General Education Workshop
Group 1: Responsible and Collaborative Learning

Revised 9-11-05

1. Introduction

The task of Group 1 is to research and establish three or four pedagogical models and evaluation rubrics (or other evidentiary tools) for each of the following areas, which would achieve the mission statement outcomes related to:

i. Students taking responsibility for their own learning;
ii. Students developing an ability to value the input of others, and working collaboratively within groups to solve problems;
iii. The integration of the academic approach to these outcomes with co-curricular outcomes that may originate with Student Life programming.

The statements from the Mission Explication which fall in our area are that students should:

a. Understand that healthy relationships are built on mutual respect and support of others' personal well-being, learning and development (I-B-1).
b. Value the knowledge, perspectives and input of others (I-B-2).
c. Understand that knowledge is often best discovered through discourse and the reasoned analysis of another's ideas (I-B-3).
d. Understand that important ideas rarely have one simple solution, and are able to manage the complexity of the challenges that face us (I-B-4).
e. Take responsibility for their own learning (II-A-1).
f. Synthesize and focus the ideas of a group in the solution of a problem.
g. Engage in strategies to promote inter-cultural communication and conflict resolution (II-D-3)
h. Are committed to their own emotional and physical well-being.

2. Styles of Learning and their Implications for Pedagogy and Assessment

Kris Crabtree-Groff

The charge to our group includes researching pedagogical models and, among other things, suggesting ways in which we can achieve the outcomes of students taking responsibility for their own learning, and learning to work together collaboratively.

There is a considerable literature on these subjects. We will start with the traditional view of teaching and learning, and then move on to other models which are more likely to achieve the desired outcomes.

2.1 A Traditional View of Teaching and Learning

Traditionally, education has placed focus on the instructor who made all decisions, established the learning environment, delivered the content, and assessed the knowledge. In this perspective, the learner is simply a vessel waiting to be filled with the requisite knowledge provided by the all-knowing expert.

Rosenshine suggests the following guidelines for lectures:

1. Content material should be presented in small steps.
2. Presentations should focus on one thought (point, direction) at a time, three to five total.

3. Digressions should be avoided during presentations.
4. When possible or appropriate, modeling should accompany the lecture.
5. Lectures are best accompanied by many and varied specific examples.
6. Effective lectures are characterized by detailed and redundant explanations for difficult points.
7. Before proceeding to the next point in a lecture, check for student understanding.
8. Student progress should be monitored through the lecture by means of questions.
9. Lecturers should stay on the topic, repeating material until students understand. (Freiberg, H. J. et al., 2005)

Lectures may be appropriate to introduce and explain new concepts, to connect previous learning to new learning, to review and summarize. However, there are limitations to the lecture technique (Frank, B. M., 1984); (Gage, N. L. et al., 1998); (Oddi, L., 1983); (Wahlberg, M., 1997):

- The lecture method can be boring if humor, voice modulation, and visuals are not used during the presentation.
- Student participation is limited and the opportunity of giving feedback is reduced.
- The lecture method emphasizes the lower-level cognitive skills of memorization and recall rather than synthesis and evaluation.
- The lecture approach places students with poor note-taking skills at a disadvantage.
- Students are placed in a passive role and take a less active role in their learning.
- Due to a lack of interaction, the teacher has difficulty immediately determining the amount of student learning.
- The lecture method rarely provides the opportunity for the inclusion of the affective learning domain (attitudes, feelings, values) or the psychomotor domain.
- Because the lecture approach is directed to large groups of students, individual needs are rarely identified or met.

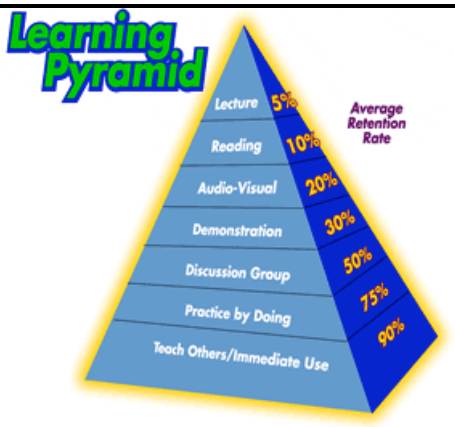
Additionally, content is viewed as a fixed entity with a "given body of facts, concepts, and understandings" that is transferred from instructor to student (DeMarrais, K. B. et al., 1999) p.129.

2.2 *Active Learning*

By contrast, many educators have for a long time advocated "active learning", an umbrella perspective that describes and defines students actively constructing knowledge and make meaning from that knowledge. Active learning places the learner at the center of curriculum design, the selection of teaching practices, and the assessment of performance outcomes.

A key argument for active learning is that it improves student retention of material. (Sousa, D. A., 2001) writes:

> "The learner's ability to retain information is also dependent on the type of teaching method used. The learning pyramid [shown below], devised in the 1960s by the National Training Laboratories of Bethel, ME, comes from studies on retention of learning after students were exposed to different teaching methods. The pyramid shows the percentage of new learning [rounded to the nearest 5%] that students can recall after 24 hours as a result of being taught *primarily* by the teaching method indicated…



… Moving down the pyramid, students become more involved in the learning process, and retention increases. The method at the bottom of the pyramid involves having the students teach others or use the new learning immediately. We have known for a long time that the best way to learn something is to prepare to teach it. In other words, whoever explains, learns. This is one of the major components of cooperative learning groups and helps to explain the effectives of this instructional technique."

Let us then look at some of the theories and research that support the active learning model.

2.3 *Principles of Constructivism*

Constructivism believes instructors must know their students, their prior knowledge and experiences, their interests, and their needs in order to design effective and engaging learning environments. Here is a list of Constructivist principles (Lambert, L., 2003), p. 59:

- Knowledge and beliefs are formed within the learner, and learners personally imbue experiences with meaning.
- Learning activities should cause learners to gain access to their experiences, knowledge, and beliefs.
- Culture, race, and economic status affect student learning individually and collectively.
- Learning is a social activity that is enhanced by shared inquiry.
- Reflection and metacognition are essential to the construction of knowledge and meaning.
- Learners play a critical role in assessing their own learning.
- The outcomes of the learning process are varied and often unpredictable

2.4 *Multiple Intelligences*

Another important idea is the Theory of Multiple Intelligences, which undergoes constant revision and research. For example, (Gardner, H., 1983) has identified eight intelligences, or learning capacities. Each learner possesses all of the eight but finds comfort in one or several of the intelligences. An instructor uses the eight intelligences to design lessons based on different student learning capacities in order to support development in each of the capacities as well as foster learning through students' most dominant capacity.

- Bodily/Kinesthetic: ability to use the body skillfully and to handle objects skillfully.
- Interpersonal: ability to understand people and relationships.
- Intrapersonal: ability to assess one's emotional life as a means to understand oneself and others.

- Logical/Mathematical: ability to handle chains of reasoning and to recognize patterns and orders.
- Musical: sensitivity to pitch, melody, rhythm, and tone.
- Naturalist: ability to draw on materials and features of the natural environment to solve problems or make products.
- Verbal/Linguistic: sensitivity to the meaning and order of words.
- Visual/Spatial: ability to perceive the world accurately and to manipulate the nature of space such as through architecture, mime, or sculpture.

Before tailoring instruction to students' intelligences, an instructor can survey and collate the varied intelligences defining a classroom of learners. Once data are shared, students should be able to use their knowledge of their dominant intelligence(s) as self-directed learners and instructors are able to design appropriate learning opportunities for the whole class, small groups, and individual students.

2.5 Brain-Based Learning

A third set of principles (Caine, J. G. et al., 1999), p. 1-6, concerns how the brain works. These principles can be used by instructors to incorporate active learning into course outcomes or lesson plans.

Principle 1:	The brain is a complex adaptive system.
Principle 2:	The brain is a social brain.
Principle 3:	The search for meaning is innate.
Principle 4:	The search for meaning occurs through patterning.
Principle 5:	Emotions are critical to patterning.
Principle 6:	Every brain simultaneously perceives and creates parts and wholes.
Principle 7:	Learning involves both focused attention and peripheral perception.
Principle 8:	Learning always involves conscious and unconscious processes.
Principle 9:	We have at least two ways of organizing memory: taxon and local.
Principle 10:	Learning is developmental.
Principle 11:	Complex learning is enhanced by challenge and inhibited by threat.
Principle 12:	Every brain is uniquely organized.

Like Multiple Intelligences, these twelve principles can be used by instructors to directly engage students in learning content and skills. By creating active learning environments, students will be able to use new learning and apply that learning to real-life situations. All learning principles can be addressed when an instructor focuses on a learner-centered approach where students construct meaning and develop "authentic understanding", a term which means that students can demonstrate skills and competencies that realistically represent problems and situations likely to be encountered in daily life.

2.6 Implementing Active Learning

The foregoing ideas suggest ways in which the instructor can choose to move towards the use of active learning:

Increase	Decrease
Students participate in decision making process by choosing own topics, and setting goals for improvement through peer and instructor-student conversations and progress monitoring.	Instructor control over decision making process including all writing and reading topics, suggestions for improvement, determining course outcomes, and using only whole class instruction.

Increase	Decrease
Classroom is a supportive setting for shared learning: • Active exchange and valuing of students' ideas • Collaborative small group work • Conferences and peer critiquing that gives responsibility to learners	Classroom devaluation of students' ideas through: • Students viewed as lacking knowledge and abilities • Sense of class as competing individuals • Work with fellow students viewed as cheating or disruptive
Social, collaborative activities with much discussion and interaction	Solitary seatwork with rote memorization of rules and formulas
Independent reading with choices	Instructor selection of all readings
Emphasis on activities that engage students in inquiry and problem solving about significant issues, answers, and solutions	Memorizing detailed vocabulary, definitions, and explanations without thorough connection to broader ideas
Connecting and applying learning to real world experiences	Learning isolated topics or developing skills out of context through lecture

Adapted from (Zemelman, S. et al., 1998).

2.7 *Assessment*

To accompany changes in pedagogy there need to be changes in assessment which follow the same principles and mindset:

Increase	Decrease
Using multiple assessment techniques including written, oral, and demonstration formats	Using only written tests
Use of evaluation that involves further learning and that promotes responsible citizenship and open expression of ideas	Assessments only at the end of a unit, chapter, or grading period that test only factual or memorized knowledge of textbook information
Evaluation that focuses on holistic, higher-order thinking processes	Evaluation focus on individual, low-level subskills
Measuring success of program through students' habits, attitudes, and knowledge	Measuring success of program through test scores
Constructive and efficient evaluation that involves: • Brief informal responses as students work • Thorough grading of just a few of student-selected, polished pieces • Focus on a few errors at a time • Cumulative view of growth and self-evaluation • Encouragement of risk taking and honest expression	Evaluation as a negative burden for instructor and student by: • Marking all papers heavily for errors • Instructor editing papers, and only after completed, rather than student making improvements • Grading seen as punitive, focused on errors, not growth
Assessing learning is an integral part of instruction	Being the dispenser of knowledge
Products created for real events and audiences	Products created for instructors and grading
Outcomes and expectations available in advance	Outcomes and expectations hidden or set during grading
Instructor feedback is substantive, varied, and formative	Instructor feedback is scores and grades

Adapted from ("From Abacus to LMS: The Evolution of Learning Technologies," Zemelman, S. et al., 1998)

A type of assessment likely to be particularly helpful, both in engaging students and in measuring progress towards outcomes is "authentic assessment". This is any type of assessment that requires students to demonstrate skills and competencies that realistically represent problems and situations likely to be encountered

in daily life. Students are required to produce ideas, to integrate knowledge, and to complete tasks that have real-world applications. ("Approaches to Authentic Assessment,")

Examples of Authentic Assessments include: observation, portfolio creation, presentation, progress monitoring of task, real-world product (lab report, web page, painting, etc.), reflection, self-assessment, task performance, video/audio tape and writing pieces: (essay, letter, short story, etc.)

Assessments can be scored by checklist, scoring guide, or rubric. Scores and feedback should align with course outcomes. For students to be actively engaged in the learning process, the expectations and outcomes of assessments must be publicized and discussed prior to assigning performance tasks. In some cases, the instructor can facilitate and negotiate the development of assessments with student input to encourage student ownership of the process.

3. The Responsible Learner

Kris Crabtree-Groff

Having discussed styles of learning, and their implications for pedagogy and assessment, we now turn to one of our specific charges, ways in which we can achieve the outcome of students being *Responsible Learners*. By "responsible learner" we mean a student who regards it as their task to take the initiative in learning, who does not rely exclusively on the instructor, who completes all assignments on time but often goes beyond them to pursue additional information of interest and relevance. The responsible learner also shares their experiences, knowledge, ideas insights and questions with the instructor and fellow students. So he/she is both an independent learner and a collaborative learner, depending on the situation.

Shared ownership in the learning process places the responsibility for learning at both the instructor and the learner levels. As an instructor, teaching and assessment practices are selected in the best interest of the learning needs of students, and matches content delivery and learning needs. At the student level, an awareness of self as a learner is critical to the decision making process of how and when to study, as well as determining what information and skills need to be retained for future use.

The responsible student-learner functions at three levels

First, as an individual learner, self-reflection is integral to the learning process. Students must be able to examine themselves in relation to learning new concepts and skills in order to make personal connections with content. The assessment of self-reflection can come in many forms: journaling, learning logs, contracts etc. Essential elements of self-reflection include:

- Learning about self as a learner, including emotional responses to learning;
- Tasks that were easy and those that were difficult;
- Ideas for doing things differently;
- Proud accomplishments; and

- Dissatisfactions and need to change. (Ornstein, A. C. et al., 2005)

Second, as a member of a small group, the responsible learner recognizes that their learning will be improved if they contribute to group work, perform their share of group tasks, value the input of others and learn from them, and in turn help others to learn.

Third, as a member of a classroom community, goals for students show respect for the content, the instructor, the other course participants, and the self. (Stiggins, R. J., 1997) recommends the following skills: master content knowledge; reason proficiently; become skillful; develop quality products; and develop appropriate motivational predispositions (pp. xi-xii)

These recommendations can be used at the beginning of a course of study for instructors who are in the role of learners, but the list can easily be transcribed into learning outcomes for students.

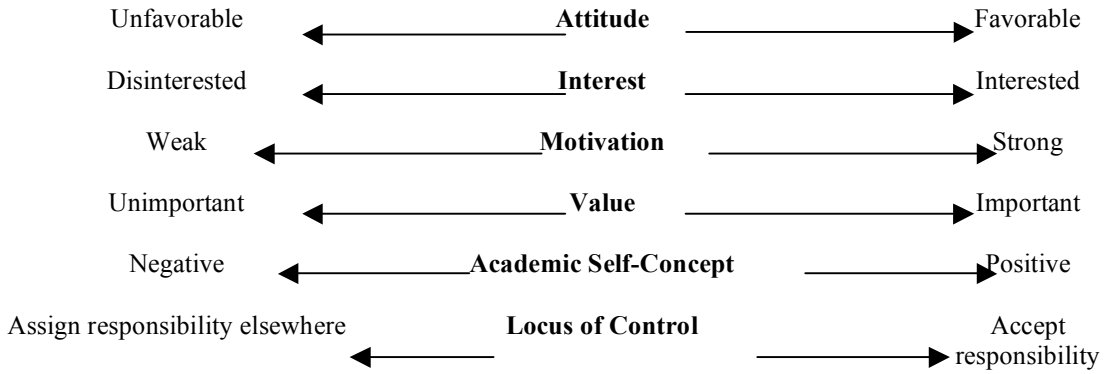
Instructors should be cognizant of the influence emotion has on learning when designing lesson plans. If students are placed in a stress induced situation, they will be less likely to learn, remember, or perform.(Brooks, J. G. et al., 1993). Instructors who hope to instill knowledge in students should incorporate the modeling and teaching of responsibility as a positive attribute. Incorporating responsibility as a learner into teaching, learning, assessment cycle can be accomplished by:

- Discussing what responsibility looks like in detail
- Showing the student how to get there from here
- Providing focused practice and feedback
- Permitting students to monitor their own progress (Stiggins, R. J., 1997), p. 323.

Student performance and participation can be influenced and taught by targeting certain habits of mind which student use to filter their thinking. (Anderson, L. W., 1981) discusses several affective dispositions that directly impact student learning and performance.

- Attitudes: “feelings that…can be either unfavorable or favorable, positive or negative, and are typically directed toward some specific target. The association between the feelings and a particular object are learned, and once learned, the feelings are consistently experienced in the presence of that object” (p. 33).
- Interests: Strong interests can hook students into engaged learning. The connection between positive or negative feelings and interests is learned. Through experience and increased awareness students’ interests can be honed and explored.
- Motivation: “The need within a student to achieve or act favorably toward school activities and/or school related work” ("The Learning Pyramid," Stiggins, R. J., 1997), p. 328. Motivation to participate as a learner is a shared responsibility between the student and the instructor.
- School-Related Values: Students behaviors, interests, values, and satisfactions are varied. Values can be learned through social interactions and reflect the expectations of certain contexts. Success in academic pursuits require a strong work ethic and a positive feeling of contribution and productivity.
- Academic Self-Concept: “No affective characteristic is more school-related than this one. It is the sum of all evaluative judgments one makes about one’s possibility of success and/or productivity in an academic context” ("The Learning Pyramid," Stiggins, R. J., 1997), p. 328.
- Locus of Control: Students’ perception of themselves as successful, productive members of a learning community must be connected to their self-concept rather than attributed to luck or the instructor’s favor

(Anderson, L. W., 1981) illustrates the range of school related affect:



4. Working Collaboratively

Linda Krypel

We will now turn to our second specific charge, ensuring that students learn to work collaboratively and value the input of others.

Collaborative Learning (CL) is an instructional approach designed to enhance critical thinking, promote deep learning, and promote effective interpersonal and team skills. CL entails the use of small heterogeneous groups (3-4 students) working on carefully structured activities. This careful structuring of learning groups and activities is key and differentiates CL from informal group assignments. (Authors sometimes use the terms, cooperative and collaborative, interchangeably.)

4.1 Research

Macaulay and Gonzalez indicate "The building of social skills around such areas as decision-making, communication, and conflict management is fundamental to CL."(Macauley, B. A. et al., 1996). According to Mills, there are three premises, which underlie CL: "The first premise… is respect for students - regardless of their ethnic, intellectual, educational, or social backgrounds -and a belief in their potential academic success. Second, CL promotes a shared sense of community. Third, CL is predicated on the premise that learning is an active, constructive process."(Mills, B. J., 2002). Myers and Jones have found that CL "…provides opportunities for students to talk and listen, read, write, and reflect…all of which require students to apply what they are learning."(Myers, C. et al., 1993). Thus, it uses connectedness to promote a deep rather than surface approach to learning.

Proponents and researchers of CL repeatedly favor the paradigm shift from students reproducing what information the instructor delivers, to students producing learning facilitated or assisted by the instructor. Although this paradigm shift may appear to be just today's trendy fad, it is backed by extensive research. Even proponents of CL such as Leamnson and Palmer remind us that: "A good pedagogy selects what is appropriate and is not wedded to a method, no matter how innovative or popular."(Leamson, R., 1999; Palmer, P. J., 1996) "Our challenge is not to reduce good teaching to a particular form, model, methodology, or technique, but to understand its dynamics at the deeper levels, the underpinnings, to understand the dynamics that make connectedness a powerful force for learning in whatever form it takes." (Palmer, P. J., 1996)

Research on CL is long-standing and solid and has been conducted for 70-90 years depending on which citations are used. Slavin states that CL is: "…one of the most thoroughly researched of all instructional methods."(Slavin, R. E., 1989) Not only has the research shown positive academic achievement for CL, but CL

has also been associated strongly and consistently with positive attitudinal and interpersonal relations. Student attendance in classes, increased sense of personal responsibility, motivation, persistence, willingness to listen and be influenced by peers, and improved racial/ethnic relations are just some of the positive attitudinal or interpersonal relations documented by research. For more specific research, see attached references.

4.2 *Brief Examples of CL, including some Assessment Techniques*

1. Structured tasks such as a group report or complex problem/case

Using carefully structured teams, members have assigned roles such as discussion leader, organizer, recorder, and spokesperson. Consensus must be reached and individuals are assigned points toward a grade, along with a group grade, based on well-defined rubrics.

2. Cooperative homework assignments

A study question (or questions) is given to the team prior to class. Answers are written individually, and then discussed within the team. At the beginning of class, teams report to the entire class.

3. Numbered heads together

A more structured version of team reports, where each team member is assigned a number. The instructor then randomly calls on a number that will then provide the team report for that day. This encourages teams to ensure that all team members understand the material and are able to explain it to the class.

4. Three step interview

Using a team of 4 students separated into pairs, one student interviews another regarding the instructor posed question, roles are reversed and the second student is allowed to answer. The two pairs from the team are then brought together and answers are shared among the team.

5. Visible Quiz

Students in groups discuss an appropriate response to a multiple choice or true/false quiz question displayed to the class. Each team has color-coded cards with the separate answers on a separate card. At a given signal, each team displays their choice. The instructor and students can quickly survey the room to view the results. Teams can then be called on to explain their choice or the instructor can provide the correct answer and reasoning.

6. Group Exams

Each student individually takes the exam and turns it in for grading. The students then discuss the answers within their assigned learning teams and the individual student retakes the exam. This second score is then averaged for the entire team and becomes a portion of the entire score for that exam. Another version uses only one team exam for the second score and eliminates the need to average the team members' scores. Group exams encourage each student to take responsibility for the overall team learning.

The above methods are just some examples that reinforce listening and probing skills, help students process and rehearse information, and results in shared insights using low-risk conditions for feedback.

4.3 Classroom Assessment Techniques (CATs)

The majority of the recommended assessment techniques consist of group work (peer) evaluations, and rubrics that are formative and/or summative, based on carefully delineated learning outcomes. Having well-written course and activity learning outcomes is critical to using collaborative learning. Many authors recommend that students be allowed to participate in writing course/activity outcomes and be allowed to design the grading rubric (with instructor oversight). This has been very effective in increasing intrinsic motivation in students. (We learn best what we feel we need to know.)

Along with peer grading, self-evaluation (both formally and informally.) is an important component of CL. The contribution toward increased learning, personal responsibility and positive attitude is reported in research literature.

4.4 Links to Drake Mission Explication Statements

When the following skills and dispositions outlined in the mission explication are now reviewed, it is easy to see the connection between these skills and dispositions and CL. Mutual respect and support of others' well-being, learning and development; valuing the input of others; understanding that knowledge is often best discovered through discourse and analysis of others ideas; taking responsibility for learning; synthesizing ideas from a group into a solution; promoting inter-cultural communication, are all part of the definition, pedagogical models, and results of CL.

5. Relating Academic and Co-Curricular Outcomes

Ericca Saddoris

Our third charge was to show how to take a holistic view of all aspects of the campus experience as being learning opportunities.

This needs to go beyond relating out-of-class activities to the curriculum. The collaboration needs to be built on "true, substantive partnerships, across administrative lines, which serve to implement the goals of liberal education". (Brady, S. M., 1999). The desired results of this collaboration include "improved cognitive, interpersonal, and organization skills; self-discipline, self-understanding, and responsibility for self and community; increased leadership and citizenship; academic success; and retention". (Bloland, P. A. et al., 1996)

One of the foundations of student life programming and services is the holistic perspective of student development, showing concern for the whole student. This lends itself naturally to outcomes and activities in the general education program.

5.1 Research

The *Student Learning Imperative* serves as a foundational document for the field of student affairs. It states "students benefit from many and varied experiences during college and learning and personal development are cumulative, mutually shaping processes that occur over an extended period of time. The more students are

involved in a variety of activities inside and outside of the classroom, the more they gain." *("The Student Learning Imperative: Implications for Student Affairs," 1996)*

Arthur Chickering's Theory of Identity Development is a theoretical foundation of student life learning and development outcomes. In 1993, Chickering presented a revised version of his original theory which included with seven areas of development: achieving competence, managing emotions, developing autonomy, establishing identity, freeing interpersonal relationships, developing purpose, and developing integrity (Evans, N. J. et al., 1998).

Brady, who summarized the works of Chickering, Zelda Gamson, and Alexander Astin, identified areas that need to improve in order to achieve success in the realm of student affairs. These have many similarities with what we have written above about faculty/student relationships and teaching/learning relationships:

- Working with students one-on-one and in small groups
- Working in active and collaborative learning with students
- Understanding peer groups and how to motivate student learning
- Communicating high expectations to students
- Promoting respect for diversity in talent, learning style, race, culture, gender, and sexual orientation
- Giving constructive feedback, providing challenges, relieving boredom, and being flexible

Guarasci points out the congruency between the intended learning outcomes in student affairs and academic affairs ("From Abacus to LMS: The Evolution of Learning Technologies," Guarasci, R., 2001). He identifies the development of "voice" as central to student development, and a byproduct of the classroom work which focuses on critical thinking and active learning. He adds that pedagogy which cultivates active learning is also likely to lead to students' active leadership and campus involvement. Collaborative learning techniques when used successfully led students to develop empathy. Student affairs professionals have identified empathy as being a key development factor for students to be engaged in diversity education and knowledge of cultures.

"The most important factor is that transformative learning occurs in the active context of students' lives" (Keeling, R. P., 2004). Examples of this include resolving a conflict, confronting or counseling another student, or taking leadership responsibility (Keeling). In the student life realm, this occurs in the residence halls, student organizations, Adams Leadership Academy, Greek organizations, and dining centers.

Appropriate classroom learning outcomes can help students with identity development, tolerance, the capacity for intimacy with others, and successful interpersonal relationships. The classroom activities which faculty can use to assist with this healthy development include:

- Writing journals
- Analyzing case studies
- Providing examples of varied role models in their area of expertise
- Soliciting opinions in class and in written papers
- Careful selection of groups for group projects, and assigning built-in opportunities for processing relationships within groups of students.
- Allowing students to share life stories or personal perspectives
- Including global perspectives by giving examples of how other cultures teach or use concepts in a particular subject area.
- Engaging students in the psychosocial dynamics of prejudice, hierarchy, and patriarchy (Guarasci, p. 103).

5.2 *Co-Curricular activities at Drake*

The statement in the mission statement that students should "value the knowledge, perspectives, and input of others" is closely linked to diversity education. Student life staff has traditionally produced passive and active programming for annual week/month events. Faculty can add a new perspective in planning and providing adjunct classroom education and activities in conjunction with diversity, women's health, and other annual programs (Kellogg). Student organizations would welcome faculty involvement providing historical, sociological, and personal perspectives for these programs.

Two additional aspects of the mission explication that relate to student life outcomes include students "are committed to their own physical and emotional well-being. (II-A-2)" and that they "understand that healthy relationships are built on mutual respect and support of others' personal well-being, learning, and development. (I-B-1)". In the classroom, faculty members can engage students in conversation about emotions, patterns of meaning, and the personal consequences of the information that they are studying.

A focus of student life programming for the 2005-2006 year will be issues of student ethics and integrity. Faculty can link this adjunct programming by connecting intellectual and social issues surrounding values, ethics, and morals (Guarasci, p. 104).

Community-based or service learning serves as an important collaboration technique to engage students in the concepts of connectedness and civic responsibility. Faculty can include assignments, classroom discussion, and texts that relate to these experiences. There are several avenues on Drake's campus to facilitate service learning opportunities including Chrystal Stanley in Professional and Career Development Services and Jan Wise, the Director of Student Leadership and Community Service.

This learning occurs in the student life realm in transitional programming; training and development courses for Resident Assistants, Peer Mentors/Academic Counselors and Orientation Counselors; and student employment training.

At Drake, several instruments are used to collect student cultural data, specifically with first year students. Some examples include the CIRP, NSSE, CORE alcohol and drug survey, and the First Year Seminar evaluation. This assessment data could prove helpful to faculty in engaging and understanding the student culture.

A joint document produced by the American Association for Higher Education, American College Personnel Association, and National Association of Student Personnel Administrators in 1998 stated that learning is fundamentally about making and maintaining connections: biologically through neural networks; mentally among concepts, ideas, and meanings; and experientially through interaction between the mind and the environment, self and other, generality and context, deliberation and action.

Learning is enhanced by taking place in the context if compelling situation that balances challenge opportunity, stimulating and utilizing the brain's ability to conceptualize

6. Rubrics as an Assessment Tool of Learning Outcomes

We have described above a number of tools and techniques for teaching and assessment. Of particular interest for assessment is the rubric ("The advantages of rubrics," 2005). The creation of a rubric forces articulation of what the instructor wants from a particular activity, and communicates that to the student. While rubrics may be a formative or summative assessment for the student, all assessments are formative for the instructor, in that they help in identifying what students are or are not learning, and hence point the instructor towards improvement opportunities. Several sample rubrics are included as an appendix, and a link to websites which help instructors develop their own.

For more on this topic, see the Resources in Section 8.3.

7. Conclusions

From the foregoing, we can draw three main conclusions.

7.1 Research evidence validates active learning and collaborative learning

We have made a case for active and collaborative learning as likely to lead to deeper understanding, retention of material and a range of valuable interpersonal skills, all of which can be linked to, and are likely to lead to, successful careers after Drake. Of the teaching models discussed, we have presented evidence that the student-centered (and its variants group and peer-centered) models are more likely to be effective than instructor-centered ones.

We should therefore seek to imbue Drake students with an active desire to seek knowledge and understanding, looking beyond the minimum required just to pass a test. Inquiry-based and problem-based learning, performing group tasks which encourage self-motivation and learning from peers as well as from the instructor, recognizing that learning occurs in a social and emotional context, and just as likely often outside as inside the classroom: all these should be characteristics of the Drake student's experience. A holistic approach to classroom and extra-curricular activities leads to a holistic and valuable campus experience, and thence to a good start in the chosen profession.

7.2 Creating active and collaborative learning experiences is feasible

Providing this education for our students, rethinking and redesigning the learning experience writ large, clearly takes work. It requires an awareness of pedagogical issues, perhaps a change of mindset, and a willingness to try things new to the instructor.

On this other hand, this is no longer terra incognita. Faculty can draw on existing resources, which are well-tested and easily available, to reduce the amount of work required.

7.3 If we undertake this effort, we can achieve the learning outcomes called for in the mission explication statements.

As we have shown above, the approaches suggested here will meet the outcomes associated with the mission explication statements with which we started this document.

8. Resources

8.1 Glossary

To set the stage for experiential and active learning, a common set of vocabulary is required to facilitate a dialogue about the best teaching practices. Zemelman, Daniels, & Hyde have constructed a list of terms familiar to researchers of active learning.

- **Student-Centered (Learner-Centered)**: The students' interests across the curriculum, their questions should take precedence over studying hierarchically selected content.
- **Experiential**: Active, hands-on/minds-on concrete experience is the most powerful and natural form of learning.
- **Holistic**: Students learn best when whole ideas are presented through purposeful contexts, not by study of isolated events or materials.
- **Authentic**: real, rich, complex ideas and materials are the center of curriculum development. Learning should model real-life application.
- **Expressive**: the whole range of communication should be used to ensure understanding --speaking, writing, drawing, movement, etc.
- **Reflective**: Learners need the opportunity to stop and discuss, debrief, reflect in order to move the abstract to the real.
- **Social**: learning is a socially constructed experience. Sharing and talking are integral to internalizing information.
- **Collaborative**: cooperative learning activities show more power in ensuring learning than competitive and individualistic approaches.
- **Democratic**: the classroom should model a community of learners, actively participating citizens.
- **Cognitive:** using higher order thinking skills connected with inquiry-based learning and self-monitoring will enhance learning capacity and produce higher levels of performance.
- **Developmental:** adults and adolescents learn in different ways. The developmental needs and interests should frame any area of study.
- **Constructivist**: students should actively engage in creating meaning. (Zemelman, S. et al., 1998). (p. 8)

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8.3 Rubrics

Adapted from "Introduction to Scoring Rubrics", Copyright 2000 Chicago Board of Education
http://intranet.cps.k12.il.us/Assessments/Ideas_and_Rubrics/Intro_Scoring/Intro_P1/intro_p1.html

1. Introduction

The goal is to develop a coherent system of learning outcomes, instruction based on the outcomes, and an assessment system that is aligned with the outcomes and instruction. The assessments, which must be valid, reliable and fair, are intended to form the basis for making sound decisions about students and instructional programs.

2. Performance assessment

Unlike a multiple-choice or true-false test in which a student is asked to choose one of the responses provided, a performance assessment requires a student to perform a task or generate his or her own response. For example, a performance assessment in writing would require a student to actually write something, rather than simply answering some multiple-choice questions on grammar or punctuation.

A performance assessment consists of two parts, a task and a set of scoring criteria or "rubric." The task may be a product, performance or extended written response to a question that requires the student to apply critical thinking skills. Some examples of performance assessment tasks include written compositions, speeches, works of art, science fair projects, research projects, musical performances, open-ended math problems, and analysis and interpretation of a story the student has read. Existing classroom instructional activities may often be transformed into a performance assessment with the addition of suitable scoring criteria

3. Why scoring rubrics are important

Because a performance assessment does not have an answer key in the sense that a multiple choice test does, scoring a performance assessment necessarily involves making some subjective judgments about the quality of a student's work. Many people feel uncomfortable with making and using subjective judgments and find that a good set of scoring guidelines or "rubric" provides a way to make those judgments fair and sound. It does so by setting forth a uniform set of precisely defined criteria or guidelines that will be used to judge student work.

The rubric should organize and clarify the scoring criteria well enough so that two instructors who apply the rubric to a student's work will generally arrive at the same score. The degree of agreement between the scores assigned by two independent scorers is a measure of the reliability of an assessment. This type of consistency is needed for a performance assessment to yield good data that can be meaningfully combined across courses and sections and used to develop improvement plans.

A good scoring rubric will:

- Help teachers define excellence and plan how to help students achieve it.
- Communicate to students what constitutes excellence and how to evaluate their own work.
- Communicate goals and results to parents and others.

- Help teachers or other raters be accurate, unbiased and consistent in scoring.
- Document the procedures used in making important judgments about students. - Herman, Aschbacher, and Winters (1992)

4. Elements of a scoring rubric

A scoring rubric has several components, each of which contributes to its usefulness. These components include one or more dimensions on which performance is rated, definitions and examples that illustrate the attribute(s) being measured and a rating scale for each dimension. Ideally, there should also be examples of student work that fall at each level of the rating scale. Elements are:

- One or more traits or **dimensions** that serve as the basis for judging the student response
- **Definitions and examples** to clarify the meaning of each trait or dimension
- A **scale** of values on which to rate each dimension
- **Standards** of excellence for specified performance levels accompanied by models or examples of each level - Herman, Aschbacher, and Winters (1992)

The scoring rubric rating scales may be numerical, qualitative, or a combination of the two. Qualitative rubrics may have scale points with labels such as these:

- Not yet, developing, achieving
- Emerging, developing, achieving
- Novice, apprentice, proficient, distinguished
- No evidence, minimal evidence, partial evidence, complete evidence

There is no one right answer of how many points there should be on a scale:

- Each point on the scale needs to be well defined. This may be difficult to do for longer scales.
- Longer scales make it harder to get agreement among scorers (inter-rater reliability).
- Extremely short scales make it difficult to identify small differences between students.
- Do you simply want to divide students into two or three groups, based on whether they have attained or exceeded the standard for an outcome? If so, then a short scale may be adequate.
- If you are rating a product/performance on several different dimensions, will you want to add up the scores so that each is equally weighted? If so, you may find it easier to have all scales the same length.

5. Analytical vs. holistic rubrics

A rubric with two or more separate scales is called an **analytical** rubric. This contrasts with a scoring rubric that uses only a single scale that yields a global or **holistic** rating. Holistic scoring is often more efficient, but analytical scoring systems generally provide more detailed information that may be useful in planning and improving instruction and communicating with students. As you examine potential rubrics, think about which would provide the instructor with better diagnostic information to use in planning instruction. Which would provide the student with the clearest feedback about his or her work and how to make it better? Which would probably be more time-consuming to use?

6. Share your rubric

A rubric can be a powerful communications tool. When it is shared among instructors and students, the rubric communicates in concrete and observable terms what the department values most. It provides a means for you and your colleagues to clarify your vision of excellence and convey that vision to your students. It can also provide a rationale for assigning grades to subjectively scored assessments. Sharing the rubric with students is vital—and only fair—if we expect them to do their best possible work. An additional benefit of sharing the rubric is that it empowers students to critically evaluate their own work.

In order for a rubric to effectively communicate what we expect of our students, it is necessary that students be able to understand it. This may require restating all or part of the rubric to eliminate educational jargon or to explain a rubric in a way that is appropriate for the student's developmental level. For example, if a reading rubric specifies that a student should be able to "construct meaning from a text," you might tell a student that the rubric looks at how well she makes sense out of what she reads.

7. Where to find rubrics

Although it is possible to construct your own rubrics from scratch, many people find it simpler to adopt or modify existing rubrics. The Chicago rubric bank contains many sample rubrics, and a Google search yields a large number of rubrics, rubric-building tools and related materials. Additional examples of scoring rubrics may be found in education journals and other professional publications. These rubrics may be adopted, adapted, or they can provide ideas and serve as models.

8. Evaluating Rubrics

There is no single best rubric for all purposes and many different rubrics could be applied to the same task. The following criteria for evaluating scoring rubrics are adapted from Herman, Aschbacher and Winters (1992), Arter (1990) and ISBE (1994).

- Does the rubric relate to the outcome(s) being measured?
- Does it cover important dimensions of student performance and reflect current conceptions of excellence in the field?
- Are the dimensions or scales well-defined?
- Is there a clear basis for assigning scores at each scale point?
- Can the rubric be applied consistently by different scorers?
- Can the rubric be understood by students?
- Is the rubric fair and free from bias?
- Is the rubric useful, feasible, manageable and practical?

9. Options for Selecting and Testing Rubrics

Instructors can adopt use an existing rubric "as is", adapt one, or Build your own rubric from scratch. For the last alternative, one place to start is to read how to create your own rubric using the Chicago Public Schools method, or do a Google search for a rubric-bulder.

It's impossible to know for sure how well a rubric will work until you and your colleagues actually try it out on some actual examples of student work. You may want or need to pilot test several rubrics on the same student

products or performances (it's easier if you can tape the performances) to see which one works best for you. It's also important to see whether you and others can learn to apply the rubric consistently enough so that you can generally agree on what score to assign to a piece of student work. This consistency or reliability is crucial if the assessment is to yield valid, meaningful data.

One method for assessing reliability involves having each rater independently score several examples of work produced by high-achieving, average, and low-achieving students, and note the extent to which the raters assign the same score to a piece of work. If there is no consensus, having the raters explain and discuss their scores can be instrumental in clarifying the rubric and fostering uniform scoring.

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