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Demystifying Action research for Online Practitioners in instructional design

Issue at-hand

Action research is a systematic process of inquiry conducted by practitioners who wish to modify their practice for reasons they have felt and/or expressed. Usually the main reason of action research is to improve a given practice in response to a problem that may have been observed or expressed by the teacher, the student or the school administration. In Education, the objective of action research is to discover creative ways of resolving problems for students so that they are supported towards achieving learning outcomes. These problems may arise from issues in the teaching/learning transaction or from contextual and cultural variables. When confronted with teaching/learning problems the teacher often finds himself/herself taking upon the role of the action researcher in an attempt to resolve problems.

However, in Distance Education, the situation is different since the tutor may not necessarily be the one who has designed the course- this is usually done by the instructional designer. On the other hand, the instructional designer may not necessarily be the one teaching the course. What is certain is that the tutor not only has a didactic role, he/she has a facilitative role. On top of that, the roles of the teacher and the instructional designer can collapse into one. Very often in such situations, we find that the instructional designer is also the one teaching on the course.

The role of the instructional designer

In distance education the instructional designer has a major role: it is an almost ubiquitous one. An online Learning Management System can be taken as the canvas for the online distance education provider. On this canvas, the instructional designer may take multiple decisions about

how the course will look like: how it will be broken into manageable chunks and over how many weeks; the pace at which the learner will progress across the learning materials; what elements will enhance the student experience and persistence; the type of communication and collaboration the learner can have access to; and the different evaluation schemes. Underlying all of this is the desire to facilitate learning and to render it meaningful. However effectiveness does not happen automatically. Action research is one way to make the instructional designer reflect on and improve his/her practice and enhance program effectiveness.

Policy recommendation: (i) Online practitioners should be trained in all aspects of distance education, including instructional design, teaching, evaluation and collaborative learning, (ii) Practitioners should also be trained in complex issues pertaining to distance education theories of learning and teaching, (iii) Online distance education practitioners should be empowered to engage in action research as part of their continuous professional development

Action research de-mystified

Action research is a process that involves one single person or a team of practitioners working on one educational project. There are several stages in action research. These are as follows:

- (i) Problem identification. At this stage the practitioner diagnoses a problem. He/she may discuss this with colleagues and the attempt to find solutions may or may not be collaborative. The research question is formulated and an empirical, systematic approach to data gathering is adopted.
- (ii) Data gathered yields to solution formulation that may or may not be discussed with peers (depending on relevance of the situation). Solutions are then piloted
- (iii) The results of the practice lead to transformed practice which will eventually be evaluated to ascertain its fitness for purpose or *quality assurance*

These steps can be represented as follows:

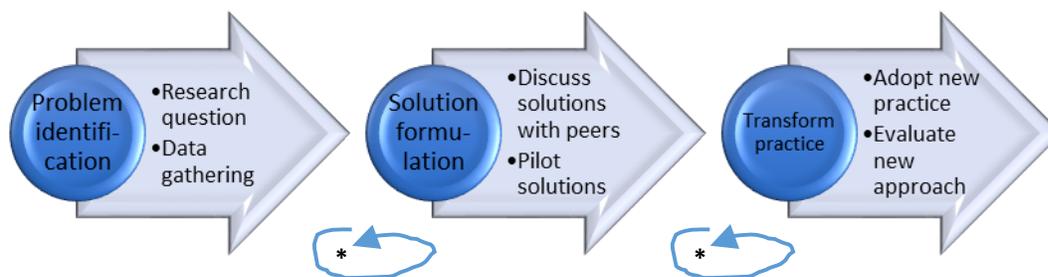


Figure1: A representation of the action research process,

At each and every step of the action research process, a feedback loop (*) operates to circulate information and data either to scaffold the lone designer’s practice or team practice. The above model provides a “framework for the integration of the cognitive and socio-emotional perspectives of the learning process” (Kolb & Fry, 1975, p.56). In fact, action research is inherent

in the process of instructional designing. The above representative model can be transposed to the most known and used Instructional Design model, the ADDIE model¹.

The Instructional Design Process

Since in Distance Education, transformative learning is a known desirable outcome, action research including its offshoot reflexive praxis, focuses on the cyclical processes of putting theoretical and empirical knowledge into practice (Kolb & Fry, 1975). Reflexive praxis (Schon, 1983) involves self- evaluation aimed at improving teaching and learning and heightening the quality of that activity. It is concerned with individual quality circles and the formal or informal documenting of that process (Gokool-Ramdoos, 2005, p.60). It is illustrated by the feedback loops in Figures 1 and 2.

Action research in instructional design

In online distance education, there are many models for content development. These can be polarized into the two following ones: one whereby the content may be developed by **one person** who is in turn the teacher, the course administrator as well as the evaluator; and another whereby the content may be developed by **a team** of individuals where each has a specific role and input in program. It would be advantageous if the individual in both situations could be vested with instructional designing skills.

Any chosen instructional design model should ensure that two elements **are** respected: **Effective Teaching** and **Effective Learning**. A comprehensive instructional design model that helps articulate both is the **ADDIEE model** (Gokool-Ramdoos, 2008). In the following Figure 2, an extra component has been added to the original ADDIE model: the extra E is for Environment, which includes cultural and contextual variables. The ADDIEE model is used to identify the different components of the program ranging from needs analysis to design, development and delivery. This is the supply chain of program development that demonstrates the spaces where experts will intervene at determined points. Intervention will occur after analysis of data at each and every step. Teaching and learning in an online environment are much like teaching and learning in any face to face context: learners' needs and requirements are analysed; content is developed, negotiated and prescribed according to competency gaps identified, learning activities are set and finally learning is assessed. Thus when the action research process of reflection is transposed on the following ADDIEE, feedback loops (*) circulate information and lead to modified practice.

¹ *The ADDIE model is the generic process traditionally used by instructional designers and training developers. The five phases— Analysis, Design, Development, Implementation, and Evaluation—represent a dynamic, flexible guideline for building effective training and performance support tools (WIKIPEDIA, <http://www.instructionaldesign.org/models/addie.html>)*

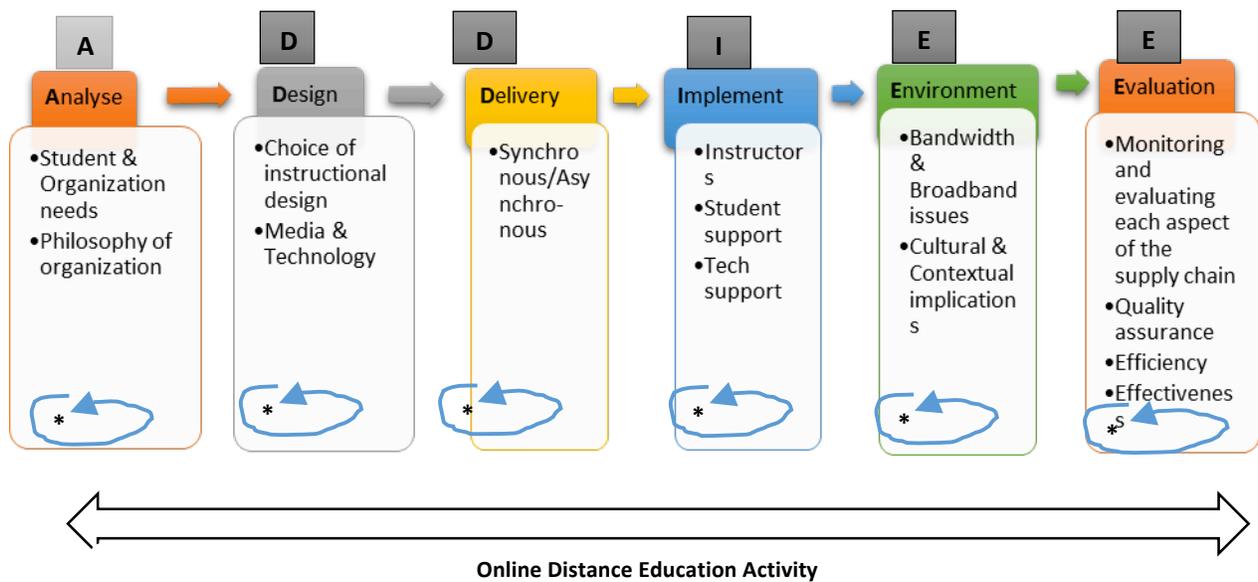


Figure 2: The ADDIE-E model. Adapted from: Gokool-Ramdoos (2008). *Beyond the theoretical impasse*, <http://www.irrodl.org/index.php/irrodl/article/view/541/1148>

For instance, during the planning stage, needs and competency gap analyses will inform the development of the instructional materials. This should lead to the selection of the most appropriate delivery technology and the defining of learning outcomes with greater clarity as well as finding the most apt strategies to reach those outcomes. Competency gaps are identified and addressed as part of continuous reflection and of the instructional designer, which is action research in practice. This is again demonstrated by the in-built integrated feedback loops in Figure 2 above.

It is recalled that “action research is an interactive inquiry process that balances problem solving actions implemented in a collaborative context with data-driven collaborative analysis or research to understand underlying causes enabling future predictions about personal and organizational change (Reason & Bradbury, 2002). Whatever the instructional design approach, it must be realized that every single step of content development requires reflection. Reflection leads to quality assurance when questions are continuously asked to ascertain the extent to which the course material is meeting the students’ needs; and answers fed back into the system. In the event that there is a discrepancy between student need and instructional content, decisions can be taken to reach the required degree of fit. To enable the person in charge of content design, development and delivery have informed reactions pertaining to his/her practice, action research must be an integral part of online distance education practice. Hence the program can be piloted, resulting data analyzed and practice modified.

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