DEVELOPMENT OF THE OPEN EDUCATIONAL PRACTICES IMPACT EVALUATION INDEX

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Development of the Open Educational Practices Impact Evaluation Index

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Background

- The ***OEP-IE Index*** was developed as part of the ROER4D project (SP 10.6) implemented at the Open University of Sri Lanka, to evaluate the impacts of the integration of OER by school teachers.

- The project used a **mixed methods approach** comprising **a comprehensive armory of strategies and instruments** to help us obtain a complete picture of the impacts of OER integration on learning and teaching. The ***OEP-IE Index*** is one of those instruments.

- We expect that this instrument will help us **capture the *perceptions, perspectives and practices*** of practitioners as they engage with the integration of OER in their teaching and learning activities **and how these change over time.**

Research Questions

- Key research question: *how and in which ways integration of OER is having an impact on teaching and learning in Sri Lankan schools,* specifically along the following lines:

  - changes in pedagogical perspectives of teachers

  - changes in the pedagogical practices among teachers;

  - changes in the quality of teaching-learning materials teachers use

Ascertaining Impact

- Ascertaining the impacts of the adoption of OER and OEP is difficult in the best of circumstances.
- In order to ascertain any significant changes in thinking and behaviors in relation to OEP, data needs to be gathered consistently over a period of time, for meaningful assessments to be made.

Ascertaining Impact

- Impact is about establishing causation or a relationship between and among variables.

- Causation can be established through "*physical causality*" that rests on the idea of a direct physical connection in the real world, rather than *factual causality* (Maxwell, 2004; Mohr, 1999).

- A qualitative approach can be adopted explicitly and rigorously as a method for impact analysis through establishing causal relationships.

- In-depth qualitative studies on ascertaining the impacts of OER integration in teaching and learning are well suited for discovering the true reasons behind a behavior, through establishing physical causality.

Our goal

- To design and develop an instrument - ***Open Educational Practices Impact Evaluation Index (OEP-IE Index*)**

    - To capture of the beliefs and practices of adopters of OEP at regular intervals to be able to observe changing beliefs and shifting perspectives and practices over a period of time.

Developing the OEP-IE Index

- The OEP-IE Index comprises a basket of items on a Likert Scale under three categories:
  - *CURRENT Pedagogical Beliefs;*
  - *CURRENT Pedagogical Practices; and*
  - *CURRENT use of Instructional Resources*
- The items in the index seek to explore the behavior of teachers along these lines at any one point in time (that's why we are calling it an index, because it is an index of behavior at around time which can be compared with behaviors previously observed).
- We have not sought to explore these constructs, with a positive disposition towards any theoretical perspectives in mind.
- Instead we are interested in the SHIFTS in their position on all of these three constructs, as that's how we will be able to ascertain impacts over a period of time.

Instrument Development Process

- Generation of items based on a review of the literature on OER and OEP.

- The DRAFT pool of items in the three sections were developed under several key aspects:

  - Accessibility/Availability
  - Technology
  - Teaching-learning approaches
  - 4Rs – Reuse; Revise; Remix; Redistribute
  - Integrating OER
  - Sharing
  - Quality

Preparation of the Draft Version

- Development of a pool of DRAFT items (statements) to be rated (after several discussion rounds among the Research Team), under the three main sections, with 15 items under each aspect:

  - Pedagogical Beliefs (PB)

  - Pedagogical Practices (PP)

  - Instructional Resource Use (IR)

- After further scrutiny to avoid replication of ideas, and to ensure clarity, these items were sorted, revised and reduced to 42 items, in the three categories.

Three Phases in the Instrument Development

- Phase 1 - Expert Review
- Phase 2 – Item Analysis
- Phase 3 – Statistical Analysis for Reliability & Validity
- In these three phases, the content and construct validity of this instrument is addressed.
  - *Content validity* comprises alignment of the items with its focus/intentions. (Phases 1 & 2)
  - *Construct validity* (which comprises *criterion-referenced* validity is tested later as part of Phase 3).
- Throughout each phase, a systematic refinement of the instrument is done.

Phase 1 – Expert Review

- 20 expert practitioners were requested to review the **OEP-IE Index - Version 1** and 15 responded, to the following questions in relation to each item.
    - *What do you think this item is referring to?*
    What does this item mean to you?
    - *If you were to reword this item, how you would reword it, without altering its focus?*
- After comparison of individual observations made by the two lead researchers on the comments, following decisions were made, resulting in **OEP-IE index- Version 2** :
    - Some items were kept unchanged.
    - Some items were re-worded/re-phrased/revised.
    - Some items were separated into more than one.
    - Some items were combined to avoid duplication of meaning.
    - Some items were deleted/removed.

Phase 2 – Item Analysis

- ***OEP-IE Index- Version 2*** was tested online and reviewed with a group of university practitioners (n=24) who were aware of OER and OEP, and had focus group discussions with them, using the following questions:
  - *What do you think this item is referring to? What does this item mean to you?*
  - *When you responded to this item, what was on your mind? What did you think you were responding to?*
  - *If you were to reword this item, how would you do it, without altering its focus?*
- Based on their responses and feedback, the items were re-scrutinized by the two lead researchers and further refined, resulting in 38 items in ***OEP-IE Index- Version 3.***

OEP-IE Index – A DRAFT Version (PB)

OEP Impact Evaluation Index (OEP Impact Index)

Instructions. This survey seeks to capture your **CURRENT beliefs and practices** around **open educational practices**. Please indicate your response to each one of the items by checking the best response for you. Please note that in submitting the survey you indicate your consent to the reporting of this data for research purposes. This data will be reported only in aggregate form.

Please indicate your CURRENT beliefs about the following statements.

Your CURRENT Pedagogical Beliefs	+2 Strongly Agree	+1 Agree	0 Neutral	-1 Disagree	-2 Strongly Disagree
1. Education is a human right.					
2. Technology can enhance learning and teaching.					
3. Teaching is mostly about teaching the subject matter content.					
4. Educational resources developed with public funds should be available freely.					
5. OER has the potential to change pedagogical practices (i.e., approaches to teaching and learning).					
6. Teaching is mostly about designing the learning experiences of students.					
7. OER has the potential to substantially alter our design of students' learning experiences.					
8. Teaching with technology substantially increases our teaching workloads.					
9. Being able to *reuse* educational resources helps me to improve my teaching.					
10. Being able to *revise* educational resources helps me to customize my teaching.					
11. Being able *remix* educational resources allows me to be creative in my teaching.					
12. Being able to *redistribute* educational resources helps promote a culture of sharing.					
13. Searching for appropriate OER for my teaching is a waste of my time.					
14. The accuracy and reliability of OER cannot be assured.					
15. An open licensing framework is crucial to being able to share instructional resources.					

OEP-IE Index – A DRAFT Version (PP)

Your CURRENT Pedagogical Practices	5 Always	4 Often	3 Sometimes	2 Rarely	1 Never
1. I integrate technology in my teaching.					
2. The main focus of my teaching is the subject matter content.					
3. I tend to use copyrighted material in my teaching.					
4. I share with others educational resources I have developed.					
5. I tend to avoid the use of OER in my teaching.					
6. I use OER to enhance the learning experiences I design for my students					
7. I tend to develop my own instructional resources.					
8. I tend to *reuse* educational resources in my teaching.					
9. I tend to *revise* educational resources before integrating them in my teaching.					
10. I tend to *remix* educational resources to enhance the quality of my teaching.					
11. I tend to *redistribute* educational resources I have develop freely to help others.					
12. I use OER in different ways to help improve my teaching.					
13. I use OER to enhance the teaching I design for my students.					
14. I critically evaluate the content of OER before integrating them in my teaching.					
15. I prefer to develop my own instructional resources.					

OEP-IE Index – A DRAFT Version (IR)

CURRENT use of Instructional Resources	5 Always	4 Often	3 Sometimes	2 Rarely	1 Never
1. Availability of OER enables me to be innovative in my teaching.					
2. Availability of OER allows me to freely use instructional resources in my teaching.					
3. Availability of OER allows me to openly share instructional resources with anyone.					
4. Technology enables me to find and integrate instructional resources in my teaching.					
5. Availability of OER enables me to design a variety of learning activities for my students.					
6. OERs allow me to design effective, efficient and engaging learning experiences for my students.					
7. Availability of OER allows me to integrate new/updated instructional resources in my teaching.					
8. Use of OERs enable me to modify the instructional resources to suite my teaching situations.					
9. Uses of OERs enable me to create new instructional resources to improve the quality of my teaching.					

Revisions made - Examples

9. Being able to *reuse* educational resources helps me to improve my teaching.	Being able to *reuse* educational resources helps my teaching.	Being able to *reuse* (existing) educational resources helps making my teaching more efficient.	Being able to ~~reuse~~ use the same educational resources multiple times helps my teaching.	*Helps how?* *Define 'Reuse'?*
10. Being able to *revise* educational resources helps me to customize my teaching.	Being able to *revise* educational resources helps me to customize my teaching.	Being able to *revise* (existing) educational resources helps me to customize my teaching.	Being able to ~~revise~~ modify educational resources helps me to customize my teaching.	*Define 'Revise'?*
11. Being able *remix* educational resources allows me to be creative in my teaching.	Being able *remix* educational resources allows me to be creative in my teaching.	Being able *remix* (existing) educational resources allows me to be creative in my teaching.	Being able ~~remix~~ reorganize component parts of educational resources allows me to be creative in my teaching.	*Define 'Remix'?*
12. Being able to *redistribute* educational resources helps promote a culture of sharing.	Being able to *redistribute* educational resources helps promote a culture of sharing	Being able to *redistribute* educational resources helps promote a culture of sharing.	Being able to ~~redistribute~~ share educational resources helps promote a culture of sharing.	*Define 'Redistribute'?*
13. Searching for appropriate OER for my teaching is a waste of my time.	Searching for appropriate OER for my teaching is poor use of valuable time.	Searching for appropriate OER for my teaching consumes too much of my valuable time.	Searching for appropriate OER for use in my teaching is poor use of valuable teaching time.	**Consider re-word?**
14. The accuracy and reliability of OER cannot be assured.	The reliability of OER cannot be always assured.	The accuracy and reliability of OER content cannot be always assured.	**The reliability of OER content cannot be always assured.**	√
15. An open licensing framework is crucial to being able to share instructional resources	**Creative Commons licensing is essential for sharing of educational resources.**	An open licensing framework (such as creative commons) is crucial to being able to share instructional resources	**An open licensing framework (such as Creative Commons) is essential for sharing of educational resources.**	√

Revisions made - Examples

1. Availability of OER enables me to be innovative in my teaching.	Access to OER enables me to be innovative in my teaching.	Availability of OER enables me to to be innovative in my teaching.	Access to educational resoruces that are openly licensed and accessible OER enables me to be innovative in my teaching.	√
2. Availability of OER allows me to freely use instructional resources in my teaching.	Access to OER allows me use instructional resources free of costs.	Availability of OER enables me to freely (and openly) use instructional resources in my teaching.	Access to educational resoruces that are openly licensed and accessible OER allows me to use instructional resources free of costs.	√
3. Availability of OER allows me to openly share instructional resources with anyone.	Access to OER allows me to share instructional resources with anyone.	OER/Open lisencing enables me to share instructional resources with anyone.	Access to educational resoruces that are openly licensed and accessible OER allows me to share instructional resources with anyone.	√
4. Technology enables me to find and integrate instructional resources in my teaching.	ITEM DELETED....	Technology enables me to find and integrate instructional resources in my teaching		?
5. Availability of OER enables me to design a variety of learning activities for my students.	Access to OER enables me to design a variety of learning activities for my students.	Access to OER enables me to design a variety of learning activities (experiences?) for my students.	Availability of educational resoruces that are openly licensed and accessible OER enables me to design a variety of learning activities for my students.	√

Some key decisions taken during revision

- To remove the term OER and replace it with the phrase "educational resources that are openly licensed and freely accessible"

- Define the terms; Reuse, Revise, Remix, Redistribute

- Not to separate/categorize the items in three sections- PB/PP/IR.

Pilot testing the Final Version of *OEP-IE Index*

- The Final Version – ***OEP-IE Index* Version 3** was pilot tested with student teachers of the ROER4D project, drawn from the 9 centers of OUSL.
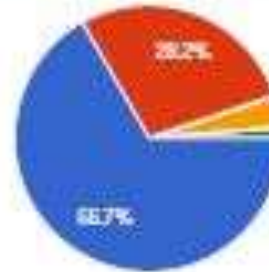
Some Results of the Pilot Test

1. Education is a human right.

Strongly Agree	67	85.9%
Agree	11	14.1%
Neutral	0	0%
Disagree	0	0%
Strongly Disagree	0	0%

2. Technology can enhance the teaching-learning process.

Strongly Agree	52	66.7%
Agree	22	28.2%
Neutral	3	3.8%
Disagree	1	1.3%
Strongly Disagree	0	0%

3. Teaching is about getting the learners to simply understand the subject matter content.
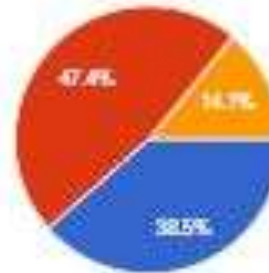
Strongly Agree	30	38.5%
Agree	37	47.4%
Neutral	11	14.1%
Disagree	0	0%
Strongly Disagree	0	0%

Some Results of the Pilot Test

**24. I modify educational resources before integrating them in my teaching.**
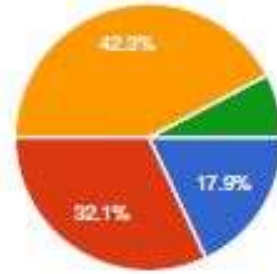
Always	14	17.9%
Often	25	32.1%
Sometimes	33	42.3%
Rarely	6	7.7%
Never	0	0%

25. I combine and/or reorganize component parts of educational resources to enhance the quality of my teaching.
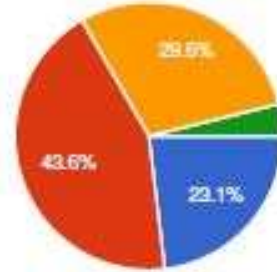
Always	18	23.1%
Often	34	43.6%
Sometimes	23	29.5%
Rarely	3	3.8%
Never	0	0%

26. I share multiple copies of educational resources I have developed, freely with the others.
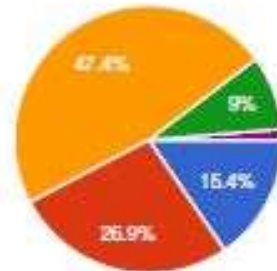
|		
Always	12	15.4%
Often	21	26.9%
Sometimes	37	47.4%
Rarely	7	9%
Never	1	1.3%

Some Results of the Pilot Test

34. Access to educational resources that are openly licensed and freely accessible allows me to integrate new/updated educational resources in my teaching.
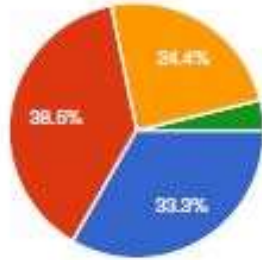
Always	26	33.3%
Often	30	38.5%
Sometimes	19	24.4%
Rarely	3	3.8%
Never	0	0%

35. Access to educational resources that are openly licensed and freely accessible allows me to design high quality learning experiences for my students.
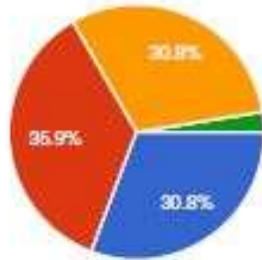
Always	24	30.8%
Often	28	35.9%
Sometimes	24	30.8%
Rarely	2	2.6%
Never	0	0%

36. Finding appropriate educational resources that are openly licensed and freely accessible in my teaching is a time consuming task.
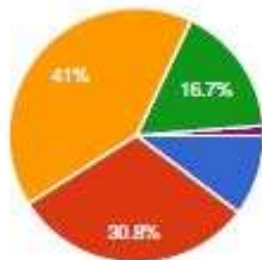
Always	8	10.3%
Often	24	30.8%
Sometimes	32	41%
Rarely	13	16.7%
Never	1	1.3%

Phase 3 - Reliability and validity

- This phase of the process is yet to be undertaken.

Concluding Remarks

- Ascertaining the impacts of any educational resource, let alone OER, is problematic in the best of circumstances.

- Firstly, any kind of impact on learning and teaching behaviors cannot be easily attributed to the use of any one or more educational resource *per se*.

- Because any such outcome is the result of how an educational resource is **used** by learners and teachers.

- Secondly, any such impact cannot be easily ascertained with any one method or instrument.

- A mixed methods approach comprising **an array of instruments which are able to tap into different aspects of the use of educational resources** is required. ….

Concluding Remarks (Contd..)

- The OEP-IE index is one of those instruments and it has been developed to capture behavioral shifts in participants in relation to their *perceptions, perspectives and practices* as they engage with the adoption and integration of OER in their teaching.

- Our goal with this tool is to be able to index such behaviors at regular intervals to see how they are changing over a period of time.

Acknowledgement

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