

Editor's Introduction

WILLIAM E. DOLL, Associate Editor
Louisiana State University (USA)
University of British Columbia (Canada)
University of Victoria (Canada)

Vignette: [French, vigne, vine]. Originally a running ornament of vine leaves, as used in decoration, vignette now refers to a short descriptive or evocative episode, or a dainty poem or artistic drawing.

– Oxford English Dictionary (2008, online)

The three vignettes in this section are truly evocative in their description of the complexity of teaching, all from different perspectives and from different cultural backgrounds. The word vine introduces well Goksenin Sen's charming allegory. She begins with a story in her native Turkey of the complexities that go into wine making: soil, temperature, rain, humidity, wind, blending, bottling, chemical reactions to name but a few. She tells the story of an aged woman wine maker who struggles each year to get the correct dynamic interactions among the various factors. When Goksenin's high school principal asks the physics teachers why their students did so poorly on district tests, compared to the year before, she asks him if he has ever made wine. When he says, "No!" she says, "Let me tell you a story!"

Lixin Luo's story is of her struggles, coming from a Chinese background, in teaching high school mathematics to Canadian students who are taking the required three years of mathematics in order to graduate. Here she runs into the "system." A number of students, certainly those in her class, manipulate the system, with the aid of their teachers, in order to "get through". The key here is "cheat sheets". For students in applied math, cheat sheets are common. It is the dirty, but open secret among students and faculty. After taking applied math in grades 9 and 10, where cheat sheets are part of the course, students with an interest in going on to university want to take regular math in grade 11, as this looks better on their transcript. Quite unprepared for this leap, the sheet cheats appear again. Lixin tells of her struggles, human ones, to overcome this dilemma: Help students get through a tough course for them, or help them prepare for university work. A hard and diligent worker herself and most concerned with the students and their problems, Lixin devotes time and attention to them. Progress seems almost there, no cheat sheets, and honest study as long as the math is related to something they know. Then the curriculum used asks the students to factor quadratic equations. All is lost. Somehow the system has destroyed the students' interest in learning, in the struggle true learning requires.

Lixin asks, "Why do we have to divide learning contents into exclusive subjects and disciplines?" And she ponders about "breaking the boundaries between subjects at school," for "when we set up a clear boundary between disciplines, we teach students a simplified version of the world". Lixin ends her vignette with a dramatic story of a Media Lab at MIT which possesses

an avowedly “anti-disciplinary research style”. The lab’s director believes that as real life problems become more complex and multidimensional there is a growing need to acquire creative solutions, not to known problems but to see these problems in different ways, to “posit novel questions”. Such novel questions, those “no one ever thought to ask before” which change the frame come not from within the discipline but from a cross, even anti-disciplinary approach.

Carol Lipszyc, a professor in upstate New York, recalls her pre-service days teaching “physics”, specifically density, to a group of 4th graders in St. Catherine’s, Ontario. As an arts-based undergraduate, Carol felt vulnerable and fearful. In complexity terms, Carol felt “far-from-equilibrium,” and while this space is a tenuous one, it is also, as Ilya Prigogine notes, one where creativity resides. Drawing on writings by Fritjof Capra, Carol draws upon her own knowledge of story-telling to help the students understand density She relates the ancient Greek story of Archimedes and the relation between mass and volume. Next she has the students read “Egg Drop Day”, and test out the hypothesis of whether one could drop an egg from an upstairs bedroom window and not have it break when landed. As Carol says, “materials and methods of inquiry borrowed from the English discipline, threw light on and developed students’ understanding in the science discipline”. In a broader curriculum sense, Carol realized she did not need to teach physics as a separate discipline but rather as part of an interconnected network. From this beginning Carol developed “a multi-sensory learning environment”, one where the network became richer as she added writing, song, and the analysis of classical music to her multi-discipline approach. Drawing on our own William Newell, sadly no longer with us physically but remembered in spirit, Carol became aware of “the ‘multiplicative effect’ of integrated pedagogies”. In this, may I say third-space, “students were enriched by their discovery of interweaving patterns between seemingly diverse elements”.

The Director of the MIT Media Lab would be pleased that elementary grade students were learning in such a network model, one Carol calls an “ecosystem of learning”; and, as Goksenin points out, good wine (and learning) needs time to ferment in the softness of oak barrels.

© Copyright 2012. The author, WILLIAM E. DOLL, assign to the University of Alberta and other educational and non-profit institutions a non-exclusive license to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The author also grants a non-exclusive license to the University of Alberta to publish this document in full on the World Wide Web, and for the document to be published on mirrors on the World Wide Web. Any other usage is prohibited without the express permission of the author.