Transforming classroom observation and professional development with 360-degree video and mobile VR

Conference or Workshop Item

How to cite:

Cross, Simon; Wolfenden, Freda and Adinolfi, Lina (2018). Transforming classroom observation and professional development with 360-degree video and mobile VR. In: 8th Annual mEducation Alliance Symposium, 6-8 Nov 2018, Washington DC, USA.

For guidance on citations see FAQs.
Transforming classroom observation and professional development with 360-degree video and mobile VR

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7 November 2018
mEducation Alliance Symposium
Washington DC, USA

Cite as: Cross, S., Wolfenden, F. and Adinolfi, L. (2018). Transforming classroom observation and professional development with 360-degree video and mobile VR, mEducation Alliance Symposium, Washington DC, 6-8 November 2018.
TESS-India MOOC (from Nov 2015): Early use of a MOOC as a large-scale targeted capacity-building tool within a development initiative. Over 30,000 participated with a completion rate of over 50%.

OER: Over 100 specially commissioned Teacher Development OER Resources (plus videos) adapted (linguistically and culturally) for the local context of each of the seven project states. Over 800,000 have engaged with the resources.
Examples of TESS-India activities in one state – Madhya Pradesh

- Localisation workshop for Hindi MOOC with state representatives
- Visits, discussions and interviews at Teacher Education Colleges
- Workshop with state education officials for mapping TESS-India OERs to Shaala Siddhi
- Meeting with RSK Director
- Digital badges knowledge sharing
- Visits to local schools
The Problem of Teacher Professional Development

• Pressing need for improving the quality of teaching, teacher training and professional development in low- and medium-income countries

• Projects struggle to achieve significant and permanent change in teaching practice and supporting structures

• Lack of solution-building from the teachers’ perspective or with the technology they own

• Need to enthuse, engage, and give control

• Standard video has been very successful in supporting teacher training and development but has its limitations

• Virtual Reality (VR) offers unprecedented level of immersion but until recently has been expensive and bulky
The Focus of the 360 Mobile VR project

- Pressing need for improving the quality of teaching, teacher training and professional development in low- and medium-income countries
- Projects struggle to achieve significant and permanent change in teaching practice and supporting structures
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Virtual Reality (VR) offers unprecedented level of immersion but until recently has been expensive and bulky
To improve the quality of teaching practice, pedagogic understanding, and engagement with professional development by developing research-invalidated practical approaches to, and a conceptual framework for, using 360-degree video recording and smartphone-driven mobile VR viewing.
Two of the key stages

**Recording 360-degree video in the classroom**

Camera fixed to tripod in the centre of room. Researchers monitor and control the recording from another room using an app.

**Viewing video on a VR headset**

360-degree video transferred via Bluetooth to a smartphone which is then attached to a VR headset. Smartphone screen is viewed through the lenses in the headset. As the viewer turns their head, the portion of the classroom shown in the viewer corresponding to where they look changes.

*Note: Original slide had more but smaller text/images. For legibility these have been re-written for this SlideShare version.*
Opportunities...

Teachers

Teacher educators

Researchers
Madhya Pradesh Pilot

• Field trial: 4 in-service teachers in 2 rural primary schools
• Interviews 2 pre-service teachers & 2 teacher trainers
• Workshop ~50 pre-service teachers
• Research ethics approved methodology

“It’s very different from seeing oneself on a mobile phone. It’s like being immersed inside. I have been involved in a lot of training of other teachers but never before seen myself in the classroom.”
“[in the first viewing] I watched the children but not properly, but this [second] time I watched each and every child with more attention; what they were doing.”
“The [research] has revealed significant promise and enthusiasm among in-service teachers, trainee teachers and academic support officials... We are agreed to [explore opportunities to] take forward the research pilot by the Open University in two districts.”
Emerging opportunities

- Applicable to both low- to medium-income countries and high-income countries
- Step-change in how digital video could be used in teacher educational and in-service training
- Supports teachers in wide range of critical, reflective activities, engagement with OERs, and in other professional development
- Mediating artefact for use by teacher trainers when supporting teachers and in teaching programmes
- Means for sharing practice and building virtual teaching experiences
- Interest from State Department of School Education
Looking ahead

**Practice**
- How can 360-degree mobile VR support teacher professional development?
- What advice and support should be given to teachers and teacher educators?

**Research**
- What is distinct about this use of technology for teacher education?
- How should 360-degree mobile VR be theorised and represented in a framework for use by practitioners?

**Technology**
- How can these technologies work most effectively in challenging contexts?

**Policy & Funding**
- How can teachers be supported in utilising this technology?
- Who would be interested in collaborating or partnering with us?
- How can implementation approach adopted by the TESS-India Programme help scale this innovation?
What next?

Visit the website **www.360mobilevr.co.uk**

Chat over a coffee  
Take a postcard

Email me at **simon.j.cross@open.ac.uk**

Learn more about TESS-India

Moving towards more participatory practice with Open Educational Resources
**http://oro.open.ac.uk/49631/**
Extending the MOOC footprint
**http://oro.open.ac.uk/48510/**