International House Manchester

AN ACTION RESEARCH REPORT

On VR in The Hybrid Classroom

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INTRODUCTION

International House Manchester is a private language school based in the north-west of England and is an affiliate member of the IH World organisation. As you might expect, Covid-19 has dramatically affected our provision. Before the pandemic, we delivered synchronous face-to-face (F2F) classes only, predominantly general English and exam preparation classes. With the first lockdown in the UK in March 2020, however, we began delivering online lessons. These classes were also synchronous, delivered on Zoom and replicated, in style and substance, the classes we had delivered F2F. In August 2020, as the UK came out of its first lockdown, we transitioned to a hybrid model (synchronous learning with F2F and online students participating in the same live classes). Our adoption of hybrid was initially as a response to the global pandemic and its associated challenges as we reopened for F2F students, namely:

- reduced numbers in F2F classes due to local Covid-19 restrictions and Covid-19 related international travel restrictions
- the need to have processes in place to deal with the effects of quarantine, self-isolation, and sudden national lockdowns

Having taught hybrid for a year we have experienced the benefits and challenges of the mode. Certainly, it has allowed us to provide safer, more accessible classes during the pandemic. Socially distanced classes have remained commercially viable, students in quarantine or self-isolating have been able to attend class with their learning uninterrupted, and it has prompted us to re-examine our practice. However, the mode, in our experience, is not without its challenges, for example, juggling tech, classroom management and building rapport between the cohorts, and it was in an attempt to deal with these that brought us to consider virtual reality (VR) as a possible solution.

CHALLENGES ENCOUNTERED WITH OUR CURRENT HYBRID MODEL

TEACHERS

Whilst the fundamental underlying principles of teaching synchronously arguably remain constant across any mode, there is nonetheless a need to adapt practice and to rethink how fundamentals are realised within the constraints of any given context. Having successfully adapted to online teaching during national lockdowns, hybrid presented new and more complex challenges as teachers and academic management at IH Manchester sought to combine elements of both face-to-face and online and manage two seemingly separate cohorts effectively. After several months of teaching in the hybrid mode, staff were asked to complete an online questionnaire about their experiences, with anecdotal findings revealing that interaction patterns, pace of lessons and lesson content had proved to be the most problematic.

INTERACTION

Interaction patterns were mentioned by all seven teachers who responded to the questionnaire, with five citing this as one of the main differences between hybrid and other modes, and an area which has required a meaningful change in practice. Several said that hybrid classes were generally more teacher-centred with increased teacher talk time, and that whole-group activities were more commonly chosen than in other modes. This means that opportunities for students to interact with each other are reduced, which could have an impact on learning. Pair work was of course done, but less often.

Two teachers mentioned that they no longer used pair work for shorter activities as it is not worth the time and effort for limited return in learning. When it comes to a semi-hybrid context (one student online and the rest in class, or vice versa), setting up pair work is particularly challenging as it involves a F2F student joining the Zoom meeting, possibly diverting the teacher's attention away from other students as they facilitate this. Teachers therefore must weigh the value of such interactions, and plan activities accordingly. From the survey and from broader in-house experience, it can certainly be said that pair and small group work has been adversely affected by the hybrid mode.

LESSON CONTENT

The second most common theme highlighted by teachers was lesson content, including materials and activity types. It was cited by five teachers as one of the biggest differences in hybrid, with more limitations compared to other modes, requiring more planning and preparation. This is in part because materials have to be engaging and accessible to both cohorts at the same time. Certain content that works well in a purely online or F2F context may be unsuitable for hybrid groups, meaning teachers have to spend more time planning in order not to overly rely on the same material and activity types. As mentioned above, limitations of interaction patterns may further impact materials and activity types. Something like a 'find someone who' mingle activity, for example, commonly found in F2F classes, is much harder to set up and manage across two cohorts.

There is also the issue of technical constraints, for example when reading longer texts. With the right classroom set up, teachers should be able to project digital materials for F2F students at the same time as screen-sharing for online students, but the former may be required to use a device to access materials to fully benefit from the activity. This means the teacher needs to know that everyone has a device and even then, it may not be the case when it comes time to deliver the lesson.

PACE

Pace was another major difference highlighted by most teachers, with several mentioning that pace is slower in hybrid classes, and two citing this as one of the biggest challenges of teaching in this mode. The slower pace can be explained partly by the time lag for online students; there will naturally be a slight delay in students responding to questions and many choose not to use their cameras, meaning the teacher and F2F students are unsure if they are preparing an answer or simply not engaged. This can be further exacerbated by connection and technology issues and can lead to feelings of frustration for the teacher and F2F students. It also means that over the course of a lesson, time can be lost to waiting, which detracts from the teaching and learning. In addition, one teacher drew attention to the fact that the time lag can affect interest and motivation for the F2F students.

The slower pace could also be down to the teacher having to juggle many different elements during a class, both in terms of technology and classroom management. Their attention will inevitably be pulled in various directions, and this can lead to delays and a slower pace. One teacher specifically mentioned this when describing the biggest challenges: "Dealing with lots of technology and juggling lots of different things at the same time as teaching."

It is worth noting that these teachers were very experienced with hybrid teaching by the time the survey was taken. Otherwise, issues with managing the technology required to deliver to two cohorts may well have figured more prominently. Dividing attention between both cohorts was raised by three teachers as a challenge or a way that learning can be impacted in hybrid lessons. In each case they felt they were more likely to devote more time and attention to the F2F group as students could ask questions more easily. One of the main challenges with hybrid is therefore to ensure the online students do not feel neglected and can receive help and feedback where needed. On a related note, monitoring was also highlighted as a problematic area which requires more thought and attention.

Two teachers listed this as one of the biggest challenges of hybrid, as it is difficult to listen to the online students at the same time as in-class students during speaking activities, and to monitor and check that online students are on task in general.

From the responses received, there is no doubt that the hybrid mode has presented a real challenge for teachers. Whilst they have been able to adapt and find ways to make classes successful, it is an ongoing journey and five of the seven said that either purely F2F or purely online classes would be preferable, due to the limitations and difficulties cited above.

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STUDENTS

As far as the student hybrid experience is concerned, feedback collected from students during their first week and at the end of their course has been very positive on the whole, broadly corresponding with satisfaction rates seen in F2F and online only classes with students and suggesting that students feel they are still able to learn effectively. However, some students found issues with the mode, with hybrid specific feedback most frequently concerning two constraints: sound quality and friction caused by having two cohorts.

For online students, the biggest issue was with sound. At times they stated they could not hear the teacher clearly, but more often it was hearing the F2F students which caused the most problems. In response to previous feedback, we upgraded our sound system but even with several ceiling mics, some students remain hard to hear, “The teacher’s audio was good, but I wasn’t able to listen clearly what other people in the room were saying.”

Meanwhile the issue most often raised by F2F students related to time sometimes being wasted due to the lag caused by waiting for online students to respond or by technical issues they were having. “Some students (online) had some problem, and we need to consider on them.”

In sum, whilst the hybrid mode has undoubtedly provided an invaluable solution to language provision during the Covid-19 pandemic, it has its limitations and can cause issues for both teachers and students and may detract from learning.

WHY VR?

The challenge of adapting to hybrid was made more difficult by a lack of best practice guidance for hybrid within ELT, due to it being such a new phenomenon across the industry. Any developments made with hybrid at IH Manchester were often down to trial and error, and academic management were keen to consume any literature that did appear to create their own best practice guidelines to help teachers. As part of this quality review process, we came across an online article written by Nergiz Kern, the Fractional Research Manager at Immerse. Immerse is an educational technology company that has designed a virtual reality (VR) platform for English language teaching. The article, entitled Can Virtual Reality Address The Challenges With Hybrid Language Learning?, discussed the challenges of the mode (drawing on data from a report commissioned by Nile ELT and in part authored by IH Manchester) and, in short, proposed a three-stage process of mitigation, namely:

Stage one: a flipped course design where students are assigned materials and activities to complete before in-person lessons. (This stage was not incorporated into the project due to logistical constraints).

Stage two: a synchronous in-class session with both local and remote cohorts allowing the teacher to check understanding and give clarification and feedback as required.

Stage three: a synchronous whole-class virtual reality session where the students can practise producing language.

Kern's conjecture that this formula would create a "seamless, friction-free teaching and learning environment" appealed to us given the challenges of hybrid we had encountered, and the two companies agreed to design, develop, and deploy a 5-week hybrid VR English course with a pilot group of students to judge the effect of having VR-based stages on our hybrid classes. Our research was focused on understanding the perspectives of teachers and students on the effectiveness of VR as an augmentation to the hybrid lessons and to offer an insight into the efficacy of the VR platform for learning. The research is exploratory and mainly qualitative.

Research Questions

01 To what extent and in what ways does the incorporation of VR effect the English language learning experience compared to hybrid classes?

02 Does VR have a positive effect on the interaction, lesson content and pace of hybrid lessons?

HYBRID LEARNING WITH VIRTUAL REALITY

Image 1: Teacher guides in-person and remote students during Hybrid VR lessons.

THE RESEARCH

The project consisted of a 5-week General English course taught from the school, with a one-hour class each day. Lessons contained elements of both standard hybrid (SH, hybrid as practised previously in IH Manchester) and virtual reality hybrid (VRH, hybrid lessons including VR stages with both in-school and online students taking part synchronously).

Participants

Teachers - The course was taught by one teacher; one of the full-time teachers at IH Manchester who has worked for the school for almost 10 years and has taught our F2F, online and hybrid classes. She has a particular interest in educational technology and was very keen to test out the VR platform as a solution to the problems faced in standard hybrid classes. Additionally, a small number of classes on the project were taught by a member of the school's academic management, as cover for the main teacher. This teacher also has worked for the school for over 10 years and again has experience of teaching F2F, online and standard hybrid.

Students - The class consisted of five students from China, Turkey, Italy, Brazil, and Spain, with two participating F2F in the school in Manchester and three joining the lessons remotely online. They were all B2-C1 level and had been learning English for between 2 and 15 years. Reasons for learning included work purposes, future study and because English is an international language. Students were most familiar with F2F learning, with all having taken English classes in this mode, while three had taken online classes, and two had previous experience of our hybrid mode before this project.

Data Collection

As well as a continuing dialogue between the main course teacher and academic management throughout the project, both teachers completed an online questionnaire about their experience of and thoughts on VR classes after the five weeks of classes. They were asked to comment on the differences between VR hybrid and hybrid, how learning is impacted by VR hybrid, the biggest challenges of VR hybrid teaching, how their practice had had to be adapted and how rapport was affected as well as any additional comments they might have. A follow-up interview was also conducted. The reflections of the main course teacher are given priority in the findings section.

The five students also completed a questionnaire on their experience with VR hybrid and follow-up interviews were conducted. As well as answering questions on language learning background, motivation, and preferences, they gave information on how easy it was to use the technology, how much they enjoyed the experience, the positive and negative impacts on learning, interactions with other students and suggestions for the future. In the interviews they were also asked about how the VR portion compared with the standard hybrid section of the class. They also naturally tended to compare the experience with other modes, i.e., F2F classes and online lessons.

Lesson Set-up

For the hybrid component of lessons and as per our SH classes, an Owl Pro conference camera functioned as a microphone, speaker, and camera (occasionally the class took place in one of our main rooms where audio was supplied by unidirectional mics, one at the teacher's desk and two ceiling mics to pick up the students), allowing the teacher, F2F and online students to see and hear each other. Materials and the electronic whiteboard were shown to F2F students with a projector and shared with the online students on Zoom. The latter were visible to the teacher and F2F students on a widescreen TV.

For the VR stages of lessons, students used a mixture of Oculus 1 and 2 headsets to access the Immerse application, while the teacher used the desktop version. From the desktop app, the teacher interacted with the students using a headset for microphone and speaker. These are integrated into Oculus devices. All participants appeared to each other in the application as avatars, which they could select from a range of options. While the Immerse website gives a full overview of the application, the following functions were the most frequently used during the project:

- The Planning Hub (beta): Immerse incorporates a lesson planning authoring system that allows teachers to plan lessons directly in the VR application. This allowed the teacher to prepare lessons in advance, adapting materials and having them ready to use in VR (e.g., saving pre-selected links to videos from YouTube or materials adapted from course books, etc.).
- The Experience Selector: The experience selector function allows teachers to select from over 30 virtual locations relevant for language teaching (e.g., coffee shop, train station, presentation stage, debate room, etc.), which allowed the teacher to move easily and quickly between a variety of learning spaces.
- The Student Manager: This function allows teachers to control audio between students for a variety of speaking activities, including group and pair work. Here, the teacher could put the students into teams and mute the audio between the teams so that individuals could only hear their partner. The teacher could also enable proximity voice, which meant participants could only hear those to whom they were physically close (in proximity) in the VR space. As we had only five students it was not a necessity, but it

would be useful for larger groups as there were only two teams available while we conducted research (since increased to 4). There is also a rally function here, which allows the teacher to quickly gather the students to provide feedback, etc.

- Transporter function: This allows participants to move quickly to various parts of a space and was especially useful for the teacher when monitoring activities.
- Scene Elements: The Scene Elements are stylized problem and solution areas in the application that allow a variety of language activities to prompt engagement, including multiple choice prompts, prompt cards, nested prompts, and graphic organizers. Many of these scene elements function like games, inviting students to throw a dart, toss a ball, or pull a lever to reveal information to prompt language. Like lesson plans, these interactive elements can be fully edited by the teacher. Materials could be adapted for these scene elements such as vocabulary guessing games or gap fill questions. As the students were B2/C1, these tools were used less than might otherwise have been the case in lower-level classes.
- The Prompt Tool: The prompt tool is an integrated messaging system built into the teacher desktop application that allows teachers to send direct messages to the entire class, or to selected individual students in private message channels. The prompt tool was used frequently to give feedback or instructions.
- The Virtual White Board: The Immerse application has pre-built white and blackboards in all scene locations where students can write, draw, and collaborate. Additionally, teachers can create and place free-standing white boards at point of need to further support learning. The boards can be used by both students and the teacher and were used for presenting language and giving feedback.
- The Observer Mode: There are three ways in which to enter an Immerse session: teacher, student, or observer. The Observer mode allows non-participating teachers or administrators to observe, record, and take photos of live classes without interrupting the flow of learning.

Pre-course training

Prior to the course, the teachers and academic management attended two hours of training provided by Immerse and completed the integrated training on the application. Staff were also provided with an Oculus device to understand the students' perspectives on the experience and had training time to become comfortable using the teacher desktop application.

The students were provided with information on how to download the application to their Oculus devices, and the first two classes were spent training the students on how to use the application.

Materials

The course was general English with lessons on grammar, vocabulary, and pronunciation with a focus on spoken communication and fluency. Materials used were taken from published materials such as Outcomes Upper Intermediate and Advanced (2nd Edition), teacher created materials and authentic materials.

Staging

Language points were generally introduced in our hybrid model during the first 15 to 25 minutes (although this sometimes ran longer or shorter) using standard methodology such as warmers, schemata activation activities, presentation stages, testing as part of test teach test sequences, etc. Students also sometimes completed gap fills, matching activities and other similar restricted practice activities, receiving feedback, either instant or delayed from

the teacher. The aim of this stage was to equip the students with new language before moving into VR. While most new language was presented in hybrid, teachers were also able to present new language in VR, for example, by making the target language available to learners using the virtual whiteboards or by using scene elements. The presentation of new language in VR was successful and students found this to be enjoyable and engaging, however, it was not possible to do this regularly due to technical constraints, for instance, the word count being limited in the planning tools, or some materials not being adaptable or suitable in VR.

Following the initial stages in hybrid, the class generally moved to VR. The VR section of the class mostly lasted 20 to 30 minutes and for the most part focused on production, either restricted or freer practice. The VR location was suitably chosen to fit the topic, where possible, for example, sentence frames for debating were practised in the debate room or a doctor's office was used for discussing health and medicine. This provided a natural context for the language production, giving a more realistic feel to the production and/or creating an immediate communicative need for the target language. Students were either put in pairs or small groups and given speaking tasks, with the teacher moving between groups to monitor and offer instant correction when suitable, either verbally or using the prompt tool.

A plenary stage was usually included at the end of the class. This was sometimes done in SH and sometimes in VRH.

As well as this staging routine, whole classes were delivered in VRH, either as stand-alone lessons or as continuations from previous lessons. Also, whole classes were delivered in SH both as preparation for longer VRH sessions and to provide some element of a control by allowing all the participants to experience SH.

FINDINGS AND DISCUSSION

Image 2: Teacher works in VR Desktop mode whilst students attend in immersive VR using Oculus headsets.

TEACHERS

Overall, it's worth saying that both teachers preferred teaching in VR to standard hybrid, and the only preferred mode was purely F2F lessons. The experience was exciting and new and the potential for learning was felt, especially for developing the students' speaking skills.
"It's the closest thing to (everybody) being in a classroom."
"I feel like it's the start of something really effective in terms of bridging the gap/distance between in-school and online students."
That said, new challenges and constraints were also encountered.

INTERACTION IN VR

Overall, once in VR, classes were less teacher centred than in SH, and student to student interactions tended to be more fluid and natural. Both teachers agreed that the production stage was better done in VR than in SH, or indeed in purely online classes, as it most closely resembled F2F classes, "all the students can communicate much more easily". Having F2F and online students practise as one cohort in one VR space had a positive effect on managing activities, monitoring, and giving feedback as it was much quicker and more natural to go between groups in VR than to go between breakout rooms on Zoom while also

monitoring F2F students, “It's much easier to listen to a production task and give feedback”. In a sense, the VR component did dictate the interaction patterns for the full session as the earlier stages of the lesson were generally leading up to a production stage in VR. Interaction patterns in the hybrid stage were almost exclusively whole group or with students working individually. Stages in VR were generally pair or small group work, meaning teacher talk time was limited to keeping students on track, offering help or suggestions and giving feedback. The pattern was seen to be positive in that there was an innate emphasis on having a substantial production task in each lesson for which previous stages prepared the students. This was assumed to be beneficial to learning.

CONTENT IN VR

In summary, lesson content was found to be somewhat limited with VRH, with teacher feedback broadly falling into three categories: content that was preferable to do in or with VR such as speaking in pairs; content that was impossible in VR such as writing; and content that would be better done in or out of VR depending on the context such as plenaries. Although it was easier to share materials with students during lessons, adapting material for the mode was time consuming, and this limited what a busy teacher could prepare in advance. The main teacher described adapting materials as “the most challenging thing.” Also, the nature of the platform meant class content was generally restricted to material that would ultimately lead to a speaking activity, although some listening activities were also conducted from authentic materials such as TED Talks videos. This was successful but possibly could more easily be done outside of VR. Listening exercises from published materials were avoided because they could not be integrated onto the platform. Reading and writing lessons were not included in the course as the constraints of the current technology made reading longer texts or doing writing activities difficult or impossible in the virtual environment. The main teacher also said, “I'm not sure about how VR could be used for academic English.”

PACE IN VR

Once teachers and students became familiar with the Immerse platform, the general impact of VRH on pace was positive overall. It was certainly quicker to move between groups, reassign pairs and move from pair work to group work for feedback. Technical facilities such as student manager benefitted pace and certainly made production stages more efficient than is the case in a standard hybrid lesson.

That being said, there were a few downsides. Initially, teachers and students took time to get used to the platform, which meant activities were sometimes impeded either by the students not knowing how to do something or by the teacher being slower than might otherwise have been the case setting up an activity. However, this dissipated after the first week.

Also, the lessons stalled somewhat during the transition to VR (“a drain on time”) as it took about 2 minutes for everyone to get into VR and ready to continue with the lesson. Furthermore, students did not have access to their notes in VR (the instructions and/or target language was either written down in their notebooks or on the electronic whiteboard, but students could not see the information as they had VR headsets on). This meant that any information on target language or instructions that the students required had to be provided by the teacher, meaning students sometimes had to wait for the teacher’s attention, stalling the lesson. It was possible to put information on VR whiteboards, but this

took time and was an additional burden on the teacher. Also, the space on the whiteboards in VR was quite small, meaning their practical use was limited. Consequently, a lot of time was given to consolidating language in the hybrid section of lessons, so that students knew exactly what to do in VR.

FURTHER POINTS

As well as these points, it was generally felt that the students were more engaged by the lessons. As noted by the main teacher "participation levels are much higher." This could perhaps be a short-term result of the novelty of the platform (Tai, Chen and Todd, 2020), or because the students had volunteered to take part in the study and had an inherent interest in educational technology. However, the teachers did feel that the design of the platform was appealing to students in and of itself, and VR has been shown to create motivation and engagement in previous studies (Dalgarno and Lee, 2010).

It was also felt that it was easier to build rapport with the students on the platform. This may have been as everyone was in the same space, the effect of F2F and online students being one cohort, or it may have been as everyone was enjoying a new and exciting shared experience, but it was nevertheless tangible, "I didn't feel I needed to do much to build rapport as the app did all the work".

Both teachers appreciated the assumed benefits of being able to place students in a variety of contexts in VR, i.e., the use of the target language was seen to be more natural and purposeful e.g., talking about animal rights in a zoo scene:

"Being in an environment where the language might be used possibly creates a communicative need and is stimulating for the learners."
"feeling like you're in a real space is really useful and it creates an immediate need (for the language) "

The main teacher also spoke positively about there being so much movement in the VR space and its positive impact on learning and class dynamics, "movement whilst learning is really effective." The realistic environments and movement within them were perceived to be instrumental in students staying on task and maintaining enthusiasm for longer in lessons as well as prompting more natural language use.

> Feeling like you're in a real space is really useful and it creates an immediate need (for the language) "
> - IH Manchester and Immerse, VR Teacher

STUDENTS

Overall Student Perceptions

The first thing to be said was that the students enjoyed the experience. Asked to rate the enjoyment of the experience out of 10 with 10 being the most positive, 2 students marked 10 (students A and E), two students 9 (students C and D, both F2F participants) and 1 student marked 6 (student B).

- "(I) enjoyed doing speaking with groups and to tell our opinion."
- "It's really nice, I actually feel I'm talking to someone in front of me."
- "that was so fun. It was a very different experience for me to communicate with our avatars. I felt being in a sci-fi movie. "
- "As previously mentioned, it is a good and fun experience, it is something new that all of us would feel amazed at first sight, but if classes start being repetitive with students using VR exclusively to have conversations as they do on zoom breakout rooms, they will start feeling bored about that."
- "One positive point related to this interactions is that the role play tasks can be more interesting and realistic, when we were asked to play a role of a shop assistant and a customer, the idea of walk around, grab an item, show the assistant, ask for refund or an item exchange and etc. was much nicer than just pretending we were doing this in class without any objects."
- "It's so good and really funny."

Students were impressed with the application and the virtual spaces they could inhabit, with 3 specifically noting the environment had a beneficial effect on learning/ language development, for instance, "all our attention was diverted to the relevant topic, as the environment related to the subject". They also enjoyed interacting with other students during production tasks (and also casually, out of tasks with student B noting it was "easier to make jokes in VR"). This compares very favourably with feedback on our SH, where, as mentioned above, interaction, especially between cohorts, is more of an issue.
As well as the evident enjoyment, some other common themes emerged.

> "One positive point related to this interactions is that the role play tasks can be more interesting and realistic, when we were asked to play a role of a shop assistant and a customer, the idea of walk around, grab an item, show the assistant, ask for refund or an item exchange and etc. was much nicer than just pretending we were doing this in class without any objects." — VR Hybrid Student

Student Perceptions of VR Hybrid vs Other Modes

Compared with other modes, three of the students expressed a preference for F2F classes overall, with one student saying they had no preference and one saying hybrid. During the project, students generally agreed they preferred the VR portion of the class to the hybrid portion. This may have been the nature of the stages, with the hybrid section being more prosaic, traditional learning and the VR stages being more communicative. Student C, who had the most hybrid experience in the group, was very much of the opinion that VR hybrid was superior to our regular hybrid saying "I think we spent more interactive and fun times in the VR classroom "(rather than in standard hybrid). It also felt superior to online classes with Student D noting "for students (who) couldn't have face to face classes, VR is a lot better than normal online classes."

> "for students (who) couldn't have face to face classes, VR is a lot better than normal online classes." — VR Hybrid Student

Potential for Learning

Students A and D said that they appreciated the way the hybrid stages worked to prepare students for production tasks in VR saying, for example "I think the combination is really nice. The normal form of the first part of the class is important. That's when the teacher taught us real stuff. And then they can practice in VR." Student B (who has a technology background), however, gave a contrary position saying that the lesson structure was too like standard lessons and failed to take sufficient advantage of the full capability of VR:

"VR give us opportunity to start doing tasks that is not possible F2F or online. However, none of this potential is being used, we are always doing the same things, talking a bit about some topics on zoom, going to the virtual reality and keeping our previous conversation. I believe that some gamification that makes us understand better how powerful is the quest 2, and how fun is to learn using it, tasks that we are not able to do without it, this would definitely improve our learning, creating good memories of enjoyment that our brain may access easier."

> "I think the combination is really nice. The normal form of the first part of the class is important. That's when the teacher taught us real stuff. And then they can practice in VR." — VR Hybrid Student

The Tech

The first thing to say is that there is a lot of tech and as with introducing other types of technology there were challenges, both innate to VRH and indicative of any new implementation.

In our research project, the following reflect areas of challenge experienced by the teachers and participating students. This included:

- There was an evident learning curve for everybody. The main teacher said it took a week of classes (5 hours) before getting comfortable on the platform, and it took slightly longer still to be able to use the application reflexively. Student C in particular struggled at the beginning of the project and along with another student mentioned that they would have appreciated more training before or at the start of the course.
- Students were generally satisfied with the headsets, but Student D thought the headset (an Oculus 1 device. The Oculus 2 is lighter) was a little heavy and that 20 minutes was enough in VR as they sometimes got dizzy, while student B said the headsets were "complicated to use with glasses".
- During the first week in class, we had sound issues whereby the volume of the teacher and/or the students was too low despite everybody having set their volume to maximum before entering class. After troubleshooting with Immerse, we found that the issue was a health and safety precaution that set participants' volumes automatically at half volume when entering the class. Subsequently, participants turned up their volume after entering the application and the issue was solved.
- F2F students found it mildly distracting, either being in a pair with another F2F student in VR (they could hear each other in real time in the classroom and on the microphone on their headsets with a small degree of latency) or being in a different pair from their fellow F2F student (they could hear the other F2F student talking to their partner in the classroom. This would happen in a standard F2F class but for some reason it was more noticeable in VR). Were there to be more F2F students in the class, this could be even more of an issue. Also, there is a recommended distance of 2 metres between Oculus users.
- Initially we had intended to run the Immerse application from the classroom desktop computer, but this was not possible as both the Immerse app and Zoom were competing for the same microphone and speakers. After seeking support from Immerse, we decided to use an additional laptop when moving to a VR stage. This was slightly cumbersome for the teacher and would add to any set up costs, but it worked sufficiently well.
- During the last week of the course, there was an update to the app which caused some difficulties. We were unable to download the update easily for the desktop versions and when installed the application crashed. We investigated the situation with Immerse, looking at security system settings and bandwidth. The exact cause was never identified but in recent testing the issue was resolved.

It is worth noting that the teachers and students all considered themselves to be savvy and it can be assumed users with less proficiency would struggle more and so enjoy the experience less.

CONCLUSIONS

Image 3: Teacher works in VR Desktop mode whilst students attend in immersive VR using Oculus headsets.

As an action research project, this report is offered as a snapshot of the potential effects of using a VR platform for English language teaching in general and in hybrid in particular. While there are accepted limitations to the project, for example, the low number of participants, we felt an insight was gained. Having prepared and delivered the course and drawing on the feedback from teachers and students, the following conclusions were drawn:

- Overall, VR had a positive effect on the hybrid model. Central challenges such as group cohesion and issues with the production stages of lessons were alleviated and the overall experience was more enjoyable for teachers and students. The fact that online F2F students occupied the same space was an advantage and production activities were more natural, efficient, and eventually had better pace. This may very well be true for purely online classes as well.
- During the project, the VR application worked well. The environments were exciting, the games fun and many of the functions, such as the student manager, useful. One point to consider though was that the advantages of the platform were mainly related to speaking lessons. It was less useful for listening and redundant for reading and writing. Whether VR can prove beneficial to these skills would need technical innovations and further investigation.
- From our perspective, certain additional features would be useful, such as the ability to upload jpegs of pdf files directly to the app, a greater character limit in the planning tool and the ability to make the free-standing boards larger. Of course, it is much easier to describe a technical improvement than to make it happen.
- Were we to run a VR hybrid class again, we would need to test the effects of having more F2F students in the room due to sound issues and needing two meters between Oculus users. We would also assign pre-course activities for the students to ensure they have

downloaded and developed their proficiency with the application before starting their course. Additionally, we would also review the tech set up and staff training based on our experiences on this project.

- The main barrier to having VR remains the cost. It is debatable if students would be willing to pay for an Oculus device to join a course or if schools could justify the expense. However, as ownership rates increase, markets may emerge. Indeed, this may already be the case in countries such as South Korea and Japan where VR usage has grown at a faster rate.

As vaccination rates grow and international travel becomes more possible, it remains to be seen if the hybrid model will continue or if F2F and online classes will once again diverge. What is clear though, is that VR has intrinsic advantages, especially when there is a distance among participants, and will certainly make its presence felt in language teaching in the years to come.

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ABOUT IH MANCHESTER

IH Manchester was founded in May 2006 and is now a well-established British Council accredited English language school. The school affiliated with International House and became an IH school in September 2013. When the pandemic hit the UK in March 2020, the IH Manchester teaching team quickly pivoted to online teaching. When UK schools reopened in August of that year the school was one of the first English language schools to use hybrid teaching.

www.ihmanchester.com

Founded in 1953, International House is a global network of 150 affiliated language schools in more than 50 countries. All IH schools are independently owned and managed and are members of IH because they are committed to the very highest standards in language education face-to-face and online.

Schools in the network teach English, Spanish, German, French, Italian and a wide variety of other languages. Across our membership network, IH schools train about half of all CELTA graduates in the world. IH schools have well over 200,000 students, and our member schools employ in excess of 5,800 teachers.

https://ihworld.com/

ABOUT IMMERSE

Founded in 2017 while CEO, Quinn Taber, was serving as an aid worker with Syrian refugees in the Middle East, Immerse is a US-based, $2.4mm-backed, fast-growing EdTech startup with a team of VR engineers and learning scientists who together built the first VR English language teaching platform. Immerse specializes in coming alongside directors at English language schools to help them design, develop, and deploy whitelabel VR learning experiences for their students anywhere around the world at scale. Unlike Zoom calls or typical Learning Management Systems, Immerse provides the software tools and implementation training necessary to transform synchronous language learning lessons into a more immersive, human-centric experience where emotional connection is deepened, social interaction is practiced, and fluency development is achieved.

https://immerse.online/