

A Theory of Change Approach to Evaluating Long-Term MOOC impact

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Hello everyone and thanks for joining me today. I'm Leigh-Anne Perryman, a Senior Lecturer at the Institute of Educational Technology at The Open University in the UK.

We're living through times when we're bombarded with false information, information that can influence people's behaviour in ways that cost lives. Critically evaluating that information is difficult as the flow of deception is relentless. But, there are other areas in which we can use evaluation help us cope with these difficult circumstances. For example, evaluating what works in education is more important now than ever, especially for people who've had to take their teaching online, at great speed.

We're 11 months into the pandemic and it's a good time to take stock, to find out what's working and what's not working, in which contexts and for whom, as the basis for planning teaching and learning strategies that are adaptable, resilient, effective and sustainable.

This, in turn requires robust but flexible evaluation approaches that can accommodate the diversity of contexts in which our students live and study.

CONTEXT: TEL MOOC EVALUATION



4 October – 7 November 2020

MOOC

INTRODUCTION TO

Technology-Enabled Learning

COMMONWEALTH OF LEARNING Athabasca University

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Last year I evaluated the long-term impact of the Commonwealth of Learning and Athabasca University co-produced course TEL MOOC, which is intended to ‘provide an accessible learning opportunity to teachers, particularly in developing countries, to expand upon their knowledge and skills regarding the use of technology in teaching and learning’ (Cleveland-Innes et al, 2017, p. 1).

My evaluation (see [Perryman, 2020a](#); [Perryman, 2020b](#)) explored the short-term, intermediate and long-term impact of the course on participants who had studied the course over the previous three years, and on other stakeholders.

- Identify the diverse needs of multiple stakeholders.
- Allow for consideration of a wide range of contextual factors that may enable/limit impact.
- Allow for analysis of complex mechanisms of change.
- Allow for consideration of multiple interpretations of causality.
- Allow for both quantitative and qualitative evidence to be used as support for the evaluation.
- Offer the flexibility for iterative refinement in light of emergent findings and for multiple stakeholders in diverse settings.

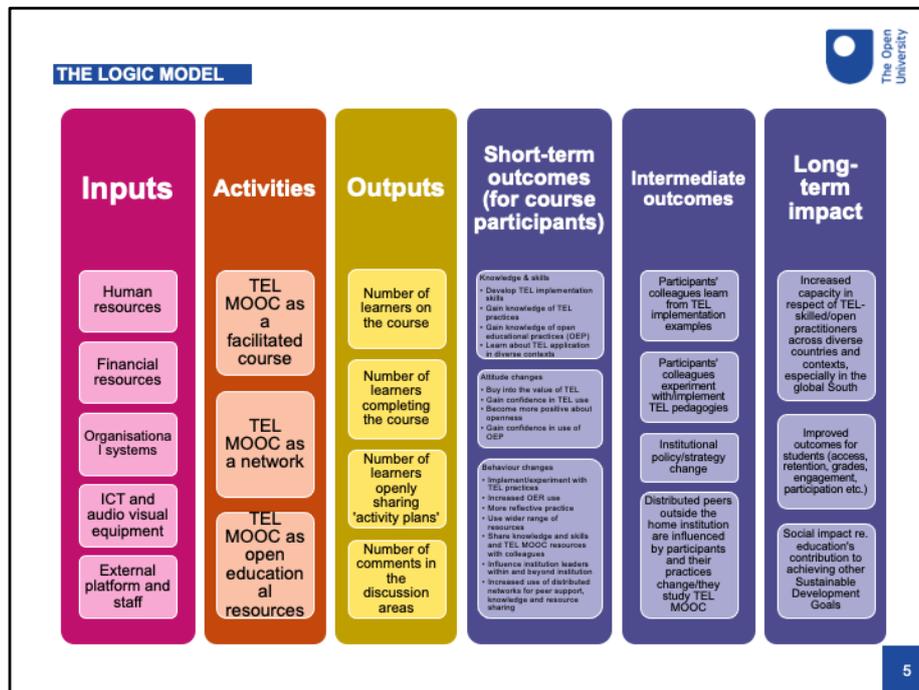
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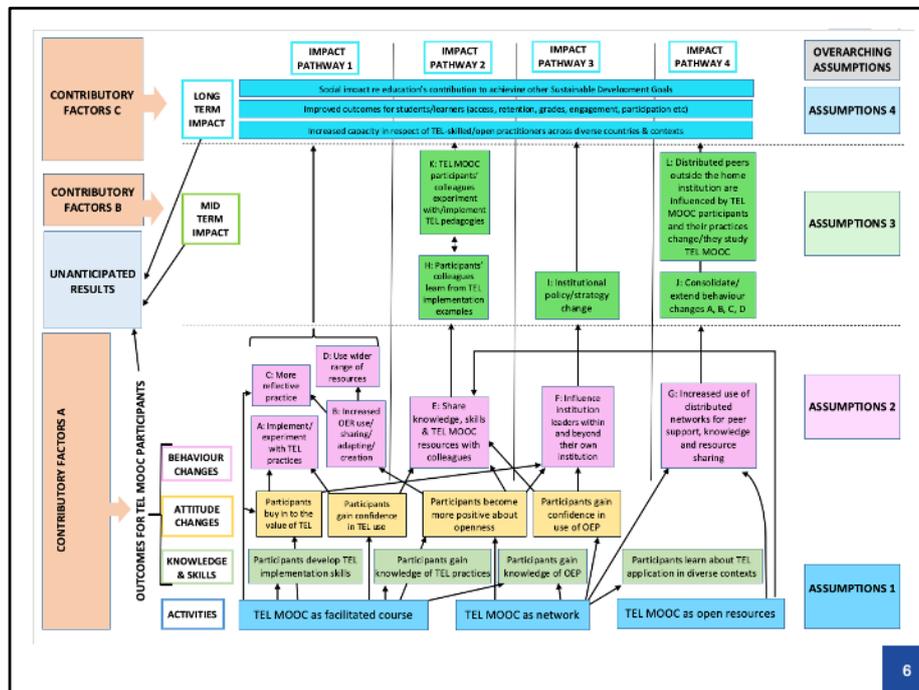
I needed an evaluation framework that could :

- Identify the diverse needs of multiple stakeholders.
- Allow for consideration of a wide range of contextual factors that may enable/limit impact.
- Allow for analysis of complex mechanisms of change.
- Allow for consideration of multiple interpretations of causality.
- Allow for both quantitative and qualitative evidence to be used as support for the evaluation.
- Offer the flexibility for iterative refinement in light of emergent findings and for multiple stakeholders in diverse settings.

Drawing on existing use of the theory of change approach in other disciplines, I adapted the approach to be suitable for course impact evaluation and to allow these questions to be answered.



The first stage in the process is to develop a logic model detailing:
 The inputs – the resources required to produce the course
 The activities – the various components of a course. For TEL MOOC this comprised three things: The facilitated course, the course as openly licensed resources and the course as a massive network.
 The intended, or hypothesized short-term outcomes and longer-term impact on participants and other stakeholders.
 The detail is not important in the context of this presentation but you'll be able to see it in my downloadable slides.



The logic model was the basis for a more comprehensive, impact-based theory of change, shown here. The outcomes are in the lower level, and the intermediate and long-term impact in the upper levels.

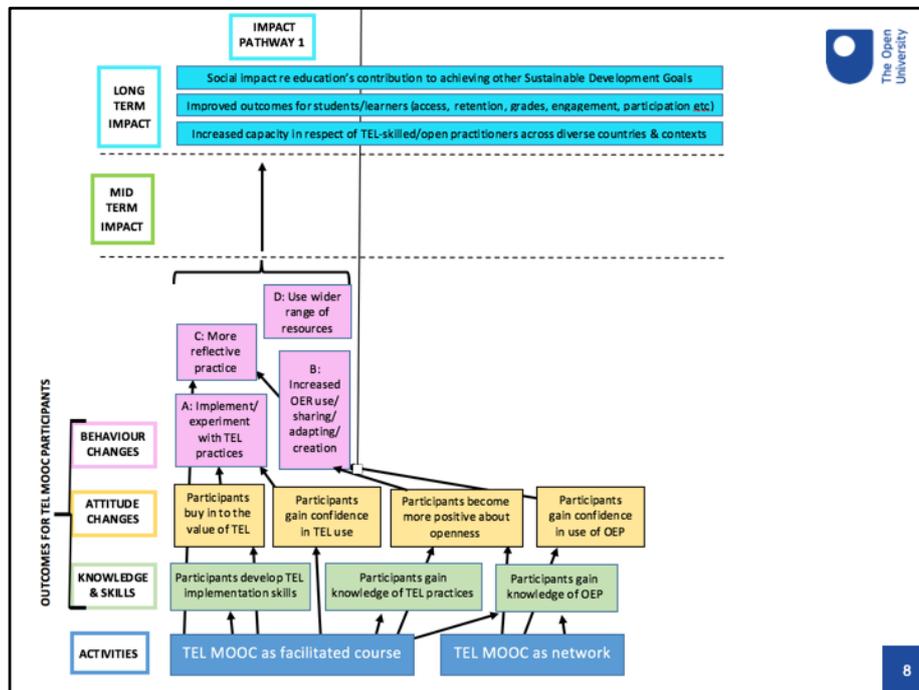
A key element of the theory of change are the impact pathways – the mechanisms whereby impact is achieved in the short-term, medium-term and long-term.

The impact pathways are structured around hypotheses, grounded in relevant theory about how people learn, and relevant literature, including other evaluation studies. The impact pathways are produced speculatively, in draft form, before the evaluation is conducted. This is a basis for developing the evaluation criteria, identifying the variables to be explored, and selecting appropriate data collection methods.

I'll take you through two of the impact pathways as an example of how they're built up.

‘TEL MOOC participants make changes in their own practice as a direct result of their study of the course (and any contributory factors), leading to longer-term impact on learners and on society more generally.’

Here’s the hypothesis for the first impact pathway: TEL MOOC participants make changes in their own practice as a direct result of their study of the course (and any contributory factors), leading to longer-term impact on learners and on society more generally.



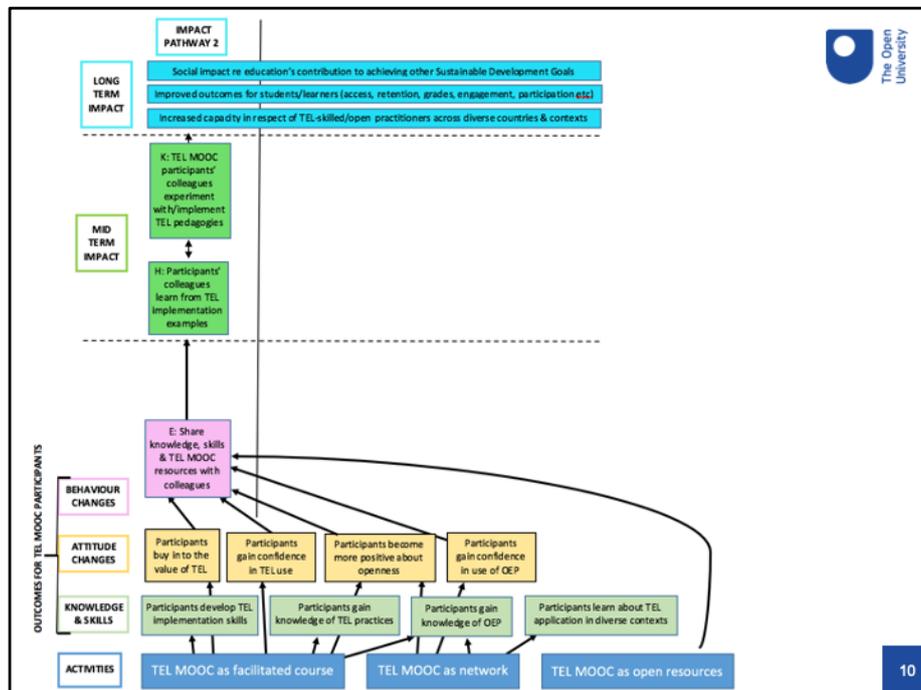
And here are the mechanisms of change, going from the activities, to the outcomes – the impact on learners’ attitudes, knowledge and behaviour, through to the phases of impact.

If we unpick this a bit, you’ll see that only two of the activities feature for this impact pathway: TEL MOOC as a facilitated course and TEL MOOC as a network.

The outcomes layer identifies a range of knowledge, skills, attitude changes and behaviour changes hypothesized to take place for participants, including more experimentation with TEL, more use of OER and increased reflective practice. The theory of change shows how the knowledge and skills, attitude changes and behaviour changes elements are related to each other and, ultimately, how they may lead to long term impact - here, improved outcomes for the students taught by the TEL MOOC participants, social impact and increase TEL implementation capacity.

‘TEL MOOC participants share knowledge, skills and resources with colleagues, who are also influenced by participants’ change in practice, leading to practice changes for colleagues and subsequent longer-term impact on learners and society.’

Here’s the hypothesis for the second impact pathway: TEL MOOC participants share knowledge, skills and resources with colleagues, who are also influenced by participants’ change in practice, leading to practice changes for colleagues and subsequent longer-term impact on learners and society.

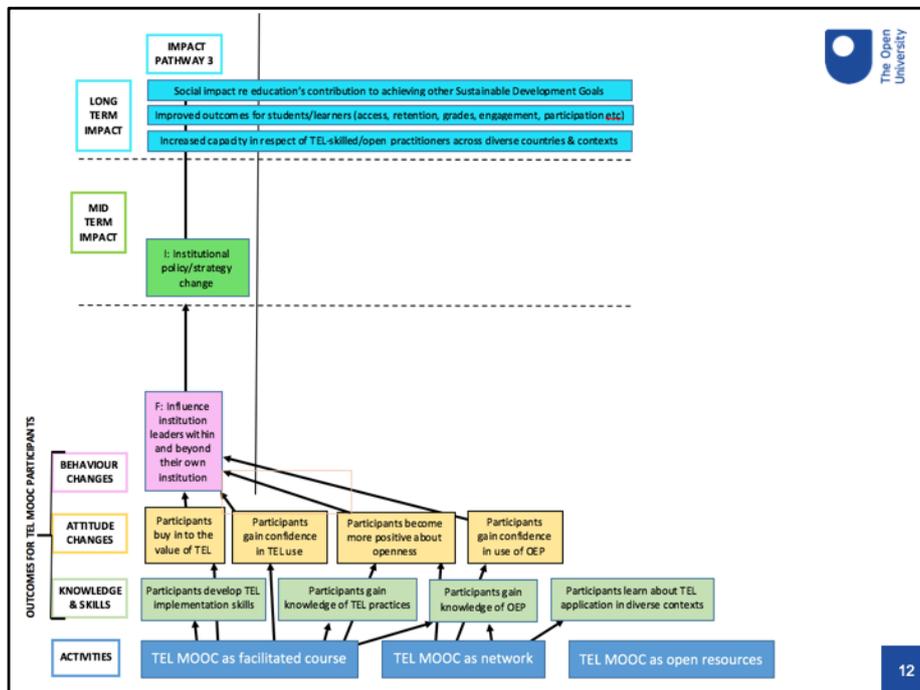


The second impact pathway 2 has more going in on the intermediate impact layer, whereby course participants share their knowledge, skills, with their colleagues (in the short-term), and also share the openly licensed course resources, and their colleagues learn from participants' practice and experiment with the implementation of TEL themselves. This, in turn, is hypothesized to lead to long-term impact on learners, to wider social impact, and to improved capacity for implementing TEL.

I'll briefly cover the other two impact pathways. You can look at them in more detail in the slides and supporting documents.

‘TEL MOOC participants influence institution leaders, leading to institution-wide policy/strategy change, and long-term impact on learners and society.

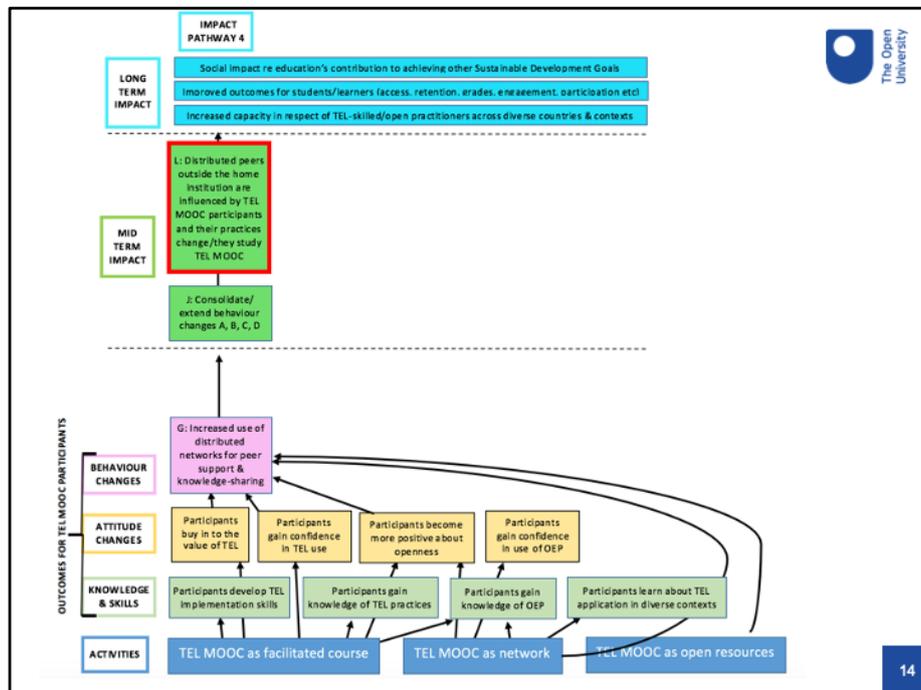
Here’s the hypothesis for the third impact pathway: TEL MOOC participants influence institution leaders, leading to institution-wide policy/strategy change, and long-term impact on learners and society.



Here are the mechanisms of change for impact pathway 3, which features all three activities and includes institutional policy and strategy change at the intermediate impact stage.

'TEL MOOC participants' learning is enhanced by their being part of a massive cohort of MOOC learners, functioning as a community of practice. They gain networking experience and skills, and make connections that last beyond their study of the course and are a source of peer support as they experiment with the application of their newly gained skills and knowledge to their own practice.'

Here's the hypothesis for the fourth impact pathway: TEL MOOC participants' learning is enhanced by their being part of a massive cohort of MOOC learners, functioning as a community of practice. They gain networking experience and skills, and make connections that last beyond their study of the course and are a source of peer support as they experiment with the application of their newly gained skills and knowledge to their own practice.



Here's the impact pathway in detail. You can see in the mid-term impact layer a stage where distributed peers outside participants' home institution are influenced by them and their practices change, or they study TEL MOOC. The long term impact remains the same.

ASSUMPTIONS

Technology-related

- Lack of ICT equipment & software
- Lack of funding for new technology
- Lack of IT support

Infrastructure-related

- Power cuts
- Slow/unreliable internet connection

Institution-related

- Lack of time to experiment
- Lack of support from colleagues
- Institutional policies and priorities
- Lack of support from managers
- Curriculum constraints

External

- Feeling unsafe in open online spaces
- Women and girls restricted in online participation
- Concerns about children participating online

OVERARCHING ASSUMPTIONS

- Assumptions in boxes below will vary with context
- Some assumptions are more significant than others
- Where an assumption does not hold it poses a risk/barrier to impact
- Impact of behaviour change outcomes outweighs any negative impact of external influences

ASSUMPTIONS 4

- Implementation of TEL techniques will improve retention & engagement and improve student grades
- Implementation of TEL techniques will improve access to education
- Implementation of TEL in A & K is appropriate to students' skills & preferences

ASSUMPTIONS 3

- Assumptions in 2 are true for participants' colleagues (H, K)
- Colleagues have desire to make changes
- Institutions have autonomy to make changes (I)
- Institutions have capacity to support policy changes (I)

ASSUMPTIONS 2

- I. Educators have capacity & autonomy to make changes (A, B, C)
- II. Curriculum allows flexible resource use & pedagogies (A, B, C, D)
- III. Peers are supportive of OER use (B) and TEL implementation (A)
- IV. Relevant OER are available (language, culture, subject, currency, level) (B)
- V. Educators have sufficient ICT skills (A, B, G)
- VI. Internet connectivity & platform availability (A, B, D, G)
- VII. Necessary resources are available (hardware, software) (A, B)
- VIII. Institutional priorities align with planned changes (A, B, F)
- IX. Peers/colleagues are supportive of changed practice (A, B, D)
- X. ICT support is available (A, C, D)
- XI. Educators feel safe and confident networking online (G)
- XII. Networking is culturally acceptable (e.g. for women) (G)
- XIII. Learning is facilitated through networks (connectivism) (G)
- XIV. Language problems are not encountered (G)
- XV. Channels for influencing institution leaders are available (F)
- XVI. Literacy levels are sufficient to allow the implementation of TEL
- XVII. Parents allow their children (especially girls) to use online resources and sites.

ASSUMPTIONS 1

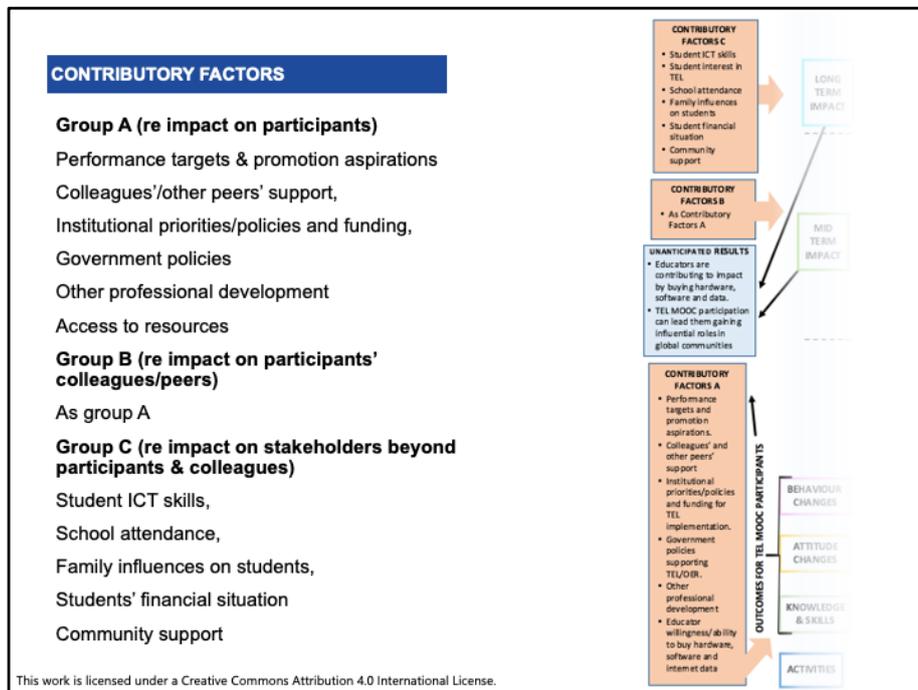
- Participants achieve TEL MOOC learning outcomes
- Participants are active in TEL MOOC network
- Increased knowledge leads to increased confidence

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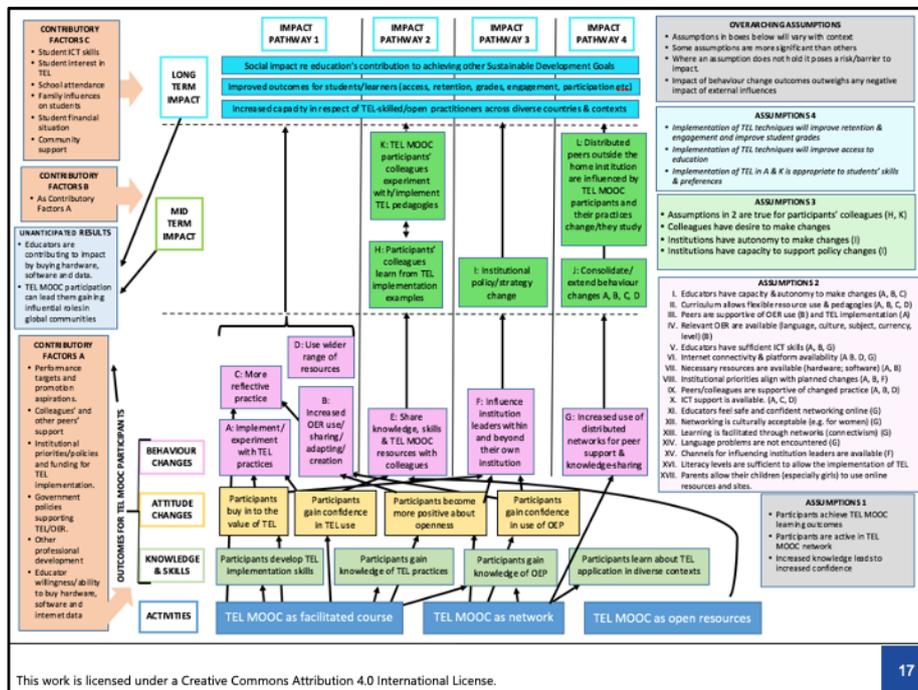
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Going back to the main theory of change, on the right hand side are the assumptions, which are things assumed to be true for the hypothesised impact to be realised, and are a risk to achieving impact, where an assumption is not true. They'll be produced in draft form before an evaluation informed by existing literature and theory, and by the logic model, and then will be finalised on the basis of the collected data. There are assumptions for each level of impact.

For the TEL MOOC evaluation they included things like the availability of technology and internet connectivity, infrastructure issues, institutional culture and support, educators' skills and capacity, and external factors such as online safety, culture-related constraints on women's online participation. You can see these on the full theory of change I'll upload with my slides.



On the left-hand side of the theory of change are three sets of contributory factors hypothesized to account for some of the impact identified in the evaluation, drawing on the principles of 'contribution analysis'. These are hypothesized in the initial theory of change as the basis for designing the data collection strategy and then revised on the basis of the collected data. Contributory factors to impact for TEL MOOC included other professional development course participants had done, the availability of resources, institutional support and, for long-term impact factors such as school attendance, family influences and community support.



Here's the overall theory of change again. It's downloadable from my session page. A theory of change approach can be used to evaluate any type of educational intervention where you want to find out about different stages of impact, the contribution of other factors in achieving or preventing that impact, and how a course works, or doesn't work in different contexts. Depending on the data collected a separate theory of change can be produced for individual countries, individual sectors, and even individual case study participants, to allow for comparisons to be made.

A theory of change can be combined with case studies of individual learners' experiences, an approach I used in the TEL MOOC evaluation, which you can see in the final impact report.

I hope you've found the presentation useful and do look at the supporting resources. Thanks for listening.

THANK YOU

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