Twelve tips to promote excellence in ethical review: translation and adaptation of e-learning in research ethics

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Abstract

Usage of and investment in e-learning has also grown in the field of research ethics. There are currently several distance capacity building programs on this theme, although few are translated to the language and adapted to the legislation of countries with less resources to implement local training. Translating and adapting an already existing e-learning is a more accessible strategy, since it makes use of an already existing online platform and capacity building strategies that were previously tested and are recognized in the scientific community and society in general. This training needs to be adapted to local needs and there must be guidelines for the translation and adaptation stages of the distance education programs for ethics in research involving human beings. In this article, we put forward 12 steps for the translation and adaptation of e-learning on research ethics, based on our experience of implementing the Brazilian version of TRREE e-learning.

Keywords: Translating, Education, distance, Ethics, research, Ethics committees, research

Introduction

Quality in education, accompanied by the search for cost reduction, stimulated the transformation of the strategies used in teaching through the association of content, methods and technological innovation (Garrison, 2011; Phelan, 2015). This modification was conceived in order to obtain and transmit knowledge to a large number of people in different locations and at varying times. (Peake, 2013; Phelan, 2015). The increase in the use of technology via internet to carry out educational activities was denominated the "E-learning Revolution" by Galagan (2000, p.25).
Clark & Mayer (2016) defined the term e-learning as an instructional strategy for individuals or groups learning through the use of digital devices (laptops, tablets, smart phones, among others), associating educational content and instructive techniques or methods to help people comprehend the content made available for training. However, "e-learning is not a single technology or technique. It is a loosely defined amalgam of information communication technologies (ICTs) used in education, usually but not exclusively mediated in some way through the Internet" (Ellaway, 2011, p.297).

Usage of and investment in e-learning has grown exponentially. According to a study carried out by the company Docebo, and published in March 2016, it is estimated that between 2011-2016 investment in e-learning worldwide went from $35.6 to $51 billion dollars. It is also expected that revenue for e-learning in Latin America will double, with annual growth of 14.6%. Brazil stands out statistically with a growth of 21.5% between 2011 and 2016 (Docebo, 2016).

Schools are the main users of e-learning in Brazil (Docebo, 2016), although training through distance learning (DL) has also been used in the field of research ethics as a strategy to facilitate people training, since there is an obligation to provide training and refresher programs for the different players involved in scientific practice and the ethical review of research processes when dealing with human beings and non-human animals. (Parker & Bull, 2009; Brasil, 2013a).

The ethical review of research must be carried out by a Research Ethics Committee (REC) (Brasil, 2013b) composed of volunteers who are trained in research ethics and know how to protect research participants (Barbosa et al., 2012a; Brasil, 2013b; Barbosa et al., 2012b). It is estimated that there are more than 5,000 REC members in Brazil, with at least 7 members per committee distributed throughout the 739 RECs (Brasil, 2015).

There are currently no formally recognised open access training programmes specifically covering research ethics education and training for professionals who are involved in research with human beings, despite the magnitude of the Brazilian system for the ethical evaluation of research projects with human beings. As such, in 2014, the planning and implementation of permanent training for members of the RECs became mandatory (Brasil, 2013). In this context, e-learning addressing content on ethics in research presents itself as a modern instrument of education, in which the participant has access to knowledge at any time and in any place, at his/her own pace, whereby the content may be revised as many times as necessary with limited cost (Murphy et al., 2015; Phelan, 2015). According to Silverman et al. (2013), from the moment that institutions provide online training programmes, there will be an increase in the research ethics ability of all those involved.

Several international e-learning programmes addressing the research ethics themes were identified (Singh & Wassenaar, 2014), such as: Family Health International (FHI), Collaborative Institutional Training Initiative (CITI), National Institutes of Health (NIH) online training, National Centre for Professional and Research Ethics, Research Ethics Online Training (WHO) and Training and Resources in Research Ethics Evaluation (TRREE). According to Williams et al. (2014, p. 4) fundamental requirements must be defined for all e-learning courses on research ethics and the distance education purpose should be "to raise awareness and understanding of the role of research ethics in the protection of research participants and in the promotion of high-quality research that meets the needs of the concerned population."

Although there are a variety of e-learning programmes, many were created for specific contexts or from differentiated perspectives (Chilengi et al., 2013) and few were translated to the linguistic, regulatory and legal realities of countries that could be users of these programmes. Translating and adapting an already existing education programme instead of preparing a new one locally is a less expensive, more accessible strategy, since maintaining education software is expensive, and previously tested training strategies are recognized in the scientific community.
and society in general.

The use of international e-learning programmes with content on research ethics is important and must meet local needs, considering that the "[...] success of online courses is highly dependent on the quality of the material and the ability to connect with the individual to enhance the learning experience." (Peake, 2013, p.1818).

This article puts forward the 12 steps used to translate and adapt e-learning programmes on ethics in research, based on our experience of translating and adapting TRREE e-learning modules to Brazil's language and current regulations.

**Tip 1: Choice of e-learning program**

In the choice of the e-learning program on ethics in research, six aspects must be evaluated and observed:

a) Relevance: the e-learning used must be based on international documents accepted by the scientific community and which employ the principle of equality among people with a view to protecting them from exploitation, such as the outlined in the Universal Declaration on Bioethics and Human Rights (UNESCO, 2005).

b) Purpose: The underlying purpose is to make available a tool that facilitates learning and provides information geared towards protection and the rights of research participants. The e-learning programme chosen must be aligned with the interests of the target public that the online training is aimed at.

c) Conflicts of interest: Avoid e-learning programmes on research ethics that are sponsored by institutions that may have an interest in the loosening or softening of ethical standards in the performance of research.

d) Complexity: May be simple or advanced. The simpler the tool, the greater access participants will have to the programme and the training, as well as facilitating the process of its translation and adaptation (Haghshenas et al., 2012).

e) Open and Free: Can be classified as open access or commercial. Open and free access is preferable, since it will facilitate reach in terms of those who need it. (Haghshenas et al., 2012).

f) Possibility for translation and adaptation of e-learning: It is preferable to choose online training in which those responsible authorize the translation and adaptation while accepting the provision of the material without charge on the same online platform.

In this paper, we chose TRREE as a training tool that integrates the ethical aspects of research with human beings in an instructive, open access manner with simple language and ease of application, in addition to programme adaptation having been authorized to fit Brazil's language, legislation and reality. It is a training programme that is supported and recognized by several international institutions, such as the World Medical Association (WMA), Pan American Health Association/World Health Organization (PAHO/WHO), Canadian Institutes of Health Research, among others. TRREE has been used in different parts of the world without cost and DL is currently available in 9 different languages and presents itself as a potentially effective strategy in the implementation of DL for REC members (TRREE, 2016).
Tip 2: Authorization for translation and adaptation of e-learning (copyright)

After choosing the e-learning programme, it is essential to obtain permission from those responsible for the tool or from the company that holds the copyright on the material to be translated. This is generally done through a contract, in which the obligations of each party are established through a written agreement. Requests for the translation and adaptation of e-learning are different; there is one for the translation of content, and another for the adaptation to the language and regulations of the country or region the training is aimed at.

For translation and adaptation of TRREE to the language and regulations of Brazil, we requested authorization by email from the TRREE programme director, who responded to us promptly, and the partnership started at that time.

Tip 3: Choice of team

It is fundamental that the team responsible for the translation and adaptation of the education programme are fluent in both languages (the original language of the educational material content and the target language), qualified in research ethics, aware of the legislation and reality of the country where the e-learning will be provided and, preferentially, have experience in the translation of educational material.

To work on the Brazilian version of TRREE, a Brazilian Bioethics doctorate student, with a fellowship in research ethics, versed in Brazilian legislation and fluent in English, did the initial translation and adaptation of TRREE content. The difficulties found were discussed with two experts in bioethics/ethics in research who are also fluent in Brazilian and English.

Tip 4: Study of the source document

The source document is the original version of the content that will be translated and adapted. The material must be thoroughly analysed in its electronic file version and in the online format. It is very important that the material is translated from the original language in which it was written and it is essential to read the whole text before starting the translations.

The original version of TRREE was written in English and French. The person in charge of TRREE-Brazil Version read all the TRREE content and performed all the online training in the English using French for clarification, with the aim of getting to know the material before starting the translation.

Tip 5: Translation of the document: semantic and technical aspects

The process of translating between two different languages involves the transformation of an original text written in the original verbal language into a text written in a distinct verbal language (Munday, 2012). According to Jakobson (2004) interlingual translation means "an interpretation of verbal signs by means of some other language". The interlingual translation comes from a base text, and goes through the translator who produces the target text (Munday, 2012). It is described by Jakobson (2004) as a translation itself, and the translator, based on a reading and interpretation of the source text, in a simultaneous operation as reader, interpreter and textualizer is able to produce
the final product/text.

The objective of the Brazilian version of TRREE was to transform an original English text into educational material in Brazilian Portuguese using simple language accessible to the whole Brazilian population involved with research on human beings and mindful of Brazil’s regulatory nuances. To this end, the interlingual translation of the text was carried out with the aim of rewriting the original content in order to facilitate user comprehension, but without losing the characteristics of the original TRREE e-learning modules.

**Tip 6: Adaptation of e-learning content**

The adaptation of a text goes beyond translation; it is a technical procedure that involves changes to the original text as a broader phenomenon (Frio, 2013). In this process, "just as there is no such thing as literal translation, there can be no literal adaptations" (Hutcheon, 2006).

Considering that the main objective of the TRREE-Brazil Version is the basic training of REC members in the ethics of research with human beings, we initially worked with the first 3 modules of the TRREE: 1. Introduction to Research Ethics; 2.1: Research Ethics Evaluation and 3.1: Informed Consent (TRREE, 2016). The Brazilian doctorate student responsible for the translation also carried out the adaptation of TRREE to Brazilian legislation, with the aim of making the language fit the reality of the users.

During the construction of the Brazilian version of TRREE, e-learning guidelines were respected for the translation and adaptation of the educational material and activities were carried out along with the TRREE team in the University of Neuchâtel (UNINE). Points that were considered important and that modified the original structure of TRREE were discussed with programme’s general director and his team.

**Tip 7: Revision by experts**

The content of the translated and adapted material must be evaluated by research ethics experts both for the proposed language and content. This includes assessing if the translated and adapted material is easy to understand and whether the content proposed for training in research ethics is aligned with international and local research ethics guidelines. To this end, experts were asked for suggestions to improve training programme content. These proposals were considered by the person responsible for the translation and adaptation of the e-learning modules and incorporated in training, where applicable. In our experience, this stage was carried out by five Brazilian experts in bioethics/ethics and lasted around 20 days, from accessing the material in electronic file up to pre-publication online.

**Tip 8: Pre-publication online with restricted access**

All the translated and adapted material in its latest version should be made available electronically through the virtual platform, restricted to guest users responsible for validating all the content provided and the verification of e-learning tools also translated, with the aim of facilitating access to participants. In our case, publication was done by the head TRREE programmer, who is the only one with access to site changes.
Tip 9: Content validation by guest users

Guest users, usually versed in bioethics and/or ethics in research, must complete all the online training to see whether there are any bugs in the tool, such as links that do not work, untranslated titles, quotes outside the box, phrases with grammatical errors, among others. Guests then complete a bug report explaining all the errors found. There is no exact number of participants assigned to this stage but it is suggested that 5-10 people take part, using different browsers (e.g., Mozilla Firefox, Safari, Google Chrome, Internet Explorer).

In the TRREE-Brazil version, this stage was carried out by 6 medicine or health law post-graduate students with training in bioethics/ethics in research. It lasted around 15 days and each person used a different browser in order to check if there were any specific bugs related to a given internet browser.

Tip 10: Bug Report and official publication of the e-learning modules

The person responsible for the translation and adaptation of the e-learning modules should organise all the bug reports into a single document. Errors repeated in all the browsers must be excluded and sent to the programmer for system corrections. Given the possibility that the person responsible may not be fluent in the language in which the programme was translated, it is important to define the language to be used in the bug report. Information relating to bugs must be clear and screenshots of the errors found on the online e-learning pages should be attached to the document to facilitate the programmer's understanding and enable him/her to make the necessary corrections to the site. Once these changes have been made, the online training in research ethics can be made available to all those interested in this subject.

The implementation stage of the Brazilian version of TRREE lasted less than a week, since the errors found in the different browsers were almost the same, facilitating the organization of the final version of the bug report. The programmer dealt with the changes promptly and the publication of the TRREE-Brazil Version was made available online with unlimited access to participants.

Tip 11: Periodic Maintenance (updating content)

Legislation relating to research ethics is amended from time to time, new scientific articles are published and current affairs need to be discussed. No educational material is unchanging, so frequent revision is necessary. It is suggested that the e-learning modules content be revised annually and that there is constant maintenance of the website for the online programme. In the implementation of the Brazilian version of TRREE, all international and Brazilian normative documents were reviewed in order to provide current content information for the e-learning TRREE-Brazil Version.

Tip 12: Continuous evaluation of content

E-learning modules must have an open channel of communication with training programme users through e-mail, chat, blog, Facebook, among others. In this way, training administrators and users can exchange information on content, system errors, glossary revision, updating of literature, discussion of issues or other relevant information.
the TRREE it is possible to contact the administrators by email and through Facebook.

**Conclusion**

E-learning programmes on research ethics are important tools in the training of the players involved in the process, as well as society in general, particularly when the language and scenarios presented in the training are close to the reality of the participants. Although there are several different international research ethics e-learning programmes, few of them are adapted or adaptable to the local realities of the countries that need the training tool the most. There are specific guidelines as to how the translation and adaptation of educational content on research ethics should be executed. It is necessary for the institutions promoting the educational programs to focus their training on the neediest regions, respecting local characteristics. In this context, the tool chosen for the Brazilian version was TRREE: e-learning programme on research ethics online, free, translated into several different languages and with the availability of national supplements from various countries, built by local researchers. In this document, we put forward 12 simple steps to assist educators around the world in the process of translating and adapting international e-learning on research ethics in distance learning with local scope, providing the opportunity to gain access to knowledge on research ethics to the people who need it the most.

**Note**

Using the 12 tips presented in the article, the Brazilian version of TRREE was developed and may be accessed at: [http://elearning.trree.org](http://elearning.trree.org).

**Take Home Messages**

**Notes On Contributors**

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Appendices

Declaration of Interest

The author has declared that there are no conflicts of interest.