

VR Action Lab

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Project name: VR Action Lab

Project owner: Harmony Labs

Release date: 2017

Locale: USA

Languages: English, Spanish, Portuguese, Japanese

URL: <https://harmonylabs.org/vr-action-lab> | <https://vr.google.com/daydream/impact/actionlab/>

XR medium: 360 VR

Hazards: Bullying

Activity: Awareness

Age group: 13-15

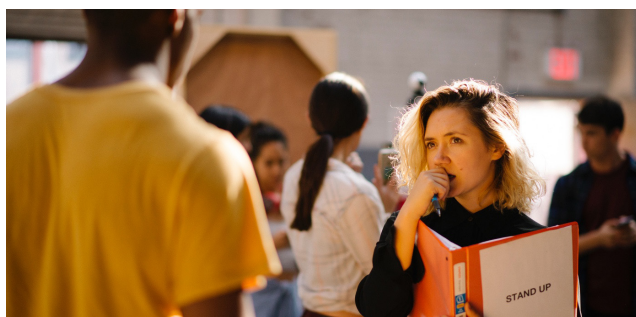


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#1

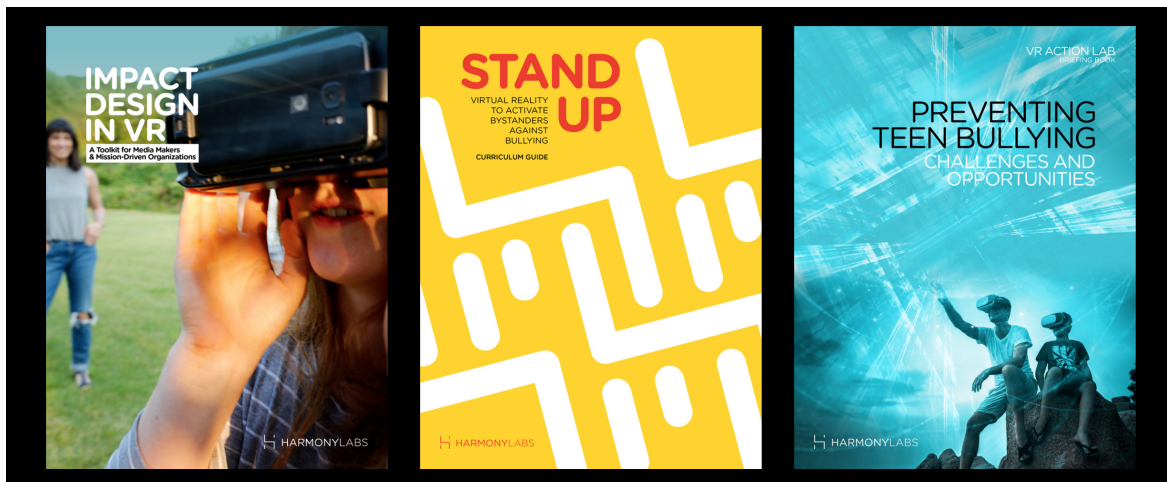
Project Background

Born in 2017 as a collaboration between Harmony Labs and Google Daydream Impact, VR Action Lab explores how virtual reality might activate young people as upstanders and address the precipitous drop in efficacy of middle school anti-bullying efforts. VR Action Lab united award-winning filmmakers with young people, researchers, experts, and middle-school practitioners across four US states. Three VR experiences were created and embedded in a pilot-tested six-lesson curriculum, along with other resources, including a design toolkit for VR media makers and organizations, a curriculum guide for teachers and an issue briefing book. The VR Action Lab was put into trial and results are collected in a paper which shows evidence that the virtual reality experiences increased empathy and willingness to intervene as an active bystander among those participating.

VR Action Lab Trailer:

<https://www.youtube.com/watch?v=otE3f-siCY-8>

Harmony Labs is a New York based organisation working at the intersection of media and social impact. For the VR Action Lab, Harmony Labs brought together a set of stakeholders including Screenwriters Colony, Sensorium Works and Institute of Play to collaborate with young people and practitioners. They followed a rigorous approach integrating research, strategy and user testing. Future iterations of the VR Action Lab would use the same multidisciplinary approach to prototype social impact uses for emerging media technology.



#2

Aims & Rationale

The aim of this experience is to engage students as “active bystanders” and help them take skillful action in difficult situations by producing powerful virtual reality (VR) experiences that develop the medium’s capacity to make change on the important social issue of bullying. The objectives are to:

- ▶ To help young people gain greater knowledge of bullying and its components by understanding the different roles in the bullying dynamic: target, perpetrator, ally and bystander;
- ▶ To lower attitudes supportive of bullying and develop empathy for others;
- ▶ To promote a greater willingness to intervene in bullying situations, to learn how to become an ally and to intervene successfully;
- ▶ To support young people to take action by providing a space not simply to talk and discuss bullying, but to make them media creators;

While directly impacting young people, the overall aim was to develop a process for creating content with a new form of emerging media that was geared towards social change, and that could be replicated in other cases. This process included research, production and toolkits, including a school curriculum created by Harmony Labs.

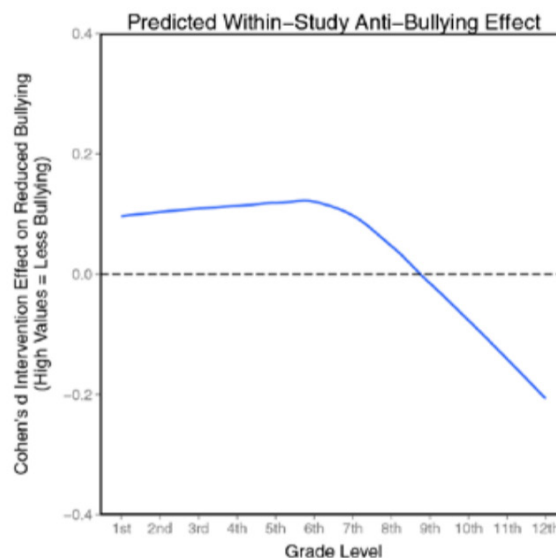
#3

Audience

The preliminary research performed by Harmony Labs included in the Briefing Book included evidence from a recent study by Yeager, Fong, Lee, and Espelage which shows that once middle school students reach 8th grade (age 13-14), anti-bullying programs drop to zero efficacy and, in some cases, even increase the incidence of bullying.¹ However, through the resources and curriculum, the project also extends to teachers, and school administration members, as well as to further organisations who would like to replicate this project.

¹ Addressing the efficacy gap, Briefing Book evidence page 22.

Figure 3:
Drop in Efficacy of Anti-Bullying Programs



#4

Experience

VR Action Lab produced three different virtual reality experiments which can be enjoyed as 360 VR videos and are compatible with most virtual reality headsets combined with smartphone devices. The experiences can also be watched without headset as 360 videos in YouTube using a computer or mobile device.

Stand Up

Directed by Mary John Frank

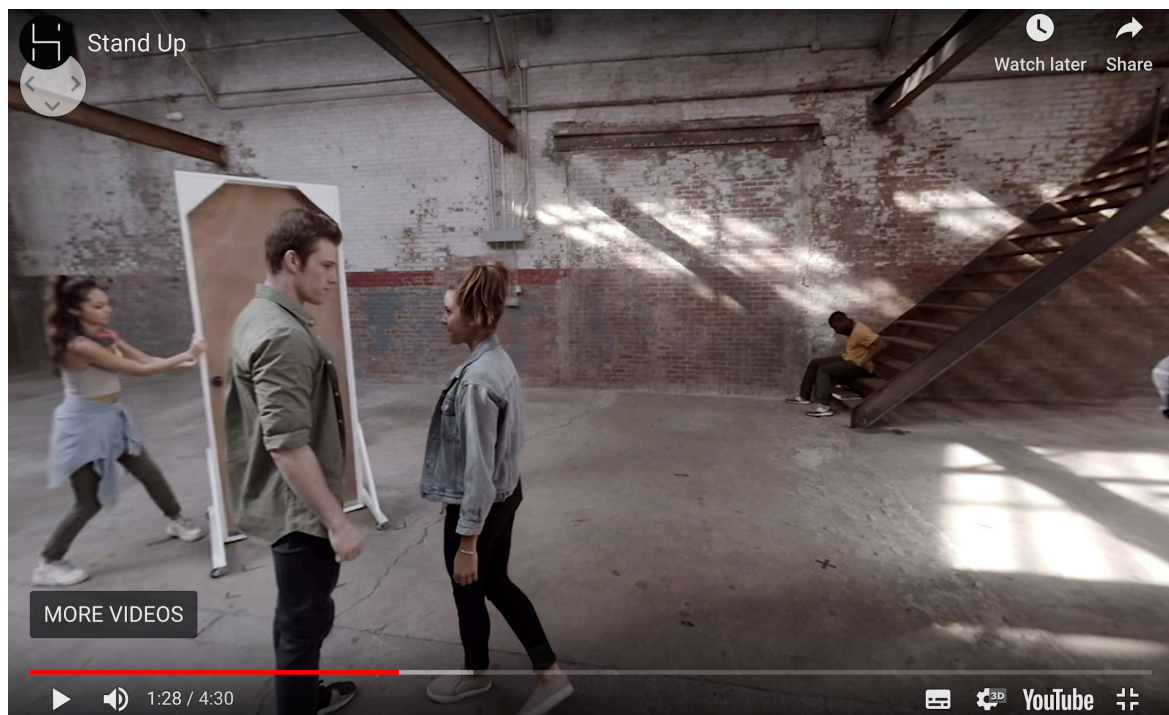
Produced by Sensorium and Mary John Frank

Small actions make a big change in this dance-based rap musical

Duration 4:29 mins

https://www.youtube.com/watch?time_continue=1&v=v3oCbVvIGpU

Stand Up is a story told in rap of a case of bullying in school. The scene takes place in a theatrical set up with minimalistic decor and can be enjoyed in 360 by looking around at the characters moving and dancing. The story is performed by nine young performers and shows David, an introverted guy, and his best friend Casey, who become distanced and he is increasingly isolated in school. Casey made out with a guy during a party and was recorded on the phone. The photos were shared in the school, everyone laughed at her and she was bullied. Casey reported it to a teacher she trusted. The teacher gave her information and asked to contact her parents. The bullying doesn't stop and she gets even followed home. Her grades fall. Her friend



David finally reacts but she doesn't want to speak with him. He understands he has to stand up for her, and by showing her support the haters start changing and also stand up for her.

No Easy Answers

Directed By Aleem Hossain

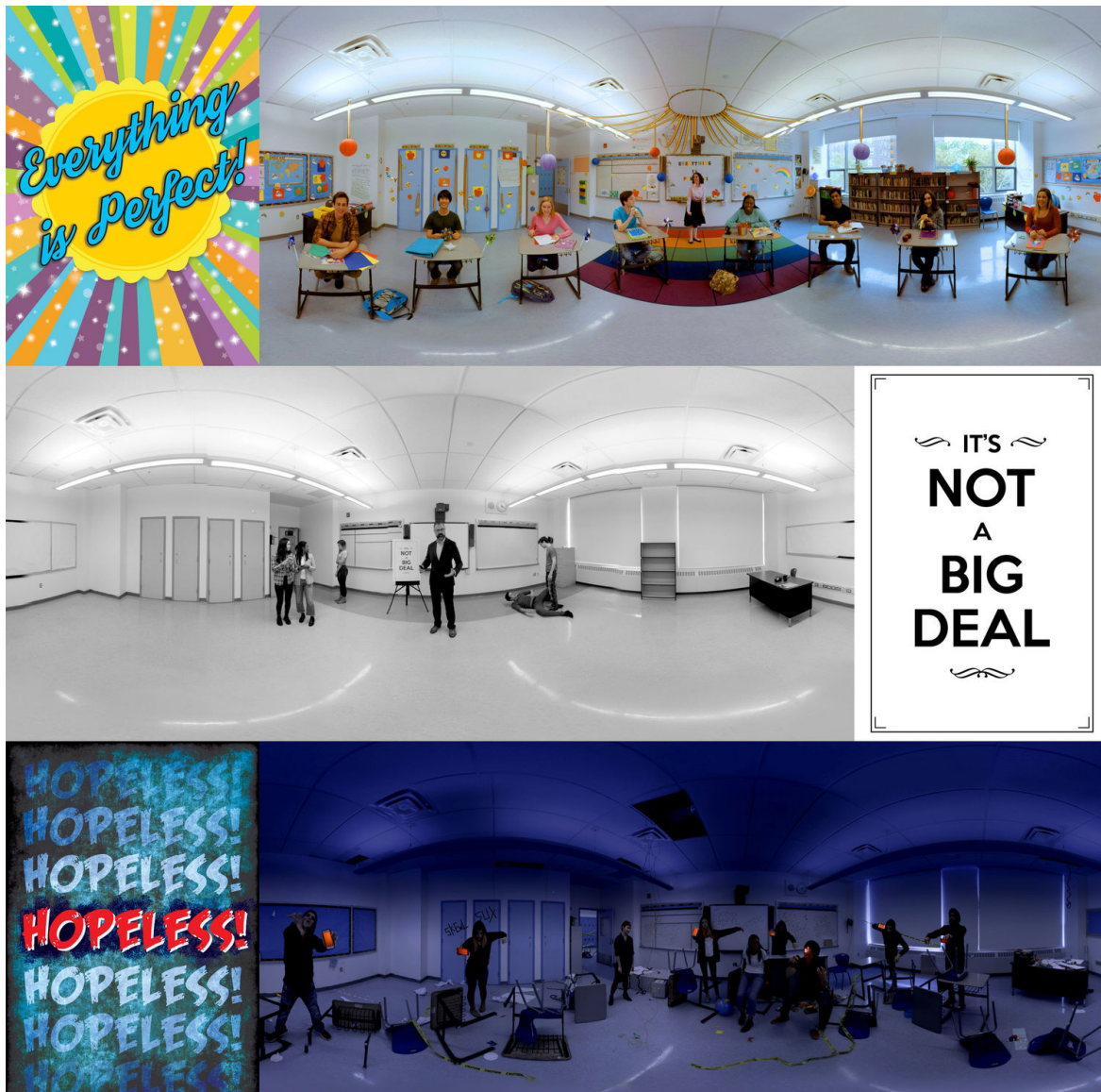
Produced by Sensorium

Three satirical scenarios challenge prevailing attitudes on bullying

Duration: 6:18

<https://www.youtube.com/watch?v=bvyHc-c7Iy5E>

No Easy Answers presents a satirical 360 film of the “perfect school” where students and teachers avoid confronting the topic of bullying and harassment, pretending everything is fine. However some of the students react and they change the narrative by showing the user that they have to be aware and denounce bullying. The experience is also available in Spanish, Portuguese and Japanese.



FutureCIRCLES

Written and Directed by Adaora Udoji

Produced by Sensorium

A trip to a future without bullying

Duration 9:22

<https://www.youtube.com/watch?v=iMb2SqP3578>

In this film, the main character travels to a future without bullying in 2060, to get advice from students who have destroyed bullying. Together they analyse bullying situations that happened in school and understand how the characters could have acted differently to prevent harassment. The students from the future report that to stop bullying in the world, there was a trend of people being aware (students, teachers and parents), and that is how eventually it disappeared. The film provides a very positive angle as it shows that there could be a future with no bullying. The experience is also available in Spanish, Portuguese and Japanese.

Alongside the VR experiences, VR Action

Lab also delivered a **curriculum**² including six lessons which can be carried out as a complete set or cherry picked according to needs. The curriculum booklet is aimed at teachers and also includes information about how to use VR in the classroom, best practices, exercises and recommendations. The six lessons included are:

1. VR 101

In this lesson, students gain an overview of the curriculum and learn how to use the VR technology. The class creates group norms on using VR technology and practices using the tool through several tutorials.

2. Stand Up

In this lesson, students engage with their first piece of anti-bullying VR: *Stand Up*. Students work individually

2 VRAction Lab Curriculum, 2017



and in pairs, with some whole class check-ins along the way, to “monitor for meaning” and to clarify questions and misunderstandings.

3. No Easy Answers

In this lesson, students explore how schools (and society) deal and don't deal with bullying, addressing the fact that bullying is part of a larger societal problem.

4. FutureCIRCLES

In this lesson, students explore the question of whether bullying can ever be stopped and what people can do to help end it. The third and final VR piece asks to consider how small actions can lead to big results.

5. Media Makers

In this lesson, students have a chance

to synthesise and apply what they have learned in the previous lessons by creating their own piece of media. Students are invited to plan, rehearse and shoot a 30-60 second, “one-shot” video on their mobile phone about bullying. They are offered a menu of choices based on the three VR pieces they experienced during the programme.

6. Showcase

In this final phase, students have an opportunity to share their media creations with their own and/or other classes.

Alongside these lessons, the curriculum includes a series of activities and tasks to be performed by students individually or in pairs, as well as homework.

STAND UP

2

PARTNER PAIRING ACTIVITY

You and a partner have been assigned the character of **KACIE**. While you experience “Stand Up” for the second time, please focus on Kacie and what she feels, thinks, says and/or does throughout the VR piece. After your viewing, you and your partner will share what you noticed about your assigned character and make a list together.

Things Kacie felt, thought, said and did (list as many things as possible):

You and a partner have been assigned the character of **DAVID**. While you experience “Stand Up” for the second time, please focus on David and what he feels, thinks, says and/or does throughout the VR piece. After your viewing, you and your partner will share what you noticed about your assigned character and make a list together.

Things David felt, thought, said and did (list as many things as possible):

You and a partner have been assigned the character of the **OTHER STUDENTS**. While you experience “Stand Up” for the second time, please focus on the characters of the “other students” (i.e. student not Kacie or David) and what they feel, think, say and/or do throughout the VR piece. After your viewing, you and your partner will share what you noticed about your assigned characters and make a list together.

Things the “other students” felt, thought, said and did (list as many things as possible):

#5

Technology

All three projects of VR Action Lab are 360 films made for virtual reality. They were filmed with rotatory cameras and built as 360 video.

The equipment used included³:

- ▶ 3 GoPro Odyssey cameras & Jump assembler
- ▶ Daydream View Headsets & Google Pixel phones

The GoPro Odyssey is a 16-camera panoramic stereo rig designed for Google's Jump platform. Together, Odyssey and Jump eliminate two of the most significant pain points in VR video storytelling: syncing cameras for easy control and capture, and automatically stitching footage for a seamless stereoscopic video, thus removing several days in post-production efforts.⁴

³ <https://vr.google.com/daydream/impact/actionlab/>

⁴ GoPro website <https://gopro.com/en/gb/news/here-is-odyssey>



The films have been dubbed into three other languages including Japanese, Portuguese and Spanish, and text elements of the film have been translated and edited in post-production.

To view the experiences using a VR headset, the creators offer direct integration with the Google Daydream viewer. The experience can be activated by accessing the Daydream app from a compatible smartphone, running on Android only. During this pilot Google Pixel phones were used.

#6

Production & Distribution

Google and Harmony Labs decided to collaborate to show what virtual reality can achieve. After some initial ideas, they decided to focus on schools and bullying specifically, and the VR Action Lab idea was born. The production took place over nine months between April and December 2017 in collaboration with Sensorium Works and Institute of Play. After the launch there was a pilot period to test the programme in schools during January 2018.

The design process is thoroughly documented by Harmony Labs in their Design Toolkit⁵, where they explain their strategy of “Impact Design”, a process containing feedback, testing and iteration with the aim of impact. It contains the following stages:

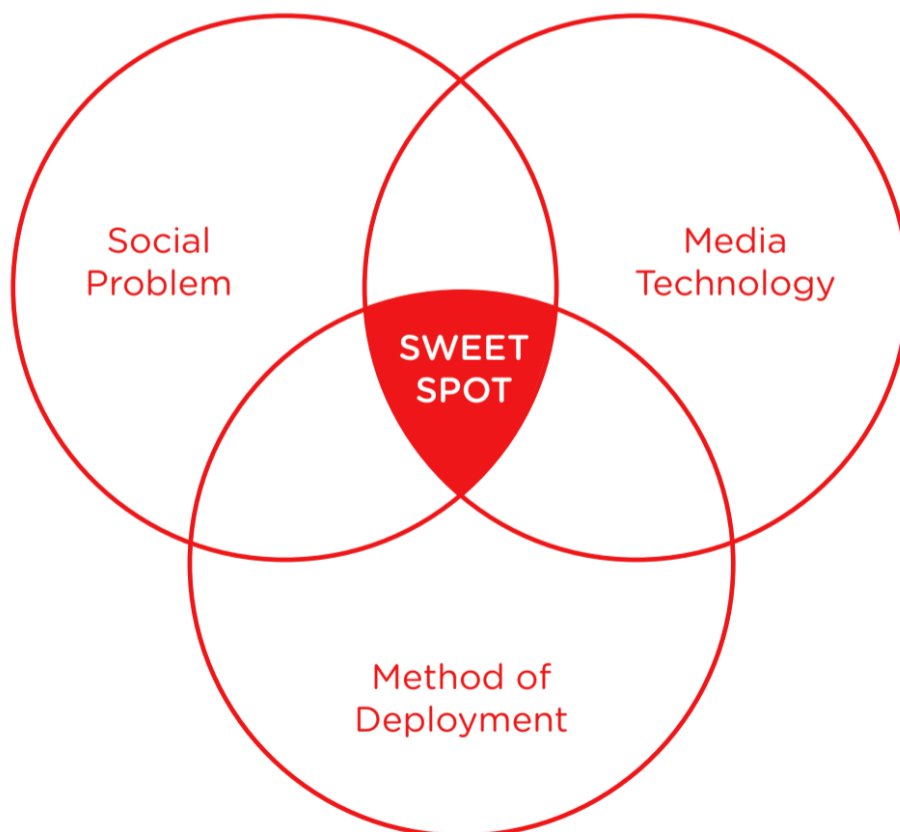
⁵ Design in VR toolkit, Harmony Labs, 2017

Landscaping

Understanding of the social context in which a social issue occurs, using a variety of research techniques, including media and network analysis, literature reviews, and interviews with experts and practitioners. Some hypotheses are made regarding how to solve the issue. The aim of landscaping for Harmony Labs is to discover what they call the project's strategic "sweet spot" which includes the

overlap of the social problem (in this case the effectiveness drop-off of anti-bullying programs), the media technology (in this case VR) and their method of deployment (which was a curriculum designed for the classroom).

STRATEGIC MEDIA IMPACT DESIGN



Co-design:

Co-designing was a collaborative process to co-create concepts for the VR experiences, including the audience, practitioners and experts to cover a wide variety of skills. In the VR Action Lab, some of these roles and skill areas were covered by core project partners, while others necessitated the occasional involvement of outside advisors and consultants. To ensure the goal of behaviour change in middle school students was achieved young people participated in different project stages. Four groups of young people were active participants in the project.

In the co-design phase Harmony Labs worked with Screenwriters Colony to select a number of directors and students to participate. The first activity was a briefing session that was used to unfold the problem of bullying and why the traditional school approach did not work. The students who participated in this event became advisors throughout the project. They received a crash-course on bullying prevention which was documented in the Briefing Book and were tasked to create VR pieces that together form a learning experience addressing teen bullying in middle schools. Their mission was to create a compelling narrative that was highly engaging

on an artistic level, while also representing crucial information about bullying and its prevention.⁶

The next phase was a creative production phase, with script-writers and young people from different locations, and they worked together on the development of the scripts with the filmmakers that were then made into prototypes of the experience.

The co-design methods included: panel conversations, interviews, workshops to write early versions of the scripts and walk-throughs. Once the experiences had been filmed and the curriculum written, both were “play-tested” by a small group of students at a public middle school.

*“Don’t just get something
from a movie or a book.*

Don’t write a story.

*Show them real-life situations,
because this is real life.”*

**Grace del Corral, Youth Panelist,
Discovery Workshop**

⁶ VR Action Lab Briefing Book, Harmony Labs 2017

Production and piloting

The production started with the script and involved the audience and the experts who created and piloted. Testing early and frequently allowed the team to determine the extent to which the ‘impact design’ worked as planned, and to make changes and refinements as needed. During this

process young people were also involved in the making, both as actors or giving feedback about the process. When the experiences were completed, the curriculum creation was put in place, tested and optimised. The final phase was to pilot the project in three schools, where 118 students tested it, as documented in the pilot research paper.

#7

Outcomes and Future Planning

To evaluate the efficacy of the Lab's virtual reality experiences and anti-bullying curriculum, the experiences were piloted as part of a series of separate studies, conducted throughout 2017 and 2018, including:

1. A randomized controlled trial on student attitudes and behavior change on bullying and bullying bystander intervention in two middle schools in Illinois, involving 50 eighth grade student participants.
2. An individual intervention to compare the effects of VR versus video in altering student understanding of bullying and propensity to engage in bullying.
3. Also there was a trial of the Midwest United States of 118 students, which led to a documented research paper. This research study and trial evaluated VR Action Lab compared to a business-as usual control group, and proposed two different test models to evidence:
 - In the first test, students who received the VR intervention saw empathy increased. Additionally, receiving the virtual reality intervention was associated with decreases in perpetration of bullying behaviours.
 - The second test saw the VR inter-

vention group showing increased school connectedness and willingness to intervene as an active bystander compared to the control group, through empathy as a mediating pathway.

These results suggest that manipulating empathy using a virtual reality enhanced intervention can positively influence constructs that often protect against a culture of aggression in schools.

The study notes that virtual reality provides a engaging solitary learning experience that allows students to absorb the material without distraction from social dynamics.

Legacy

Harmony Labs was hoping that the model would be replicated however this is the only pilot completed to date. For Harmony Labs, the production process was complicated to orchestrate, as there were many stakeholders. One of the hardest parts was to find a balance between creative freedom and user design focus.

The risk of traumatising or re-traumatising students is important to consider, given that VR is a powerful medium. There are ways to work around that, like not using animation rather than real footage, for instance.

“What’s good about 360 video is that is real, and what’s hard about it is that is also real. So the animated approach has some appeal in the sense of customisation of the scenes. But it depends on the resources available”

Harmony Labs

Feedback from participants

One of the directors Mary John Frank speaks about the process: “It was one of the most creative processes that I’ve personally experienced. I was getting a lot of feedback - it was really helpful to get clear on how what is resonating and what is not, on top of that how do we bring the story into 360 in the most entertainment and effective way and stay on topic with bullying.”⁷

Adaora Udoji, who directed the FutureCIRCLES experience said:

“Bullying has found a worthy foe in virtual reality. In VR, we can influence not only how we think, but also how we act, sparking new kinds of learning, discussion and transformation in students and adults.”

⁷ VR Action lab trailer <https://vimeo.com/246703464>

#8

Internal Evaluation and Learnings

Process

VR Action Lab is a complete project with an outstanding approach to design, integrating user centric strategies with testing in a multi-skilled environment.

Integrating the core audience in the design process meant the experiences resonated to young people, therefore achieving the goals of raising empathy and activating bystanders, as shown in the research papers. The challenges highlighted in the design process show that putting together a project of this scope might be difficult to coordinate, as there are many stakeholders involved which generated an important layer of work and coordination. In this case, the expertise brought by Harmony Labs was key to direct the project.

One of the most important elements of the process was the integration with the schools and the administration to be able to roll out the project. Perhaps as noted by Harmony Labs, more resources and time could have been added to this point to be able to achieve greater scale in the roll out of the curriculum integrated in middle schools.

Product and features

The three VR experiences cover different angles of the same topic, which allows

users to receive different perspectives. The immersion as part of the 360 video is important however the user always acts as an observer rather than an actor. These experiences form about 50 per cent of the curriculum content, which includes lessons and activities for students to make their own media creation. This reinforces the need to integrate media experiences within the wider classroom context. Providing the experiences integrated in the curriculum gave students the means to achieve the goals of the project. This shows that VR experiences work best when integrated as part of the learning curriculum and not as standalone experiences.

The research documentation papers and toolkits provide a point for scalability, which is open to any organisation. From the Harmony Lab's website all the material can be downloaded for use and it has been offered with a Creative Commons non-commercial open license.

User testing

The process created by Harmony Labs involved a strong focus on user testing. This allowed for the students to offer feedback throughout the process and to create experiences that resonated with the language and the real life situations in schools.

Content & Technology

The content of the films combined actors performing and dancing. It also provided a good base of diversity so could be a good example for future projects. The use of the technology was a challenge, as the medium is not yet established. During the pilots there were bandwidth issues and a need for charging stations. This is a key point to consider for future projects.

The choice of 360 video offered benefits in making the experiences look very realistic, as well as involving real young people as characters.

Scalability

Since the experiences are available to most headsets, the project becomes highly scalable, however the scenes are very contextualised to the USA. The experiences and the curriculum were translated into three other languages, nevertheless. There is no evaluation available of the roll out of the project in other countries, which was undertaken by Google.

For Harmony Labs, one of the most important factors to consider is working with the school administration to be able to test and implement the programmes. They highlight that this would be one of the pillars of any project of a similar shape. For Harmony Labs, it is very important that there is support offered to the schools at several levels including support for teachers, administration and planning.

Effectiveness

Effectiveness was proved during pilots and documented in research papers, with positive results in achieving empathy and behavioural change to motivate young people to become active bystanders during bullying situations.

*“Only if there is a confluence
between your problem,
the technology and distribution
mechanisms should you
consider using an
emerging technology.”*

Brian, Executive Director Harmony Labs.

Key learnings of relevance

- ▶ The design process with a user-centered approach with people and not for people involved in this particular issue (bullying) allowed Harmony Labs to engage more young people in the process and to achieve better results.
- ▶ In creating new media experiences, there is a need to consider the right balance between creative autonomy among media makers and user centered design. It is important to factor in time to get everyone on the same page and to manage the process to achieve desired results.
- ▶ The integration with the school administration was key to roll out the project, hence it is highly recommended to put this as a priority.
- ▶ Collaborating with researchers and experts to generate papers and evidence was important to bring a scientific approach to the project, highlighting the potential of the project as well as to open new pathways for investigation.
- ▶ The translation of the experiences into other languages was not enough to engage other countries in integrating this curriculum and approach into their schools. Localisation of the experiences (including video footage and scripts) and resources in other countries' regions would have been needed to roll out the project to other locations.
- ▶ Creating a project with publicly available resources might be very beneficial to other organisations interested in the work. This kind of material could be shared by GDPC in a common hub or resource for organisations and practitioners.
- ▶ Following the research and testing, VR has proven to be effective in generating empathy and influencing behaviour change in young people.
- ▶ The power of VR in simulating real life events should be taken into consideration especially in working with sensitive people as it can recreate trauma. Alternative design methods can be used to overcome this challenge.



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