training, virtual reality, family violence, community interpreting, public service interpreting.

1. Introduction

The ongoing COVID-19 pandemic has forced universities around the world to engage rapidly and efficiently with a variety of online teaching platforms. Yet even before the pandemic hit, tertiary institutions were beginning to address challenges related to globalisation (an increase in international students, for example) and technologisation (such as improvements in Learning Management Systems and more capacity to teach and learn remotely) within the teaching and learning context. The Master in Interpreting and Translation Studies (MITS) at Monash University, Melbourne, Australia responded directly to such needs (Gerber *et al.* 2020; Orlando and Gerber 2020), incorporating a 'blended' (online and face-to-face) approach to the delivery of teaching content as early as 2016. In a recent study into the adoption of blended learning in the Translation & Interpreting (T&I) programme at Monash University, it was found that an approach to course design which implemented an appropriate balance of theory and practice, academic research and experiential learning, applying

a blended set of online pre-class content combined with face-to-face workshops, was successful in achieving student-centred, active learning outcomes (Gerber *et al.* 2020).

While it has been well-acknowledged that the use of particular technologies in the teaching and learning environment results in improved learning outcomes (Beynon 2007; Kozma 2001), some scholars argue that it is not the technology itself, but the way in which activities are designed and students engage, that create the best outcomes (Kozma 2001). The overwhelming success behind sequential structuring of different learning activities, evidenced through pre/in/post-class learning activities (e.g., watching a video, doing an activity, reading chap then thinking about these in the discussion afterwards then thinking about the discussion afterwards), is well researched (Laurillard 2012; Gleadow *et al*. 2015). This approach enables students to be more productive in classes, applying their knowledge to practical scenarios and practicing higher-order skills in critical and analytical thinking during group discussions (Gerber *et al.* 2020). Indeed, like many other T&I programmes offered across the world, the MITS teaches the acquisition of skills that can be used across many different settings, e.g., translation in various domains (health, legal, business, scientific, as well as learning how to use CAT tools, operating in digital environments and project management). Students from the MITS studying interpreting acquire high-level proficiency in the skills of dialogue interpreting, consecutive (speech) interpreting, sight translation and simultaneous interpreting.

The focus of this paper is on innovative approaches to community interpreter training, which is in high demand in Australia. Within the community context, graduate interpreters predominantly work in a range of specialised contexts including health, social welfare, law and education (Tobias *et al*. 2020: 15). However, one of the biggest challenges faced by interpreter training programmes is giving students access to high-quality, realistic 'situated learning' (Lave and Wenger 1991) activities, which enable the acquisition of skills relevant to professional practice. Until March 2020, situated learning in the MITS operated solely in face-to-face mode, whereby students and instructors took on roles of hospital patients, medical professionals, legal clients and lawyers, conference delegates, interpreters and so on in a 'live' classroom environment. Situated learning activities also took place in collaboration with other university faculties such as medicine, law and social work, where interpreting students worked inter-professionally with students from other disciplines in comparable simulated environments. However, in response to the COVID-19 outbreak, Australia's international borders have been closed to international students throughout 2020 and 2021, drastically limiting student mobility and work-related learning opportunities around the globe. In Australia, therefore, the mode of training has shifted to either online-only (in 2020) or, in 2021, to providing students with the option of either 'flexible' (on-line) or 'on-campus' study mode. Interestingly, approx. 70% of students (both

domestic and international) commencing the MITS in 2021 opted for the 'flexible' option in 2021. Many training institutions may, given the on-going restrictions to global mobility and the greater flexibility and reach of courses (i.e. to interstate domestic students, or those who cannot commute to a major capital city, where all Australian universities offering T&I training are located) provided by the 'working-from-home' model, continue to rely solely or predominantly on online delivery in the near future. However, it is clear that universities will also take the opportunity presented by the pandemic to embrace the online environment more holistically, inviting more innovative, scalable opportunities for training in the future. While digital platforms have been pushed for several years as a way of moving towards a more student-centred learning model, as outlined by the Vice Chancellor of Monash as early as 2016, they were not fully embraced until 2020:

> The future is clear […] Education will become more flexible, more formative, more personalised. The 'flipped classroom' is on its way to being more common than the large first year lecture. It uses online content to reduce lecture time, allows more group interaction, building problem solving skills. The online platform for holding content and assessment allows for more formative assessment and more ability to interact on the areas that are most important to improve student motivation and learning. In other words, digital disruption and harnessing its possibilities is vital to providing much better teaching and learning in universities in this time of globalization and massification, for here is the promise of better education for our students (Gardner 2016).

In 2018, the Monash T&I programme received funding from VITS LanguageLoop, a Melbourne-based Language Service Provider, to develop authentic, interactive learning activities for interpreters in dealing with work-based challenges using Virtual Reality (VR) technologies. The project aims to provide evidence-based, pedagogically-sound, authentic, situated learning scenarios in a safe, virtual environment so that students are better prepared to deal with the complexities of the role of an interpreter in family violence (FV) settings. Using the VR platform, trainees are given the opportunity to engage in simulated interpreting tasks working with victims of FV, social workers, police and other field-specific protagonists. In this article, we explain the approach taken in this project for the provision of interpreter training in this specific VR context. As the project is still in development, it is not yet possible to share the outcomes of the training experience. We aim to present a roadmap for the consideration and implementation of VR technologies in an interpreter training programme — a skill that has traditionally been taught face-to-face. More crucially, we aim to provide a methodology that can serve as a blueprint for other institutions — particularly those offering specialised interpreter training — looking to minimise the threat to face-to-face contexts introduced by the pandemic, but also eager to expand into more experiential teaching offerings that reach beyond traditional mode used for interpreter training.

2. Culturally and linguistically diverse (CALD) communities, FV in Australia and interpreter training: Key issues

In our first foray into VR training, the research team and funding body decided to focus on one domain: interpreting in FV scenarios. Currently in Australia, FV is a major area of policy development affecting culturally and linguistically diverse (CALD) groups at both state and federal level, and is a field with which interpreters increasingly engage. At the national level, the Family Violence Act came into effect in June 2012, changing existing legislation to specify and broaden the definition of family violence (Attorney General's Dept, 2021). In the previous year, both national and state/territory governments endorsed the *National Plan to Reduce Violence against Women and their Children 2010-2021* which represented a major policy and resource investment in services to tackle family violence through four three-year action plans (DSS 2019). In Victoria, the 2016 Royal Commission into FV initiated a series of recommendations connected to interpreting services including protocols for service providers on when to use professional interpreting services, recommendations on having separate interpreters for the victim and perpetrator of FV, and the need for further targeted, specialist training for interpreters (State of Victoria 2016). In terms of interpreter engagement with FV and the demand for specialist training in this domain, a survey of 2,530 Australia-based interpreters shows that 18% had undertaken professional development in the area of family violence in the two-year period December 2017 to December 2019 (Tobias *et al*. 2020: 17), mostly via face-to-face training. Interpreters working with people who have experienced FV engage with a variety of settings/services, including emergency services attending a domestic situation; police officers interviewing alleged victims and alleged perpetrators; social workers providing support in regard to housing and welfare; healthcare workers attending to physical injuries; psychologists providing counselling and therapy; legal professionals advising victims and perpetrators; judicial officers and other court officials hearing applications for intervention orders or criminal charges laid. After conducting in-depth industry consultations in the initial stage of the project (detailed below in methodology), we focused on four areas: healthcare, law, policing and social work in this project.

FV ranks as the most prevalent form of violence in Australia, and is present across all socio-economic groups and cultures (Australian Institute of Health and Welfare 2019). Evidence also indicates that women experience FV at far greater rates than men. It has been noted that Australian women of all ethnicities are most likely to experience violence at home, while men are more likely to be the victims of violence in public spaces (Australian Bureau of Statistics 2017a). One in six women of all ethnicities in Australia have experienced physical or sexual violence by a current or former intimate partner since the age of 15, and one in four women have experienced emotional abuse by a current or previous partner since the age of 15 (Australian Bureau of Statistics 2017a). FV poses particularly wide social

and economic challenges to the Australian community, not simply on the individual or family level. Price Waterhouse Cooper (2015) estimates that the total health, administration and social welfare costs related to FV amount to approximately 21.7 billion Australian dollars every year, although it is not clear whether this data also includes the indirect social and economic costs of FV. Due to the restrictions on movement imposed on the population during the COVID-19 pandemic, the Australian federal government announced 150 million Australian dollars would be provided to support Australians experiencing domestic, family and sexual violence; these funds were utilised in order to improve and tailor services to the unique challenges of the pandemic, including telehealth services and multi-language services (Prime Minister of Australia 2020).

FV is an issue that is heightened for victims from the CALD communities (DSS, 2019: 29), who are particularly at-risk due to additional barriers that they face (Parliament of Australia 2015; Victorian Royal Commission into FV, 2016), including limitations of language and/or lack of access to culturally appropriate services, social isolation, visa status and socio-economic status (Ghafournia 2011; Ghafournia and Easteal 2018; Poljski 2011; Segrave 2017). While it is acknowledged that not all people in CALD communities face these barriers when reporting FV to the police or accessing services, many do experience such barriers which in turn affect their ability to fully access appropriate support services. As previously noted, in recent years there has been increasing interest in reaching and supporting victims of FV in CALD communities. However, the existing literature indicates that FV service providers are often ill-equipped to appropriately assist people with CALD backgrounds, which is due to lack of suitable training and resources (Vaughan *et al*. 2019; Vaughan *et al*. 2020; Victorian Multicultural Commissions 2015). This issue is particularly visible in the Australian context, as Australia has one of the world's most culturally diverse societies: 49% of Australians were either born overseas or have at least one parent who was born overseas (Australian Bureau of Statistics 2017b).

Studies that examine the work of interpreters in the FV domain are limited, but tend to focus on one of the key areas identified above (healthcare, law, policing and social work). From the respective fields of social work and law, there have been a number of studies that identify specific features of interactions involving the victims of FV that are interpreter-mediated (e.g., Nakajima 2005; Lemon 2013), while some early papers on interpreting practice mention FV in passing, for example Thomas (2003) and Angelelli (2004). When looking back over the last fifteen years, we can see that there have been only a small number of studies that have examined FV interpreting from an Interpreting Studies perspective as a specific area of interpreting practice, e.g., Allimant *et al*. (2006) and Tipton (2017; 2018). Moreover, it is also clear that providers of key services (such as judicial, medical, counselling) are often ill-equipped to appropriately assist people with CALD backgrounds, due mainly to a lack of suitable training and

resources (Vaughan *et al*. 2019; Vaughan *et al*. 2020; Victorian Multicultural Commission 2015). The VR training module could therefore also extend to these providers, as a secondary audience.

In general, it has been the variety of settings that FV interpreting intersects with that has hindered its emergence as a recognisable and distinct area of interpreting practice. Attention has been given to FV interpreting, perhaps primarily, due to government initiatives that foreground FV as an area of public policy, and to research-based initiatives. An example of public policy is the Royal Commission into FV in Victoria, from which recommendations were made in relation to interpreting services including protocols for service providers on when to use professional interpreting services, recommendations on having separate interpreters for the victim and perpetrator of FV, and the need for further targeted, specialist training for interpreters (State of Victoria 2016). In a congruent area, that of social welfare, the federal Department of Social Services issued general guidelines for interpreters which reiterate ethical standards, interactional and role-based features of FV settings and recommendations to ensure the interpreter's safety (DSS 2016). These are guideline documents for the users of interpreting services in FV settings, but thus far, only one large-scale research project has foregrounded the need for *interpreters* to be the target group of training initiatives.

This international, research-based initiative was the 'Speak Out for Support' (SOS-VICS) project (2012-2014), co-funded by the European Commission's Directorate-General of Justice and nine Spanish universities. This project researched the situation of gender violence victims requiring interpreters with the aim of supporting the development of training resources for interpreters (Del Pozo Triviño *et al.* 2014a). Twenty-seven interpreters who regularly work in FV settings (67% with > 5 years' experience) identify areas which they see as characteristic of, and key to, the skill sets and/or areas of content knowledge that interpreters should acquire or possess to work in FV settings. These include the following: high-level interpretation skills, understanding of psychological and emotional dynamics, police and emergency services, relevant laws and legal processes, anti-discrimination measures focusing on gender, knowledge of existing social welfare support structures, knowledge of relevant cultural and intercultural competence (Del Pozo Triviño *et al*. 2014a: 11-16; Del Pozo Triviño *et al*. 2014b). These skills and thematic areas are outlined in greater detail in the Outcomes section below.

The findings from the SOS-VICS project inform our approach to the development of VR resources targeted at the training of interpreters to work in FV settings. In general, FV interpreting has recently developed as a fully-fledged area of pedagogy and research within Interpreting Studies (e.g., Valero-Garcés (2015), Norma and Garcia-Caro (2016), Del Pozo Triviño (2017), Del Pozo Triviño and Toledano-Buendía (2017)) and which also now includes studies on interpreting with male perpetrators of FV (e.g., Oda and

Joyette (2003), Määttä (2014) and Hlavac (2018). However, challenges still remain in the provision of interpreting services for victims of FV and in how service-providers and service-users work with them. The need for training in certain areas was confirmed in a more recent study that contains responses from service providers on their reported experiences with interpreters and their perceptions of interpreters' skills sets and content knowledge specific to FV settings (Women's Safety NSW 2020). The responses recorded in that study indicate that substantial numbers of service providers express concern at the following: level of informedness of interpreters in relation to FV as a specific social, health, legal and welfare area; level of intercultural competence in working with clients of different backgrounds (i.e. CALD and non-CALD); awareness of ethical issues due to a pre-existing relationship or familiarity; awareness of primary and secondary trauma as well as safe-guarding and self-care practices to protect themselves and others (Women's Safety NSW 2020: 9, 10, 15).

Our literature review thus identified a clear need, both within the social and educational context, for the development of high-quality, innovative training resources around interpreters working in the FV domain.

3. Methodology

In this VR intervention on FV interpreting, we chose to adopt a truly mixed-methods approach. In late 2008, after conducting a formal review of the critical field (see previous section) we elicited empirical data on the topic of FV interpreting through interviews and focus groups conducted with a range of industry representatives and interpreters (details to follow in section 4). We also welcomed collaboration from Monash University scholars outside T&I Studies, including Digital Pedagogy, academics and VR technology personnel from Monash Virtual and Augmented Reality Services, as well as students from the Faculty of Art and Design.

VR training, in both the immediate post-pandemic context and since the outbreak of COVID-19, has been successfully used in many related disciplines that heavily rely on practice-based learning, such as in the health sciences (Bracq *et al*. 2019, Fertleman *et al*. 2018), where students are reported to have found it a useful addition to their training (Cortés-Pérez *et al.* 2020, Dermody *et al*. 2020, Fertleman *et al*. 2018). There has been some research into the use of VR in interpreter training (Braun *et al.* 2020; Braun and Starr 2019; Braun *et al*. 2015; Kajzer-Wietrzny and Tymczyńska 2014; Braun *et al.* 2013), with Kiraly (2000: 18) and Tymczyńska (2009: 158) both claiming that the support offered by 3D training in simulated environments are important in the field of T&I training. Most notably in 2012, Sabine Braun led the development of the IVY resource — a virtual learning environment supporting students in business and community interpreting training. IVY was developed in the 3D environment 'Second Life', enabling students to access IVY and operate as avatars. Students can practice dialogue interpreting in three working modes: the interpreting

mode, the live mode, and the exploration mode. In 'live' mode, students are given an avatar with which they can 'enter' a virtual space. However, unlike VR, Second Life is not fully immersive and is delivered through a standard computer screen (not headset).

On the other hand, with a readily available commodity VR headset (either all-in-one or connected to a laptop), a highly realistic and fully immersive VR simulation is possible. This kind of simulation, with stereoscopic sight and stereophonic sound, creates a strong spatial feeling of being present in the simulation, which more closely and viscerally reflects real-life scenarios. Also readily available is the ability to build simulations through the game development platforms that have co-evolved with the VR technology. The availability of hardware and content creation have enabled the technology to be used, increasingly, in non-gaming applications in education and mental health interventions, such as exposure therapy (Carl *et al.* 2019: 34). Despite the technology being available and capable, physical and psychological user interface considerations need to be accounted for. Firstly, content needs to be carefully designed in order to reduce the risk of physical injury. This can be achieved by avoiding, where possible, the need for participants to undertake unnecessary body movements whilst engaging with the VR simulation — these may lead to accidents (e.g., tripping or falling). Secondly, especially applicable to our application, psychological safety needs to be considered in immersing participants in FV situations, who may have direct FV experience themselves. In general, the effectiveness of VR simulation warrants that it is treated as one would a real situation, with risks managed in the same way (Carl *et al*. 2019). It becomes important then to ensure that the educational design and delivery processes guide the use of the technology (Badiee and Kaufman, 2015). This includes specific learning objectives, scripted scenario development, managed delivery activities, and post intervention debriefing — to ensure participants experience a safe and meaningful learning and reflection experience. Recent T&I research suggests that it is vital to introduce students to scenario-based learning at an early stage of their training, thus preparing them for the realities of the professional world and increasing their resilience (Hubscher-Davidson 2017: 203-207). Through VR, this can be achieved in a mediated, safe environment.

The central methodological approach considered for this project was recommended by colleagues in both Digital Pedagogy and Virtual and Augmented Reality Services at Monash University. This meant that we used a design-based research (DBR) methodology, which is applied in different disciplinary areas (Wang and Hannafin 2005; Anderson and Shattuck 2012; Cowling and Birt 2018)[1]. Importantly, DBR has been successfully used in research conducted on mobile learning applications and systems, which makes it appropriate when evaluating the use of VR as a teaching and learning method (Krull and Duart 2017: 7). It is a systematic, flexible methodology focusing on improving educational practices through step-by-step analysis, design, development, and implementation. This project was

guided by a modified DBR model (Jayatilleke *et al*. 2018), with emphasis on the process of incremental reflection and refinement to more effectively address any pedagogical and technological problems that became evident later on, such as issues in scenario development, design and delivery (Cowling and Birt 2018). Through various meetings, discussions and decisions on the what, when, where and why, a series of connected scenario-based exercises were developed. We also considered how these scenarios could then be delivered using VR technology. Once we had decided on the scenarios (e.g., hospital, police station, courtroom, counselling), script writing and storyboarding — a method that steps out the sequence of events in each scenario, often with pictures as well as words, similar to a movie production process — took place, which ultimately guided the development of the VR activities.

The education or pedagogical framework supporting and guiding this project is the Conceptual Framework for Simulation in Healthcare Education (2014, Shepherd 2017). This framework recognises that the education philosophy underpinning this particular training activity, which takes place in a variety of community settings, is cognitive and social constructivism in action. That is, as the learners gain new knowledge and experience, their thoughts, beliefs, and attitudes become 'reconstructed', thus enabling them to more effectively respond to new future real world settings. Reconstruction of this nature challenges the current thinking, activities, and attitudes around interpreter training, as well as facilitating changes in new knowledge attainment, attitudes and practices.

A number of education theory suggestions and recommendations detailed in the framework allow the design of the VR activity to achieve high levels of educational fidelity. That is, striving to design and deliver as precisely as can be attained, educational outcomes using appropriate education theories and frameworks, learning models and instructional design models, to achieve observable and measurable knowledge, skills, attitudes, and values (Shepherd 2017: 11). Education theories include the theory of the purpose, application and interpretation of education and learning — in this case, what interpreter trainers *want* to happen in this VR session. Education theory is largely an umbrella term, comprised of a number of theories, rather than a single explanation of how we learn and how we should teach. In the case of this project, relevant education theories include: the recognition that this project is experiential in nature; that the students (as adult learners) will identify their own responsibility to learn; that we need to understand and be aware that they bring their own tacit knowledge and biases to the learning, and that they were operating on a 'novice > expert' continuum. The VR experience therefore offers participants a new perspective on learning, about which they will develop different levels of competency. In other words, the students' need to engage in the activity is guided by their own learning characteristics and preferences, e.g., recognizing the need for critical thinking and reasoning; being reflective in their learning, and importantly, identifying the importance of generating increased levels of

self-confidence and efficacy. All of these aspects work together, helping trainee interpreters to transition into a safe and competent practitioner.

In addition, an iterative design-based educational model that provides a logical, step by step, guidance to the development of the VR activity was used. Known as the ADELIS model (Figure 1), this model was developed to assist education design in healthcare simulation (Shepherd *et al*. 2019: 65). In this instance, the model and approach presents an opportunity to design, deliver and evaluate a VR based education intervention. As such the model guides, via its various steps, the development of the interpreting content into the VR activity, thus providing a valuable and innovative technology-based contribution to T&I education.

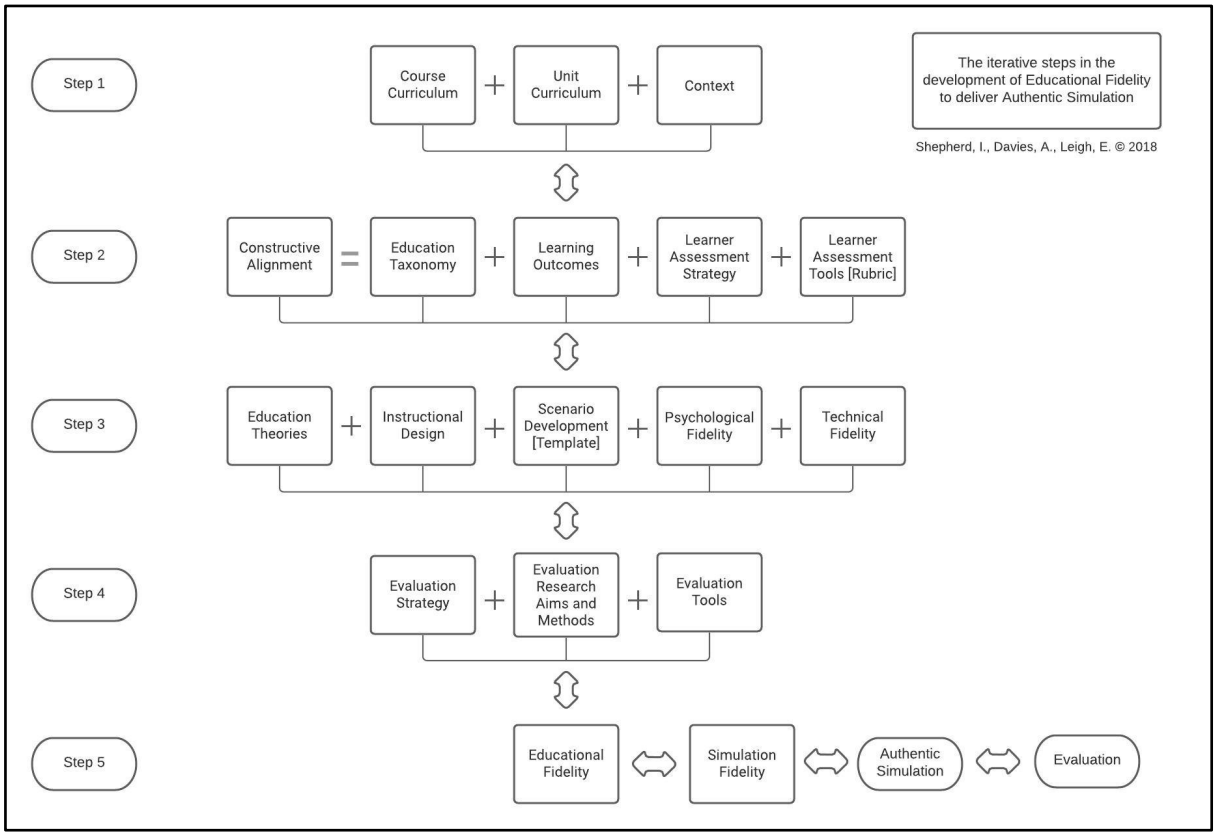

Figure 1. The ADELIS model

Collectively, the education model and the conceptual framework add valuable pedagogical validity to the intervention. Furthermore, while it provides an opportunity to contribute to a new and different way of training interpreters in the field of FV, it also allows for any quantitative and qualitative evaluation of participant outcomes to be more robust and informative — from a social, cognitive, metacognitive, attitudinal and safe workplace practice perspective. To illustrate a simple example: Learn the Australian court etiquette through practice (Step 1); Understand general court setting protocols and put them to practice while working as an interpreter (Step 2); a court VR scenario that identifies whether or not students pause and bow towards the Coat of Arms — located right behind

the judicial officer — as they enter or exit the courtroom (Stage 3); Simulation quantifies number of failed attempts to apply appropriate courtroom etiquette (Step 4); Self-assessment and activity evaluation (Step 5).

4. Scenario development for VR

In what would formally apply to Step 1 in the ADELIS model discussed above, providing context and content to the FV scenarios via industry consultations emerged as a key component in the development of realistic and authentic scenarios. Recalling Del Pozo Triviño's work in the area of FV interpreting, key areas of training include a deep understanding of psychological and emotional dynamics, police and emergency services, relevant laws and legal processes, anti-discrimination measures focusing on gender, knowledge of existing social welfare support structures, knowledge of relevant cultural and intercultural competence (Del Pozo Triviño *et al*. 2014a: 11-16; Del Pozo Triviño *et al*. 2014b). In this section, therefore, the focus rests on describing the phase of specific content development to address these gaps in interpreter training, whilst also highlighting the importance of crafting a VR training intervention that includes high-level simulation of, for example, (a) a fast-paced environment (such as a hospital emergency department, where clinicians may be rushed and the cacophony of background noise makes communication difficult), (b) a series of emotionally challenging situations (particularly when both the victim and the perpetrator of FV are present), (c) scenarios in which specialised terminology is used (laws and regulations are constantly in flux and interpreters need to be aware of changes to such activities as processes, bureaucratic forms, legal orders) and (d) prolonged exposure to distressing content. Industry consultations revealed that many interpreters had ceased to accept jobs in the area of FV because of the psychological toll, therefore undertaking regular VR training may in fact enable practising interpreters to build resilience in the challenging FV domain. Recently, Hubscher-Davidson (2020: 425) has highlighted the need for a better awareness around self-care strategies in the T&I profession, arguing that the provision of positive support for ethical reflection is an occupational health and safety issue for the translation and interpreting professions.

As part of the industry scoping exercise, various interpreting practitioners, representatives from government departments (Department for Health and Human Services, Family Safety Victoria) and victims of FV were invited to participate in consultative meetings to discuss the challenges faced by CALD victims of FV. The main purpose of these meetings was to collect qualitative data — much of it informed by real, lived experience with aspects around FV — which would later inform the interpreting scenarios we planned to develop: important details that would be considered in the scripting process included aspects related to the structure and setting of each scenario, characterisation, narrative, sound and appearance of the virtual environment. The anecdotes collected during industry consultations proved

enormously helpful in providing researchers with the ingredients that would later be used to create a narrative spanning the four different settings, using various fictional characters. The overarching narrative of the VR intervention describes one FV victim's journey, thus portraying the challenges faced by both CALD victim and interpreter. The thematic around these problem-based scenarios varied in nature; some details would relate to the actual environment (such as the hospital or police station) and others present an acute ethical dilemma. As explained in the previous section, this allows the students to identify their own responsibility to learn — when the student eventually undertakes the VR simulation, they must decide upon a possible solution, which could be in the form of a VR headset movement, engagement with a multiple-choice question or the participant must point to a specific aspect of the VR environment. Similar to the process used in gaming, VR users must then select an appropriate solution to make progress in their training.

The anecdotes shared during these meetings helped to inform Step 2, clearly suggesting that interpreters regularly work in a range of FV settings that are often factually unique, emotionally charged and potentially volatile for all participants. In Step 2, the focus shifted to content development. Understanding that the VR environment is the 'location' where the story is presented is crucial to the development of the narrative. The construction of this locale fuses a combination of elements, i.e. sound, light, movement, allowing students to feel 'immersed' into each scenario. For this project, content was classified into the following categories: narrative, animation, audio-visual and educational content. The narrative developed for each scenario, along with the aforementioned considerations, jointly form a VR script; a guiding document for VR designers, production staff and project managers who will work to digitalise the VR scenarios. The script includes a description of the background and relevant information about the scene, including the interaction between characters, their movements that contribute to an upcoming challenging situation for the VR user, while the dialogue includes verbal (pragmatic language) and non-verbal (tone of voice, facial expression, body language) communication. Other aspects considered are the dialogue length, length of utterances and levels of terminology.

In terms of trainee learning outcomes that we consider desirable for FV VR trainees, we also draw on the competencies, skills, thematic fields and content knowledge areas that have been identified in key sources on interpreter training. Firstly, we draw on the SOS-VICS project on gender violence and interpreting (Del Pozo Triviño *et al*. 2014a, Del Pozo Triviño *et al*. 2014b), foregrounded above in section 2 of this paper. The second source is a collation of descriptions of knowledge, skills and abilities (KSAs) located across a variety of community interpreting training curricula (Mikkelson 2014). The third source are those descriptions of competencies and skills to be displayed by community interpreting test candidates that are identified by the Australian testing and credentialing authority, the

National Accreditation Authority of Translators and Interpreters (NAATI 2016). The KSAs identified by the second and third sources are in line with those contained in industry-based, national or international descriptors of interpreting performance in general (ISO 2018; ASTM 2007) as well as for community interpreting (Standards Australia 2019). We list firstly the competencies and skills identified in the above sources that are relevant to FV training for interpreters:

Competencies	Skills
Transfer	● Competence in two-way interpreting (long and short consecutive, including note-taking) ● Competence in one-way interpreting (simultaneous chuchotage) ● Sight translation
Interactional	● Management skills (ability to intervene as appropriate and to coordinate and control the interaction) ● Ability to handle briefings and debriefings ● Replicating empathy and using appropriate wording ● How to work with victims ● How to work with perpetrators ● Interpersonal skills that enable them to deal with distressing situations ● Terminology related to setting
Intercultural	● Cross-cultural awareness, knowledge of relevant countries and cultures
Performance-based	● Excellent memory, listening and comprehension skills. ● Adequate public speaking skills. Mental dexterity
Ethical	● Awareness, integration and application of the code of ethics and ethical practice
Thematic	● Self-directed evaluation and ability to engage in reflective practice

Table 1: Competencies and skills as desirable learning outcomes for interpreters in FV training. Adapted from: Del Pozo Triviño *et al*. (2014a: 11-16) Del Pozo Triviño *et al*. (2014b), Mikkelson (2014: 14-15) and NAATI (2016: 8).

Further, we list the thematic fields, knowledge areas and setting-based professional attributes identified by the first source mentioned above:

Thematic field	Knowledge areas and setting-based professional attributes
Police	● Protocols for identifying FV and risk assessment ● Protocols in emergency situations
Legal	● Rights of victims, format of courtroom proceedings, legislation relevant to minors, restraining/protections orders
Institutional and social support channels	● Resources provided for victims and their families ● Familiarity with service provider ● Understanding of the field, professional culture, practices and procedures of allied professionals, as well as the goals of their institutions
Family violence	● Different forms of violence and abuse that constitute family violence ● Protocols of social workers/support workers working in family violence services
Gender equality and inequality	● Legal equality and real-life situations ● Notions of gender differences and sexual diversity

Table 2: Thematic fields, knowledge areas and setting-based professional attributes as desirable learning outcomes for interpreters in FV training. Adapted from: Del Pozo Triviño *et al*. (2014a: 11-16) Del Pozo Triviño *et al.* (2014b).

In addition to the educational principles and framework set out in section 3, it is important that the competencies of the particular skills area (in this case, interpreter training) are carefully considered in the design of the VR intervention.

Finally, the animation process involves the creation of features or object functionality within a scenario. These features include aspects such as rain outside a window, a blinking light, or even the movement of the characters present in the VR environment. The visual and audio resources are vital to reconstruct a life-like environment, imprinting high levels of authenticity onto the scenario (sound effects such as the 'beeping' of a heart rate monitor in a hospital, a lunch cart rattling down the corridor, mumbled voices outside the room, doors opening and closing). Outside of the VR environment, additional content is needed to link these VR environments into a single interface with the VR user, or in simple terms, a User Interface (UI). This interface helps VR users to check their progress and serves as an entry/exit point between VR environments; it also provides checkpoints indicating required attention to VR users about other non-VR learning tasks, i.e., collective self-reflection (Lai and Land 2009). For this part of the design process, researchers and Masters students from the Faculty of Art and

Design worked to prototype a series of potential designs for the VR scenarios, which are currently undergoing testing.

Once both VR and UI are completed, a series of industry testing is carried out in order to assess the overall effectiveness of the product and to receive general feedback or evaluation on the VR experience.

5. Conclusion

In this paper, we have explored the need for innovation such as VR technologies in community interpreter training. Through our literature review, we identified a clear demand, both within social and educational contexts, for the development of high-quality, innovative training resources around interpreters working in the FV domain. We selected a VR intervention because of the highly realistic and fully immersive simulation that VR technology allows for, thus enabling us to enact a truly experiential educational piece, where participants are offered a new perspective on learning, about which they will develop different levels of competency. Their journey is guided by their own learning characteristics and preferences, helping trainee interpreters to transition into a safe and competent practitioner.

We have focused on the methodology, rather than the outcomes of this project (which are forthcoming, as the VR testing phase is still underway) in this paper, in order to highlight how the use of an effective research and education methodology for the design, delivery and evaluation of a VR intervention may be managed. In image 1 and 2, however, examples of the setting and prototype of the VR modules are provided, which illustrate examples of the look and feel of the courtroom scenario.

Image 1. 180 Moot Court

Image 2. Prototype of VR Moot Court

This includes the importance of sourcing up-to-date, illustrative anecdotes directly from the industry in order to provide the focused content (scenarios, scripts, visual and audio elements) of a VR education intervention. From a learning environment perspective, the VR simulation on FV interpreting

provides a unique, stable, safe platform, designed to provide an evidence-based standard for the development of experience in, and expertise in, dealing with FV. This allows participants to first orient and familiarise themselves to a series of challenging situations related to FV, then apply their knowledge and skills in dealing with the relevant issues. It also allows opportunities for participants to make mistakes, without judgment and without impacting on actual real-life settings, where these mistakes could be highlighted, discussed and addressed through guided reflection. Finally, it provides further opportunities where repeated practice can take place, with the intent of facilitating improvement in knowledge, practice and attitudes. Thus, this becomes a demonstration of cognitive and social constructivism in action using VR as the educational medium.

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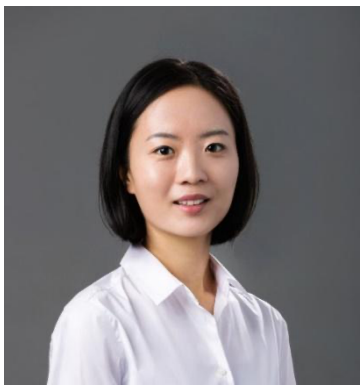

Notes

[1] This approach also allows for the systematic collating and analysis of outcomes related to the delivery of the training, including any potential quantitative data on the demographics and participant numbers and qualitative data related to the perceptions of the effectiveness of the training by the participants — especially how it has impacted on their subsequent work experiences.