



Active Learning Strategies in Face-to-Face Courses

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Lecturing, a time-tested and long-venerated teaching method, remains the most frequent method of instruction in higher education throughout the world (Svinicki & McKeachie, 2011; Lambert, 2012, p. 25). It can prove masterful when offered by inspiring teachers who are also gifted orators. But too often students sit passively, disconnected from the lecture, as they actively engage in “facebooking,” text messaging, or doing homework for other classes. Lecturing persists, nonetheless, EHF DXVH LW SURYLGHV D FRQYHQLHQW DQG HIÀFLHQW ZD\ WR GHOLYHU content to large numbers of students, particularly in large lecture halls.

Lecturing has advantages. It (1) enables the instructor to supplement the textbook by providing cutting-edge material; (2) gives the instructor presumed “control” in the classroom, although ironically students may not actually be disrupting WKH ÁRZ RI PDWHULDO EHF DXVH WKH\ DUH SDVVLYH RU RWKHUZLVH distracted; (3) lets the instructor offer key information that all students are (presumably) exposed to at the same time; and (4) offers an opportunity for an inspiring teacher to stimulate students.

Despite these perceived advantages, a vast number of studies in recent years—particularly in the area of cognitive science, psychology, and neuroscience—provide evidence that the intuitive conclusions of early educators such as John Dewey and many others were clearly on target: Active learning is a crucial element of the new thrust toward what is now commonly cal on BDC /Span <</ActualText (þÿ)>>BDC EMC EMC BT /Span <</MCID 33 >>BDC /TT1 1 Tf 12.5 0 0 12 4 XLJ 9DOXH /LQH DQG 6HQG 3DVV D 3UREOHP

... which occurs as a result of ... and increases the potential for improved performance and future learning (p. 3).” Prince (2004) further points out that:

In practice, active learning refers to activities elements of active learning are student activity and engagement in the learning process. Active learning is often contrasted to the traditional lecture where students passively receive information from the instructor (p. 1).

Berry (2008) further postulates that four key elements thinking, (2) individual responsibility for learning, (3) these components, critical thinking can be promoted through well-known taxonomy: analysis, synthesis, and evaluation. structured group work. As indicated in IDEA Paper No. 38 (Millis, 2002), all four of these key characteristics occur when instructors use cooperative learning. Unlike less structured forms of collaborative learning, cooperative learning requires students to be individually responsible assessments, self-assessments, and often whole-group assessments to determine individual contributions. Further, group work involves students in open-ended activities that focus on problem solving. Lastly, because cooperative learning is highly structured, the learning activities must be carefully designed and monitored by the professor. As Smith, Sheppard, Johnson, and Johnson (2005) indicate, “engaging students in learning is principally the responsibility of the teacher, who becomes less an imparter of knowledge and more a designer and facilitator of learning experiences and opportunities” (p. 2). Adopting these approaches has enormous pay offs in terms of student learning.

The Value of Active Learning

A meta-analysis of small group learning in the sciences group learning are effective in promoting greater academic achievement, more favorable attitudes toward learning, programs. A later version of this research reporting the same conclusions appeared in the prestigious ... (Springer, Stanne, & Donovan, 1999).

In a study comparing traditional lecture-based classes with students taught through active group-work methods learned two to three times more than students taught through traditional lecture methods (pp. 122-123).

Prince (2004) also discusses the research evidence for the effectiveness of active learning: “In summary, considerable support exists for the core elements of active learning. ... learning, student-centered approaches to teaching ... than more passive ... Minnesota Active Learning Classrooms (ALCs), for example, feature round worktables seating nine students, enabling them to collaboratively coach one another either directly ... after the “SCALE-XS” (Student Centered Activities for Large Environments Undergraduate Program) concept, developed at ... and Hill (2012) devote an entire chapter to “Learning Spaces that Support Learner-Centered Curriculum.”

Recent research has returned attention to the maxim that the person doing the teaching is far less important than how students are taught and what they are expected to do. In fact, the opening chapter of a new book on learner-centered teaching focuses on getting students to do the work, a recurrent theme (Doyle, 2011). Carl Weiman, a Nobel-winning physicist, found that in nearly identical classes, students learned more from graduate teaching assistants he had trained to use innovative teaching methods (i.e., small group ... sessions) ... using a lecture-only approach (Haak, HilleRisLambers, Pitre, & Freeman, 2011).

As multiple studies have indicated, increases in student achievement are only one of the positive results of active learning. Braxton, Milem, and Sullivan (2000) focused

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et al. examined the impact of active learning classroom
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examination questions, group work, and higher-order thinking
activities,” on student persistence and their feelings of social
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institution, and their decision whether to remain in school.
Given such value in active learning approaches, faculty
should know how to introduce them effectively.

Laying the Groundwork for Active Learning

Before introducing active learning approaches, it is a
good idea for teachers to clarify their expectations and to
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this is the course syllabus, but the value of active learning
approaches must be constantly reinforced. Sadly, some
students resist learner-centered teaching approaches. Doyle
(2008) explores eight reasons why they might do so and
offers ways to counter these negative responses, including

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 response. After this "wait time," students then turn to
 partners and share their responses, thus allowing time for
 both rehearsal and immediate feedback on their ideas (Pair).
 During the third and last stage, student responses can be
 shared within learning teams, within larger groups, or within
 WKH HQWLUH FODVV GXULQJ D IROORZ XS GLVFXVVLRQ 6KDUH 7KLQN
 Pair-Share, like most other cooperative learning structures,
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 more traditional classroom where the only active individuals
 are the lecturer or the one student who is responding to the
 LQVWUXFWRU\ TXHVWLRQ

(4) Visible Quiz (Staley, 2003)

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 TXHVWLRQV W\SLFDOO\ PXOWLSOH FKRLFH \$ % & RU ' RU 7UXH 7
 False (F). Each team has a set of large cards imprinted with
 RQH RI WKH IRXU OHWWHUV RU WKH 7 RU) 7KH FDUGV DOVR KDYH D
 XQLTXH FRORU H J DOO \$\ V PLJKW EH RUDQJH DQG DOO 7\ V EOXH
 At a given signal, one person from each team displays the
 WHDP\ V DQVZHU DOORZLQJ WKH LQVWUXFWRU WR GHWHUPLQH KRZ ZHOO
 students understood the question. She then gives the correct
 DQVZHU JRLQJ LQWR D PLQL OHFWXUH LI D VLJDEOH QXPEHU RI
 students gave inappropriate responses. She can also call on
 groups to explain the rationale for their selection, sometimes
 uncovering misconceptions or poorly constructed, ambiguous
 ZRUGLQJ LQ WKH TXHVWLRQV 9LVLEOH 4XLJ FDUGV DUH VRPHWLPHV
 FDOOHG WKH 'SRRU WHDFKHU\ V FOLFNHUV\ EHFDXVH WKH IXQFWLRQ
 like personal response systems without the histograms and
 UHFRUGNHSLQJ 7KH\ KDYH WKH DGYDQWDJH KRZHYHU RI DOORZLQJ
 teachers to identify immediately the groups giving incorrect
 answers. As Lasry (2008) points out, the learning depends
 RQ WKH SHHU FRDFKLQJ QRW WKH GHOLYHU\ PRGH 7KH LPPHGLDWH
 feedback also helps learning.

(5) Value Line

\$ 9DOXH /LQH DVFHUWDLQV VWXGHQWV\ RSLQLRQV LQ D TXLFN DQG
 visual way by asking them to line up according to how strongly
 they agree or disagree with a statement or proposition. For
 example, instructors may ask students to respond to the
 following statements:

Conclusion

As John Dewey and other advocates have suggested, active learning—because it is grounded solidly in the biological basis of learning and because it has been increasingly researched—contrary, active learning is a well-tested approach that teachers committed to student learning should consider adopting. Intentionality provides the key to using active members use cooperative learning and other approaches that lead to deep learning. Carnes (2011) also notes that teamwork and problem solving result in strong pedagogical gains and concludes that students “need to attend classes

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