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## OER Training of Trainers Model: A possible diffusion strategy

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**Abstract:** A growing number of educators and organizations using Open Educational Resources (OER) around the world have created training models to support educators on how to use and implement OER. Training ranges from webinars, online classrooms, and face-to-face workshops to equip individuals on OER use and promote its adoption. While this approach may be necessary, it is wrought with concerns and challenges. For example, training can be expensive, and the quality of training can be questionable when there is no oversight or standards regarding the question of quality and when the material is not correctly updated. Since training has been shown as essential to the adoption process, it is necessary to look at how this process is achieved. This article explores the use of the Training of Trainers Model (ToT) model, which is used in various disciplines to drive adoption. Using a systematic literature review (SLR) that provides real-life experiments on how the model has been implemented, the article makes the case that the ToT model must be implemented across institutions to drive the diffusion of OER. The contribution of this research is to guide how to implement the ToT model, particularly in higher education, to educators, administrators, librarians, and OER scholars interested in training others.

**Keywords:** Building Capacity; Diffusion of innovation; Open Educational Resources, OER adoption Model; Training of Trainers

### Highlights

What is already known about this topic:

- The Open Educational Resources (OERs) movement has transformed the educational landscape. It has impacted conversations on costs of textbooks, how individuals obtain educational material and overall access to education.
- While there is ample evidence on the benefits of OER, there are other challenges that impact the spreading of its use.

What this paper contributes:

- This paper proposes a model for promoting sustainability and broader adoption of OER in higher education institutions.
- We argue that the Train the Trainers model, which has been applied successfully across other disciplines, may hold promise to increasing the adoption of OERs.

Implications for theory, practice and/or policy:

- The ToT model has implications for practice in that if implemented, it could increase the amount of people interested in and adopting OERs.
- Additionally, it provides policymakers with a practical way of guiding the spread of OERs across educational settings.

### Introduction

For the last twenty years, the Open Educational Resources (OERs) movement has been transforming the educational landscape. These transformations have directly and indirectly impacted conversations on costs of textbooks, how individuals obtain educational materials, and how educators can train other educators to encourage further adoption. One significant distinction of OER is the ability for individuals to reuse materials to fit their needs without having to obtain permission from the publisher as a license is appended to the resources. However, while there is ample evidence on the benefits of OER (Hilton et al., 2013; Hilton et al., 2014; Sclater, 2011), there are other challenges that impact the spreading of



its use. One of such challenges is the lack of resources to create OER, lack of support from institutions which manifest itself in lack of training for individuals on how to create OER's, as well as lack of comprehension on copyright (Hodgkinson-Williams & Arinto, 2017; Rodés et al., 2019).

In this paper, the researchers explore the use of the Train Trainer model (ToT) to increase the uptake of OER in higher education. The ToT method can benefit educators who find it challenging to adopt OER in their teaching (Nascimbeni & Burgos, 2019). The ToT is a method of training a select group of people who will train others to extend the training on a subject. The paper is structured in the following ways: first, the researchers begin with a brief introduction of what OER is; second, they present a guiding theoretical framework, third they discuss the training of the ToT model through a systematic literature review (SLR), the fourth present how the ToT model is used in various fields, along with its challenges, and lastly, how OER can adopt the ToT model.

## Literature Review

### Defining Open Educational Resources

Open Educational Resources (OER) are free and open resources made available to anyone with Internet access and reused for educational purposes. The term was initially adopted at the United Nations Education, Scientific and Cultural Organization's (UNESCO) 2002 Forum on the Impact of Open Courseware for Higher Education in Developing Countries (Miao et al., 2016). OERs are "teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions" (UNESCO, nd). Broadly, OER has no conditions attached, no financial purchases, and no advanced technology necessary to access the material (Stacey, 2007; Nascimbeni & Burgos, 2019).

However, finding educational material for free online does not automatically qualify the material as an OER. To qualify as an OER, a material must be open, free to the public, and have a creative license attached to the material. One OER verification method that has gained popularity is the 5R's, which stand for revise, reuse, remix, redistribute, retain, and was coined by David Wiley, a well-known OER scholar, to determine if an educational material qualifies as an OER. Wiley (2014) has argued that materials can only be viewed as "open content" and "open educational resources" (p.1) if they allow everyone permission to engage in 5R activities, as depicted in figure 1.



Figure 1. David Wiley's 5Rs

OER allows individuals to use and reuse the material the creative commons license is followed. Hence one critical distinguishing mark is that non-OER materials do not allow individuals to remix their content, and permission must be granted to use or show material to the public.

OER initiatives have been made possible by advancements in various technologies, such as Internet bandwidth quality, accessible computers, and mobile computers. Core attributes of OER include access to content free of charge, including access to source code for the materials being available for reuse

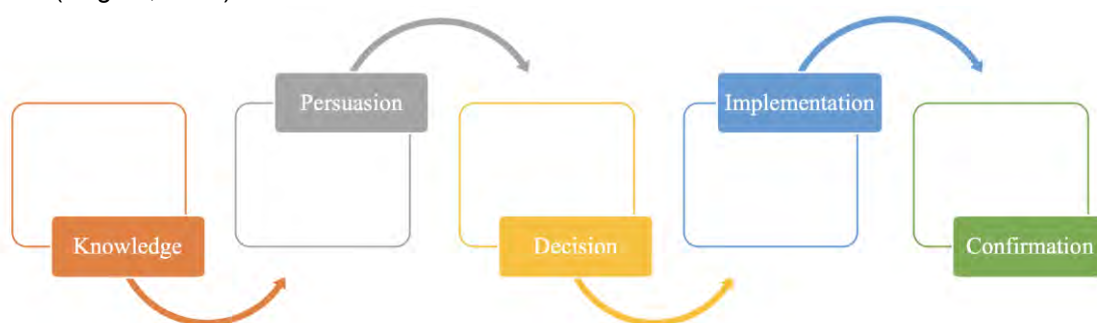
(Schaffert & Geser, 2008; Soledad & Ramirez-Montoya, 2020). A unique characteristic and appeal of OER is an educator's ability to reuse the material to fit their classroom needs. This is possible because OER includes a creative commons license, which is an easy-to-use legal tool to "obtain pre-clear copyrights to creative work" (Bissell, 2009, p. 4). OER's attributes include adaption capability, provision of information and communication technology, diverse community, and non-commercial resources (Ehlers, 2011; Hilton, 2020). In addition to the reuse and free access, educators believe OER provides stimulating ways to improve education and continues with the academic traditions of sharing knowledge (Yuan et al., 2008).

To ensure genuinely free access, OER includes additional requirements, such as no conditions attached to the resources, nothing to purchase, and no other advanced technology necessary for access (Stacey, 2007; Hilton, 2020). Not meeting the additional free access requirements or offering reuse capabilities does not mean that a resource is not educational or of quality; it simply means it is not labeled as an OER. A similar example of distinguishing between OER and non-OER is to liken it to organic vs. non-organic food. Before earning a label, the food would need to meet organic standards to receive the proper organic labeling, which has been agreed to by various stakeholders around the food and beverage industry.

Ongoing research on the usage of OER shows a dearth of effective training. In a study done with Latin American universities regarding the development and use of OER by university faculty, researchers found that the main barrier "to adoption of open publishing is the lack of understanding regarding copyright" (Rodés et al., 2019, p. 174). In a similar study with medical and biomedical science educators using OER in the classroom, one of the main barriers identified was a "lack of training in the use of OERs" (Hasall & Lewis, 2016, p.77). The attention paid to training is predicated on the assumption that training will lead to a mass who adapt OER to "different cultures and languages" (Misra 2014, p. 375). As such, there are needs to prepare educators to teach other educators how to effectively create OER content that is of quality and used in the classroom. This, however, also brings about specific questions such as: What do we need to train educators on? What goes into the training models? Will training spread the adoption of OER in the classroom?

### ***Theoretical Background***

OER is an educational innovation. Numerous theoretical frameworks have been used to study innovations; the one guiding this paper is diffusion of innovations theory (DoI), which Everett M. Rogers (2003) developed and popularized. Rogers (2003) defines diffusion as the "process by which an innovation is communicated through certain channels over time among the members of a social system" (p. 11). DoI consists of a five-step process (Figure 2) where the individual goes from knowledge of the innovation to developing an attitude toward the innovation, which leads to the decision-making process of either accepting or rejecting the innovation, implementing the new idea, and finally confirming the decision (Rogers, 2003).



**Figure 2.** Depiction of Roger's (2003) Innovation of the Decision Process.

Rogers (2003) regards an innovation as "an idea, practice, or object that is perceived as new by the individual or other unit of adoption" (Rogers, 2003, p. 12). As figure 2 shows, the innovation-decision process has five stages beginning with gaining knowledge of an innovation, being persuaded through different sublevels of the usefulness of the innovation, forming a decision on whether to adopt or reject, implementing the innovation, and obtaining confirmation of this decision. It is at the knowledge level when an individual discovers the existence of the innovation and understands how the innovation functions (Rogers, 2003). During the persuasion stage, the individual "forms a or attitude toward the innovation" (Rogers, 2003, p. 20). In the decision process, which is the third stage, the individual engages in activities "that lead to a choice to adopt or reject the innovation" (Rogers, 2003, p. 20). At the fourth stage, implementation, "an individual puts an innovation into use." The fifth stage, confirmation, is when "an individual seeks reinforcement of an innovation decision that has already been made" (Rogers, 2003, p. 20). For this research, the focus was on the implementation and confirmation stages. As the research cited through this page illustrates, knowledge of OER is already evident; people have been persuaded to use OER and have decided to adopt the innovation.

### **Systematic Literature Review Methodology**

The systematic literature review (SLR) is the methodology that guided this study. The SLR identified and interpreted research results from various health disciplines that include Training the Trainers (ToT) model literature as it pertains to how the model can assist in diffusion.

#### *The Training the Trainers Model*

The main argument advanced in this paper is that one way to speed up the uptake of OERs is to adopt models such as The Training of Trainers (ToT). This model is an active teaching approach that involves the user in both the teaching and learning process to provide enough knowledge to train others (Maruta et al., 2014; Servey et al., 2020). ToT is a method of training a select group of individuals who will then train others to extend the understanding of a subject or knowledge of how to do something. The ToT model is not new. The model has been used in various organizations, including universities, of which the Stanford Faculty Development Program has one of the longest-standing ToT model examples (Servey et al., 2020). ToT model has also been used by large organizations such as UNICEF because it has been proven to be a suitable method of "building local capacity as well as ensuring that trainings have cultural relevance and application which will help to enhance learning" (Hiner et al., p7). The ToT model is prevalent in health sectors (Baron, 2006; Hiner et al., 2009; Lefkowich et al., 2018; Servey et al., 2020) because of the efficiency and affordability (Ray et al., 2012; Maruta et al., 2014; Mankanjuola et al., 2012; Mormina & Pinder, 2018). The ToT model's teach-back method allows learners to learn the subject and teach back the subject simultaneously (Maruta et al., 2014; Servey et al., 2020). The model's unique training approach embraces learning and builds a community among experts who become master trainers.

#### *What is the Training of Trainers (ToT) Model?*

The Training of Trainers (ToT) model is defined as a form of engagement between a master trainer and a new trainer with less experience in the material, skill, or specific topic of the material that the master trainer pertains (Centers for Disease Control and Prevention, 2019; Ray et al., 2012; Maruta et al., 2014; Schmitt, 2021). The main goal of the ToT model is to assure that trainers present information effectively, respond to participant questions, and lead activities that reinforce the material (Centers for Disease Control and Prevention, 2019; Ray et al., 2012; Mormina & Pinder, 2018).

The talent of the trainer plays a vital role in the ToT model. A key aspect for the ToT model to work is that the trainer must have the right skills, experience, and conceptual knowledge in their field to train others (Mormina & Pinder, 2018). If the trainer has no experience, then the trainer has nothing to teach,

which makes the ToT model irrelevant (Mormina & Pinder, 2018). The ToT model uses the skill of an “experienced trainer as a lead trainer to coach emerging trainers on both the content of the training and how to teach the content. The process is dynamic and collaborative as the lead trainer guides the new trainer through instruction, modeling, observation, and feedback” (Schmitt, 2021, p.6). A standard ToT model consists of the following components: pre-assessment, pre-work, trainer and participant agenda, facilitation manual, modeling of what will need to be delivered, adult learning principles, skills practice and feedback, action planning, planned follow-up support (Centers for Disease Control and Prevention, 2019; Mormina & Pinder, 2018; Servey et al., 2020). ToT model objectives specifically include focusing on most current practices, developing mastery, intervening with professionalism, and initiating personal action plans (Centers for Disease Control and Prevention, 2019; Mormina & Pinder, 2018). A participant in a ToT the individual must be a qualified individual who has advanced skills level in training, engagement with adult learners, success in the field of the specific topic, and ability to deliver training after they go through a training themselves (Centers for Disease Control and Prevention, 2019).

### *Why Training of the Trainers Model?*

ToT models provide master trainers the ability to teach knowledge, techniques, and skills to trainers who then become trainers themselves that teach others (Baron, 2006; Servey et al., 2020; Schmitt, 2021). ToT provides a model that “can effectively increase faculty development in a standardizes fashion for an organization” (Servey et al., 2020, p. 8). The faculty development in this research is to train others on OER. The motivation behind this approach is the acknowledgment that not every individual interested in learning about OER or want to know how to develop OER in their institution will have the opportunity to attend face-to-face training, especially at conferences, or have the necessary tools to create an OER. The Training of the Trainer (ToT) model is the best way to go about increasing the adoption of OER because as “more trainers are trained, more trainings can be conducted, thus allowing more providers to be trained” (Hiner et al., 2009, p.2). In other words, ToT will increase the number of people knowing about OER content building, promote OER on their campus, and increase the number of quality OER content in less time with efficiency than a regular trainer of the trainer model.

### *How the Training of Trainers model can assist in diffusion*

The persuasion stage in DoI is often known as the most crucial part of the process because “individuals’ perceptions of these attributes predict an innovator’s rate of adoption” (Rogers 2003, p. 265). Without being persuaded about the benefit of the innovation, potential adopters would see no reason to continue exploring whether or not to adopt. Moreover, without adopting an innovation, the innovation will either cease to exist or not have the intended impact. Train the Trainer model is built on the component that a trainer trains a novice trainee on the topic or skill and has a multitude of trainers spreading the topic or skill to others. Table 1 presents how the ToT model can be accomplished through the five components of the persuasion stage known as perceived attributes of innovations.

Table 1. Diffusion of innovation on how it can be done on Train of the Trainers Model

<b>Persuasion State</b>	<b>Definition (Rogers 2003)</b>	<b>How it can be done in ToT</b>
Relative Advantage	“The degree to which an innovation is perceived as being better than the idea it supersedes.” (Rogers 2003, p.229).	A key component of Train the Trainer (ToT) is to train others to know the material and continue the spreading of information. ToT can provide a positive image of OER, and those trained can continue to share the positive usage of OER.
Compatibility	“The degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters” (Rogers 2003, p.240).	ToT model applies current practices in delivering training and ensures that those in training are familiar with or from the local culture. Further, ToT can provide current editorial practices for the usage and creation and address the compatibility aspect of OER.
Complexity	“The degree to which an innovation is	A key component of ToT is building mastery in delivering training.

	perceived as relatively difficult to understand and use” (Rogers 2003, p.257).	ToT can provide users with real-life examples of OERs in the classroom and varied practices, thereby lessening the perception of complexity.
Trialability	“The degree to which an innovation may be experimented with on a limited basis” (Rogers 2003, p.258)	A key component of ToT is trying out things through scenarios. Train the trainer can provide potential users with scenarios and examples to try out OER
Observability	“The degree to which the results of an innovation are invisible to others.” (Rogers 2003, p.258).	A core aspect of training is the demonstration which allows those being trained to observe. Users who have experience with teaching may find OER comprehensive than learners with no experience in teaching. ToT must assure that users apply the creation process of OER in their training.

### *Training of the Trainer Models (ToT) in other disciplines*

Training of the Trainer Models (ToT) has been a popular method to achieve diffusion of innovation in various fields. It is a popular tool that has been implemented with the development industry because it has the potential for up-skilling the workforce quickly at a low cost (Mormina & Pinder, 2018). Mainly, ToT has been implemented in various fields such as health care (Madah-Amiri, Clausen, & Lobmaier, 2016), laboratories (Maruta, Yao, & Moyo, 2014), mental health (Makanjuola et al., 2012), and HIV counseling (Hiner et al., 2009). The fields that used the ToT model effectively trained others with the necessary knowledge and skills with its cost-effectiveness and rapid expansion.

In healthcare, an overdose prevention program in Norway used the ToT model as part of the national overdose prevention strategy. There was a need to expand and scale-up overdose prevention with naloxone distribution programs, and the ToT model was the most effective method to do so (Madah-Amiri et al., 2016). The ToT model used in this case was a two-hour training where staff distributed naloxone in their facility. The training was open to all staff in the facility, and effectiveness was measured through a questionnaire from 54 participants of the total 511 staff members trained in 41 trainer sessions before and after the training (Madah-Amiri et al., 2016). The results showed that the ToT model was effective in training a high number of trainers and improved the trainer's knowledge. However, for the high remarks in training and improvement of trainer's knowledge, it will require competent trainers to carry out the training (Madah-Amiri et al., 2016). The long-term impacts of the ToT model still need to be researched; however, the impact is significant and made a difference in the distribution of naloxone to the staff's clients.

In laboratories, the Strengthening Laboratory Management Toward Accreditation (SLMTA) program, which is a program for government medical laboratories in a low-resource setting to pursue international accreditation and implement quality management systems, used the ToT model to build capacity for the programs scale-up efforts (Maruta et al., 2014). The SLMTA program provides training programs in a series of workshops to see immediate results and measurable improvements (Maruta et al., 2014). Since the SLMTA program started implementing the ToT model, it has been used in 617 laboratories from 47 different countries across the African continent, Southeast Asia region, Caribbean, and Latin America to train 1900 people (Maruta et al., 2014). The effectiveness of the ToT model used with the SLMTA program is attributed to the teach-back methodology used with students. The ToT model teach-back methodology requires that students play the role of both trainer and participant, learn the material, and teach the material simultaneously (Maruta et al., 2014). Feedback is provided from the master trainer to the students when they teach the material to assess their teaching on the material (Maruta et al., 2014). Immediate feedback and support from a master trainer played a role in the 59% of the 160 respondents who had facilitated SLMTA training who responded to a survey stating that the ToT model prepared them exceptionally well (Maruta et al., 2014). Continuing on a different field, the ToT model has impacted the mental health field in Nigeria.

In mental health, a group of primary care workers in Nigeria went through an intensive five-day training workshop on mental health for community health officers using the ToT model. The health officers participated in a ToT model style training to obtain the knowledge around mental health, understand links between mental health and other types of health, skills to work with others, and understanding of primary care (Makanjuola et al., 2012). The ToT model had a positive impact on the participants of the training one year after the training (Makanjuola et al., 2012). The reach of broader audiences and have an impact was available through the ToT model.

In HIV counseling, the ToT model was used in a voluntary counseling and testing program (VCT) from the Caribbean region (Hiner et al., 2009). Reasons for using the ToT model in HIV counseling were the rapid increase in teaching others the proper clinical skills to have more trained specialists in the field. The difference in this study was how the ToT model was used with the volunteers, a trainer pathway. The trainer pathway is a four-step process that aids clinicians in making the transition from health care provider to clinical trainer, to an advanced trainer, and finally master trainer (Hiner et al., 2009). The results from the Caribbean VCT counselor training program using the ToT model were adequate and sustainable, with 65% of trained providers providing the VCT services (Hiner et al., 2009). In addition to the effectiveness and sustainability, the program rapidly expanded and helped trainers travel around the region to train others.

In workforce development, the ToT model was used at the height of the 2020 COVID-19 pandemic to train faculty at the Community College of Baltimore County's School of Continuing Education on the best strategies to move in-person workforce development training to the online environment (Schmitt, 2021). The choice for the mode was because it was viewed as the best way to move forward with the training in a short amount of time, given the health crisis. The ToT model was beneficial because it incorporated faculty who were trained in the online environment and provided guidance on technical components of online learning and mentoring on online instruction strategies to those not trained (Schmitt, 2021). ToT model in workforce development provided immediate training to faculty that needed more remote training sessions. The rating approvals among faculty and positive comments received from those participating in the sessions (Schmitt, 2021).

The fields mentioned in this study can create a program based on the ToT model (see table 2) to rapidly expand the number of training individuals at a low cost. The training tools used in the ToT help assure that individuals are knowledgeable and gain experience in the field. However, the ToT model does have flaws that scholars have criticized over the years, some of which are captured in table 2.

Table 2. Train the trainers model usage in other disciplines

Industry	Type of Use	Example of studies	Reference
Health Care	Train a large number of trainers of overdose prevention with naloxone distribution program	Two hours train the trainer course in Norway. All staff were invited to attend regardless of education level. Effectiveness was measured with a questionnaire before and after the course.	Madah-Amiri, D., Clausen, T., & Lobmaier, P. (2016). Utilizing a train-the-trainer model for multi-site naloxone distribution programs. <i>Drug and alcohol dependence</i> , 163, 153-156.
Laboratories	The strengthening laboratory management (SLMTA) toward accreditation used a train the trainer model used to build program scale-up capacity.	A two-week training by the SLMTA had participants deliver the SLMTA curriculum effectively with an intensive performance-based nature. The TOT model had a participant to facilitator ratio of 8 to 1 with at least three master trainers for a max of 28 participants.	Maruta, T., Yao, K., Ndlovu, N., & Moyo, S. (2014). Training-of-trainers: A strategy to build country capacity for SLMTA expansion and sustainability. <i>African journal of laboratory medicine</i> , 3(2).
Mental Health	Mental health training for primary care workers in	In Nigeria, primary care workers took part in an intensive five-day training workshop	Makanjuola, V., Doku, V., Jenkins, R., & Gureje, O.

	southwest Nigeria.	for college teachers of mental health community health officer training institutions. The results indicated a positive impact on trainees' activities one year after the workshop.	(2012). Monitoring and evaluation of the activities of trainees in the 'training of trainers' workshop at Ibadan, south-west Nigeria. <i>Mental health in family medicine</i> , 9(1), 25.
HIV Counseling	Evaluate effectiveness and sustainability of voluntary counseling and testing of ToT model in Caribbean region.	65% of the trained participants confirmed that they provide voluntary counseling and training services using the ToT model.	Hiner, C. A., Mandel, B. G., Weaver, M. R., Bruce, D., McLaughlin, R., & Anderson, J. (2009). Effectiveness of a training-of-trainers model in an HIV counseling and testing program in the Caribbean Region. <i>Human Resources for Health</i> , 7(1), 11.
Medical School	Develop a sustainable group of faculty developers who could deliver foundational faculty development topics at 21 hospitals.	The goal of the training was to ensure content knowledge, develop facilitation skills of faculty trainers and develop a community of faculty developers to a national faculty system of around 5000 individuals appointed to the School of Medicine.	Servey et al., (2020). The ripple effect: A Trainer-the-Trainer Model to exponentially increase organizational faculty development. <i>MedEdPublish</i> , 9.
Workforce Development	Used during the 2020 COVID-19 pandemic to move face-to-face workforce development training to remote/online instruction	At the start of the 2020 COVID-19 pandemic, several faculty at the Community College Baltimore County's School of Continuing Education lacked providing training in an online environment. A Train-the-Trainer model was used to teach best practices for online training with strategies to quickly train the faculty with online platforms.	Schmitt, B. (2021). Adapting Strategies from the Train the Trainer Model to Support Faculty Transitioning to Remote Instruction. <i>A Journal of Pedagogical Practices across Maryland Community Colleges</i> , 6.

### Challenges of Adopting Train the Trainer Models

The Training of Trainers (ToT) models does not come without challenges. The model can help grow content experts, but there is a need for consistency in knowledge, content, and growth. Other challenges include finding the right mix of skills, experience, knowledge (Mormina & Pinder, 2018), and long-term studies to determine if the training was successful (Lee et al., 2012). Faculty have issues using material developed "by someone other than themselves" (Servey et al., 2020, p.7). The constant changes in the medical field give no choice but to find new ways to train others quickly and efficiently. However, the same cannot be said to areas that do not change as quickly, such as education, making it challenging to implement a ToT model. Another challenge is when the expert is no longer employed at an institution or cannot be reached. In such a situation, a concern is who does the training when no one else is equipped to do the training (Yarber et al., 2017). Aside from the expert training leaving a successful train, "the transportability of this precise level of training may be limited" (Zandberg & Wilson, 2012, p. 236). Other concerns include the OER train the trainer model losing funding, sometimes leaving individuals to complete training on their own.

### Findings and Discussions

Any diffusion of innovation study or studies that explore adoption tends to be positively oriented. In other words, a desire to want something to be diffused is based on the idea that such an innovation that is good and its uptake and spread to the large group will yield positive results. An example of this in modern times is the innovation of masks to combat the covid 19 pandemic. The promotion of wearing masks and the desire to have such an innovation used by many people is based on the idea that it will lead to



a positive result, which is the reduction of infections. In the context of this paper, the authors adopt the positive leaning towards OERs because of the belief that the spread of OERs yields positive results. The ToT model is one approach that is effective at increasing awareness and adoption of innovations. The model is most effective when the participants are highly qualified (Mormina & Pinder, 2018) and when there is a “quality of active participation in the training that matters the most” (Totura et al., 2019, p.3). While the ToT model has many advantages, it also does leave questions unanswered. Amongst some of the questions present in the literature are how to assure that the person taking the training is highly qualified. Other issues that have not been resolved are the influence of characteristics of the trainer. For example, in topics such as diversity training, “characteristics such as race and sex are relevant to trainees” (Holladay & Quinones, 2008, p.345). Other studies, however, showed that race and sex are not relevant to trainees; instead, the focus of effective trainers is based on knowledge and experience.

Recommendations for those seeking to employ the ToT model in OER include:

- Using the chart in this research as a starting point to find OER training. The list is ongoing and will have continuous qualified training added. The research behind each training found online can be the starting point for more training to come.
- The trainer must have expert knowledge, skills, and techniques in OER to be effective.
- OER training must adopt a ToT model for all OER training to follow to maintain the quality and consistency of the material.
- OER training material must be periodically updated by the creators of the training or members of the OER community.
- Consider sharing resources, workshops, documents to the list created.

### **Conclusion and Suggestions**

This manuscript assumes that Open Educational Resources are beneficial to education and higher education in particular. To further diffuse OERs in the Higher Education system, this paper argued for The Training of Trainers (ToT) model as an approach. The researchers listed the OER train the trainer models found in the literature. These links provide learners with the definition of OER, how to create an OER and why OER needs to integrate into the schools. The Training of Trainers (ToT) Model increases the number of master trainers having the skill set about OER content building, efficiently increases OER adoption across campuses without overspending, and promoting OER in their campus increases the number of quality OER content.

There is an increasing number of higher education institutions adopting OER, and many are figuring out how to benefit from the OER yield. The training of the trainer models has been effectively used across the field when trained by master trainers. Other fields use the train the trainer models to spread the knowledge of the subject with the proper training (Baron-Donovan et al., 2005; Hartman et al., 2014; Lee et al., 2012; Madah-Amiri & Lobmaier, 2016).

The argument promulgated in this manuscript is that institutions need to take advantage of the train the trainers model to help OER grow. Moreover, additional research is needed on the ToT model and other questions such as the training of K-12 educators on OER. Perhaps such a topic can focus on training effectiveness between OER in K-12 versus higher education. Another suggestion is to establish an organization as the leading OER trainer to maintain quality and consistency in training.

No innovation is without its challenges. When it comes to OER, one of such challenges is the need for OER training for staff and faculty, particularly at higher education institutions. The ToT model allows the continued growth, adoption, and learning of OER. As the research showed, institutions are making efforts to put forth their own ToT and maintain the training. Regardless of the questions that remain

about the ToT model, one thing that has been answered is that this model is effective across various sectors to increase the adoption of innovations and increase the pool of people who can communicate and create buy-in for the innovation. Practitioners would benefit from exploring how to employ the ToT model in their context to increase OER awareness and buy-in. Similarly, researchers could further study the effectiveness of the model. To put it in the OER vernacular, the OER community could benefit from applying a Wiley (2014) 5Rs lens to ToT in higher education.

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