

## TRANSFORMATIVE LEARNING

### *Getting Out of Students' Way to Prompt Transformative Learning*

“The fundamental basis of the system is fatally flawed. In 1970 the top three skills required by the Fortune 500 were the three R’s: reading, writing, and arithmetic. In 1999 the top three skills in demand were teamwork, problem-solving, and interpersonal skills. We need schools that are developing these skills.” (Linda Darling-Hammond, Stanford professor and founding director of the National Commission on Teaching and America’s Future, as quoted in Davis, 2013)

At UCO, we claim that Transformative Learning is a process that develops teamwork, problem-solving, and interpersonal skills. When left to their own devices in groups, children naturally develop these skills if they are given access to information (Mitra & Dangwal, 2010).

Instructional strategies such as flipping the classroom and working within the learning paradigm (Barr & Tagg, 1995) nurture the natural human propensity to learn — yes, even among college students. Some astounding case studies in which this natural tendency among students was allowed to happen illustrate the potential of providing students access to information and then stepping aside to guide them as they self-organize and self-motivate in learning teams.

You may have heard of the hole-in-the-wall experiment conducted by Sugata Mitra. In 1999, he mounted a computer in a hole in a wall bounding a slum in New Delhi, India, where disadvantaged children played. The computer had Internet access, and he turned it on and then simply observed. He saw groups of children clustering around the computer, testing what would happen when they tapped keys on the keyboard.

In a short time, the children taught themselves how to get onto the Internet, how to use Microsoft Paint to draw pictures, and so on.

Mitra’s ambitions grew over the years as he repeated his experiment, always finding that students were motivated to learn and that they taught themselves more than they would have learned in a comparable period of formalized class time in school.

His 2010 article with co-author Ritu Dangwal in the *British Journal of Educational Technology* reported on another experiment:

. . . we explored the capacity of 10–14 year old Tamil-speaking children in a remote Indian village to learn basic molecular biology, initially on their own with a Hole-in-the-Wall public computer facility, and later with the help of a mediator without knowledge of this subject. We then compared these learning outcomes with those of similarly-aged children at a nearby average-below average performing state government school who were not fluent in English but were taught this subject and another group of children at a high-performing private

school in New Delhi who were fluent in English and had been taught this subject by qualified teachers. We found that the village children who only had access to computers and Internet-based resources in the Hole-in-the-Wall learning stations achieved test scores comparable with those at the local state school and, with the support of the mediator, equal to their peers in the privileged private urban school. (Sutra & Dangwal, 2010, p. 672)

The “mediators” in his experiment were simply adults acting as guides to whom the children could go to ask questions. Importantly, these adults were *not* teachers, but were simply “favourably disposed towards the children and with no knowledge of molecular biology” (Mitra & Dangwal, 2010, p. 675).

Sergio Juárez Correa, teaching in a disadvantaged school in Matamoros, Mexico, where the bad odor from a local dump often created a miasma of dejection, learned of Mitra’s success and figured a way to replicate it — even though his school had little access to computers.

If you’re looking for a quick reinvigoration for your enthusiasm about teaching, please take a few minutes to read Joshua Davis’ (2013) article about the dramatic change in learning among Correa’s students when he began teaching transformatively (link in References). He, too, discovered that moving from lecture mode to student self-discovery mode (i.e., from the teaching paradigm to the learning paradigm — see Barr & Tagg, 1995) made a huge difference in producing student learning.

While the Mitra and Correa examples concern learning by students much younger than those in college, the core idea holds for UCO classrooms: merely delivering information, which makes little sense when students can access the information quickly and easily via multiple resources on their computers and smart devices, *constrains* learning; guiding students to discover information by posing an interesting question or problem *encourages more* learning. (This is also the key concept in Ken Bain’s *What the Best College Teachers Do*, 2004).

Transformative Learning in a UCO classroom can look exactly like learning in Correa’s classroom. The level of the material might be more challenging, and certainly the “mediator” in the classroom — the faculty member — is an expert in the content instead of simply an adult favorably disposed to the students (though *both* attributes are necessary!). However, the process of posing an interesting problem and then getting out of students’ way after access to the needed information is provided is the same for students of any age.

Read about Mitra’s studies. Read about Correa’s success.

Then realize that the year Albert Einstein spent in a school using such discovery-based methods of learning is what he credited as the prompt for his first thought experiments which eventually led to the theory of relativity (Davis, 2013).

Bain, K. (2004). *What the best college teachers do*. Cambridge, MA: Harvard University Press. (Available in the CETTL Library.)

Barr, R. B., & Tagg, J. (1995). From teaching to learning: A new paradigm for undergraduate education. *Change*, 27(6), 13-25. (Available online from the UCO Library and at <http://www.ius.edu/ilte/pdf/BarrTagg.pdf>)

Davis, J. (2013, October 15). How a radical new teaching method could unleash a generation of geniuses. *Wired*. Retrieved January 26, 2014 from <http://www.wired.com/business/2013/10/free-thinkers/all/>

Mitra, S., & Dangwal, R. (2010). Limits to self-organising systems of learning—Kalikuppam experiment. *British Journal of Educational Technology*, 41(5), 672-688.