

# Notes for *Undergraduate Research: From Receivers to Inquirers*

## Slide 2

The Boyer Commission report, “Reinventing Undergraduate Education: A Blueprint for America’s Research Universities,” (1998) was the first of four publications promoting integration of research and education in post-secondary education. The Kellogg Commission issued a report: “Renewing the Covenant: Learning, Discovery, and Engagement in a New Age and Different World” (2000); Former President Duderstadt of the University of Michigan published “A University for the 21st Century;” and the University of Michigan published the proceedings of the Jerome B. Wiesner Symposium, “New Integrations of Research, Scholarship, and Undergraduate Education” (2000). All recommend that passive modes of instruction be replaced with a more active process in which students and faculty take responsibility for their own intellectual growth, drawing from the richness and diversity available on any major university campus. A limited study by the Undergraduate Research Community (2001) indicated that selected students have had opportunities for undergraduate research but a pervasive philosophy has yet to be developed. The extent of active learning or inquiry-based education methods was not determined, but the most prominent model of undergraduate research was a unit award system. The Undergraduate Research Community determined that faculty development was a priority for meeting its mission of a dynamic and pervasive culture of the human sciences for developing the next generation of scholars. By developing lifelong inquiry methods, students will prepare for taking their place in leadership of the human sciences.

## Slide 3

Any educational change must, by its nature, benefit all parties. It must be recognized that change is never easy, and it will be no easier for students than for faculty to be comfortable with new ways of learning and teaching. I must hasten to say that in many ways active learning and inquiry-based education are not new phenomena, but the traditional passive processes are still the norm. From experience I know so well that students are not comfortable without the precision of a syllabus and specific details about the parameters of tests. Often they want to know precise expectations so that they can show that they absorbed the content on tests. And faculty members are more uncomfortable in the facilitator role than in the information-dispensing role. Then, too, there’s the fear of certification tests and the responsibility of students and faculty to “measure up.” That’s a real issue and an important one. So, the problem of learning and teaching is a complex one. One size does not fit all. Because knowledge changes so rapidly, lifelong learning and taking responsibility for one’s own learning are essential. Active learning provides the grounding for lifelong inquiry. Research involvement helps students deal with how to explore open-ended questions and deal with uncertainty, how to formulate questions, and how to find explanations or answers. Career success in the future will be based more on these skills than on the content knowledge held at graduation. There are true benefits to both students and faculty, once the mind-set has been modified to accept experimentation, participation, and uncertainty that characterizes a change-driven world.

#### Slide 4

I've briefly explored the rationale and benefits for enhanced undergraduate research and active, inquiry-based learning, and now I want to address the means of creating a new learning culture. Margaret Wheatley was once a highly successful traditional business consultant who utilized her expert approaches to help businesses and organizations change by instituting a sure-fire model for change. Today, she utilizes a "simpler way" following her study of chaos theory and quantum physics. She challenges our fundamental beliefs about the way the world works. Her newest book, *Turning to One Another*, lays the groundwork for dealing with change and finding joy in working together. She makes a profound statement that in order to participate in change, "... we need to include a new and strange ally—our willingness to be disturbed: our willingness to have our beliefs and ideas challenged by what others think. No one person or perspective can give us the answers we need to the problems of today. Paradoxically, we can only find those answers by admitting we don't know. We have to be willing to let go of our certainty and expect ourselves to be confused for a time" (2002, p. 34). What a novel thought! "It is very difficult to give up our certainties—our positions, our beliefs, our explanations. . . . Curiosity is what we need" (p. 35). We don't need to give up our beliefs, but we do need to be curious about alternatives. And we need to admit that we might not be able to figure out things alone—that collaborative thinking is required. Margaret goes on to say, "We can't be creative if we refuse to be confused. Change always starts with confusion. . . ." (p. 37).

#### Slide 5

(Read slide.) Certainly this list does not exhaust the ways. One thing I'm sure of is that you have the resources to enhance undergraduate education at your institution—your way.

I want to spend a bit of time now helping you learn from the experiences of this audience. Whether student or faculty, there are stories in this room that answer the question. I'm going to pause for a few minutes for you to think about how you have individually become an inquirer.

Pause

I'd like to have you share an experience of becoming an inquirer. Let's rotate: faculty, then student.

#### Slide 6

Once engagement begins, the question is whether a sticky community can arise and be maintained. Perhaps the most important question is "Can your College infuse education with the joy of discovery and an awareness of its connections to exploration through directed inquiry, careful observation, and analytic thinking for undergraduate students at all levels?"

Returning to a quote of Margaret Wheatley, "We can't be creative if we refuse to be confused. Change always starts with confusion. . . ."

### **Slide 7 and 8**

These slides present a question for faculty discussion and directions for group work.

### **Slide 9 and 10**

These slides present questions for student and faculty work and directions for group work.

### **Slide 11 – References**

Boyer Commission on Educating Undergraduates in the Research University. (1998). *Reinventing undergraduate education: A blueprint for America's research universities*. Internet:  
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Killeen, T. L., & Katterman, L. C. (Eds.). (2000). *New integrations of research, scholarship, and undergraduate education*, Proceedings of the 1999 Jerome B. Wiesner Policy Symposium. Ann Arbor, MI: Office of the Vice President of Research, University of Michigan.

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