CENTER FOR LEARNING & TEACHING

NEW CHALK TALK

October 31, 2012 - Vol. 12, Issue 2

The 'wicked problems' of pedagogy and teaching with technology

"Wicked problems occur in any domain involving stakeholders with differing perspectives" (Conklin, 2005)

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When I started this long overdue newsletter the first week of September, I wrote:

"I would like to welcome you all to this new academic year and hope that you will have a very productive one in the midst of all the changes we are incurring. If you've had a chance to look at CLT's list of workshops this semester, you will notice that we have larger offerings than usual and also a greater diversity of themes. We actually had to restrain ourselves from offering even more. My point is that this large diversity is a reflection of ***the complex landscape of what teaching and learning has become****. What, how, where and when we teach is changing and our task is much more challenging than it ever was"*

Little did I know that we were going to face what has been one of the most daunting tests in AUC's recent history. In a sense, the events of the September 16th, 2012 to September 30th, 2012 gate closures have been a wakeup call for all of us on many fronts. In this newsletter, I will limit myself to the urgent problem that we faced resulting from the need to use technology to teach online when our campus and classrooms were off limits. In the bigger picture, this very problem ties in well with what I was referring to in the previous paragraph as "the complex landscape" of teaching and learning. It is this complexity that I wish to address, and for this I will use the concept of the "wicked problem".

I first became aware of this concept when reading an article on pedagogy as a "wicked problem" (Ellsworth, 2011). As time went by and as the events of the last few weeks unfolded, the concept has taken multidimensional meanings for me: the on campus conflict was a wicked problem, the closing of the gates was a wicked problem; the need for temporary launching of online and blended learning was a wicked problem. I saw wicked problems everywhere.

So what is a wicked problem? The term was originally coined in the field of urban planning and the best way to describe it is by first defining its antithesis – the tame problem. Chess is often used as an example to describe a tame problem: it can be very complex but it has well defined rules and goals and always has a solution. This is why we can design computer programs that can beat the most sophisticated chess players in the world. By contrast, wicked problems are those problems that do not necessarily have a unique solution. They are problems that are inherently social in nature arising from complex cause and effect relationships.

The concept of wicked problems was first introduced in 1973 by H. Rittel and M. Webber, in their landmark article "Dilemmas in a General Theory of Planning". As urban planners, both of them recognized that "the kinds of problems planners deal with – societal problems – are ill-defined, are never solved. At best they are re-solved, over and over again". Later Conklin (Conklin, 2005) generalized the concept of wicked problems to areas other than planning. Here are some important characteristics of these problems:

- They are problems that have no definitive formulation
- Each one is unique and contextual
- There is no template to follow when tackling them
- Every solution is a 'one shot' solution. They are neither right or wrong, just better or worse
- There is no clear end, no 'stopping rule'
- There is no immediate test of the solution
- It is hard to measure success and the problem is never solved indefinitely

It has been argued that pedagogy and teaching are wicked problems. In "The Wicked Problem of Pedagogy, An Afterword", Ellsworth eloquently argues that

"In the end, education isn't a question of appropriate, acceptable, or productive formats… This is because pedagogy is not a system and cannot be systematized… What is set up in a pedagogical design and what students and teachers actually take up are neither scripted nor linear. To think pedagogically is to think in terms of, and in the midst of, situations and the highly particular."

And although most of us have a "script" in mind as we design our syllabi, as we enter our classrooms or as we assess our students' learning, we also know that truly enriching teaching experiences are the ones that are not scripted, that are unique and that lead to learning as "an experience of thinking – sensing - becoming different". This makes it necessary for us be ready to attune our responses to the abilities and interests of our students. We learn to be skilled at collecting and interpreting the various indicators of our students' learning [CLT's mid-semester assessments help!] and to use the information to decide on how to adjust and to respond creatively to what ultimately may be unique challenges, and in so doing hopefully increase our students' chance at successful learning.

Hence teaching, which needs to take into consideration the students' background knowledge, the curriculum, the inherent diversity of students in a course, the culture of the institution, the pedagogy of the discipline, the accreditation process, the learning space, etc. has many of the characteristics of a 'wicked problem'. And that is what makes evaluation of teaching such a difficult task.

Dr. J. Swanson made a very compelling presentation[1] to the 850 'Scientific Thinking' students a few weeks ago, explaining why AUC's low rating in the Shanghai rating systems and others, is in no way a measure of the quality of teaching at AUC. Teaching, he said, never enter in these ratings. Why so? Well because quality of teaching is hard to quantify – it has no definitive formulation.

Now throw into the mix the need to integrate technology in the teaching and learning process (and there is no question that this has become an imperative) and you would get an even "wickeder problem".

What is there to do then since most of us go on acting as though teaching were a tame problem? Don't we have defined goals? Defined learning outcomes? Defined curricula and accepted ways of assessing student learning? Why the need to change? Because the message from educational reformers is loud and clear: our responsibilities in educating for the 21st century is dramatically different than it was before. We need to prepare students for living and working in a world that is increasingly more complex, "that will always breach what we think we know", "for jobs that don't yet exist, using technologies that have not yet been invented in order to solve problems that we don't know are problems yet."[2]

On this note, I will leave us all to reflect on these two 'wicked problems', to recognize them as such and to remember that "wicked problems aren't solved, they are only addressed; they are treated not cured". I will also remind you that CLT's job is to work with you and to find together the 'one shot' solution to improve what you have already been doing quite well.

References:

Conklin, Jeff; *Wicked Problems & Social Complexity*, Chapter 1 of Dialogue Mapping: Building Shared Understanding of Wicked Problems, Wiley, November 2005.

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Ellsworth, Elizabeth. "The Wicked Problem of Pedagogy, An Afterword." Trans. Array Learning Through Digital Media- Experiments in Technology and Pedagogy. R. Trebor Scholz. 2011. New York: The Institute for Distributed Creativity , 2011. 305-311. Print. <http://learningthroughdigitalmedia.net/the-wicked-problem-of-pedagogy-an-afterword>.

[1] I would encourage you to watch it at http://lectures.aucegypt.edu/Panopto/Pages/Viewer/Default.aspx?id=c76ac5d6-7119-416a-a0b3-a17dc085174f

[2] Did You Know?/Shift Happens" is licensed by David S. Rose, Karl Fisch, Scott McLeod, and XPLANE under a Creative Commons Attribution Non-Commercial Share-Alike license http://www.youtube.com/watch?v=XVQ1ULfQawk