Interactivity Foundation

Student-Centered Discussion Strategies for the 21st Century Classroom

An IF White Paper

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Abstract

Recently, there has been much discussion of "Generation Y" or the "Millennials," the cohort of young people born between 1980 and 1992. This generation is just now entering the workforce, and they have been populating universities for the last several years. Faculty and administrators have been scrambling to ascertain how to best teach and retain these students, who tend to be very vocal regarding their needs and desires and not at all reticent to change academic venues if they are dissatisfied with the education they are receiving. This paper examines how classrooms are adjusting to best teach these students and proposes a discussion model, pioneered by the Interactivity Foundation (IF), that may be especially well-suited to the learning styles of these students. At its first Summer Institute in 2006, IF trained ten faculty members from colleges and universities across the U.S. to use the IF discussion model in their classes. This paper describes the IF discussion model, explores its fit to the 21st century student and reports upon some of the experiences of the Summer Institute faculty members who used the model.

Introduction: An Outdated Model of Teaching

Enter most university classrooms and you will observe students sitting in rows—often in immovable seating, a teacher front and center, and probably a PowerPoint lecture displayed behind the instructor. While Smart Boards and PowerPoint slides make our classrooms seem modern and even "hip," the model of instruction we are using is centuries old. We are transmitting knowledge in one direction, from teacher to students. This approach dates back to the middle ages, when the written word was sparse. Books were prohibitively expensive because publishing was so painstakingly complex. Information had to be conveyed either via reading a text if one had access to it or by attending a lecture by an expert. If you have ever seen one of those vestibules in an old building that looks up on 4-5 floors of balconies, you can imagine the typical lecture venue of the Middle Ages: a professor stood lecturing from the ground floor while students lined the balconies up to the top floors. Eventually, this evolved into the lecture hall, but the model was the same: a

mass of students listening to a single professor, who serves as the font of knowledge and information.¹

We complain that our students are passive learners, but yet we retain an aged model of teaching that posits students as information receivers. Most professors lecture on the material covered in their chosen textbook. In fact, as much as 80-90% of the teaching that takes place in the modern university is lecture-based (Smith, 1990:210). This model of lecturing is so commonplace that students have come to expect it. In a time when textual material is just a click away, does it make sense that professors still give dictation to students? They no longer need us to present a textbook's content while they copy down what we say (Barr and Tagg, 1995).

Some of the more innovative professors encourage that we abandon the lecture model in exchange for a discursive model of instruction (Bain, 2004). Socrates famously pioneered this approach: the professor poses a question—ideally a genuine one to which the instructor may or may not even have an answer—and the students attempt to answer it. Several trends in the academy, such as an increased emphasis on collaborative and service learning and the rising popularity of residential colleges and "first-year experience" programs, suggest that, in fact, discussion is moving from a peripheral to a much more central role in the experience base of the typical undergraduate (Gundersen et al., 2006). Some (Klausner, 1998; McKeachie, 1999) suggest that discussion is more effective than lecture in terms of students' abilities to retain information after the course is completed—as well as to problem-solve, to think critically, and even to seriously consider alternative attitudes. Others (Gamoran and Nystrand, 1991) clarify that discussion needs to be

¹ David Yamane, in his article, "Course Preparation Assignments: A Strategy for Creating Discussion-Based Courses" (*Teaching Sociology* 34(3):236-248), provides an interesting summary of how medieval instructors used their lectures to painstakingly analyze text for students, who, at that time, did not benefit from having their own textbooks.

structured and directed if it is to facilitate substantive development in students' cognitive skills.

There have been many efforts by faculty around the country to develop more effective means of directing discussion, often by providing guidance to students as they prepare for class meetings. Yamane (2006) proposes "Course Preparation Assignments" or CPAs, which suggests that instructors pose questions to facilitate students' thinking through a reading in preparation for class. An alternative to this is Novak et al.'s (1999) "Just-in-Time Teaching" (JiTT) initiative, which is very popular in university-level science classrooms across the country. This approach proposes using a set of increasingly complex questions to which students respond about twenty-four hours before class meets. The instructor then spends significant time reviewing the students' responses, with the goal of indexing the issues that students are misunderstanding. While both of these techniques are progressive in terms of trying to engage students more seriously and to drive more of the course content, it is still the professor who is posing the questions.

What if students were to pose the questions instead?

The 21st Century Student

The defining qualities of "Millennials" (a term devised by Murray [1997]) as students include several characteristics (Howe and Strauss, 2003; Sweeney, 2006; Taylor, 2006; Nicoletti and Merriman, 2007; Westerman, 2007). Millennials tend to be:

- resistant to structure and officialdom, preferring a more informal setting
- very receptive to constructive—but not authoritative or dominating—feedback
- inclined to communicate in the language of sarcasm and acerbic wit
- knowledgeable about the broader world and often well-traveled
- much more disinclined toward racism or sexism than have been prior generations

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- collaborative
- inclined towards hands-on work
- extremely tech-savvy
- quite comfortable living very public lives

These characteristics have several implications with regard to the style of teaching and learning that might best impact these students.

What IF? The Interactivity Foundation's Discussion Process

The Interactivity Foundation (IF)'s² discussion process emphasizes student-facilitated discussion and takes classroom discussion a step beyond the Socratic classroom, which still features the instructor on center stage. The IF approach gives students more responsibility for learning. The following is a description of one way this has been made to work:

- Students are placed into groups of 6-8; depending on the size of the class (the method is probably best-suited to courses with fewer than 40 students).
- Students are given a discussion topic. This topic is one on which the teacher would normally have lectured but which is framed in a way that connects the course content to an issue of broader social concern. The assigned topic should require students to develop their own ideas about the subject over the course of the semester. The idea is that students will systematically discuss the topic (using a set of IF materials that will help to guide them in facilitating a sustained discussion). Their ultimate goal is to think about the possibilities that arise from their discussion

² The Interactivity Foundation (IF) is a private foundation dedicated to engaging citizens in the exploration, development, and testing of conceptual possibilities for future public policy and democratic governance. IF employs several fellows who facilitate public discussions of policy possibilities, oriented around a particular area of concern. Based upon the success and appeal of these citizen discussions, IF began to wonder whether its approach to discussion might have a place in other realms, such as higher education. In the summer of 2006, IF organized a two-week Summer Institute training seminar in which it presented its discussion process in a hand-on, immersion-based manner to ten faculty members selected from colleges and universities located throughout the country. Faculty members agreed to use the process in one of their classes during the spring 2007 semester. Unanimously, these faculty—all of whom tended to be discussion-oriented and exploratory in their teaching methods—found the IF process to be remarkably effective in their classrooms.

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topic. Specifically, the goal is that they derive at least four *contrasting* possibilities. These possibilities should be *conceptual* in nature and thus not focus on the present state of affairs or on problem-solving. Instead, the focus should be on a more future-oriented consideration of the social, political, economic, and other such macro factors that might impact their possibilities.

- Student groups meet weekly, rotating leadership of the discussion so that everyone leads discussion at least twice during the semester. Discussion leaders (called "facilitators") are expected to engage *all* members of the discussion group. Facilitators capture comments on a flip chart notepad for visual organizational purposes while another member of the group keeps, compiles, and later distributes written notes from the session. The note takers for each class session become the next week's facilitators. The student groups are responsible for organizing and managing themselves and their discussion process.
- When students have specific questions they cannot resolve on their own, they record these for later interaction with the teacher. Additionally, the instructor observes the student groups and makes notes of any points of confusion that students encounter. The instructor addresses these points later, during lecture.
- While students are having discussions, the instructor sits at a central place in the classroom and observes students in each of the groups, making evaluative comments on a rubric or template. Students are expected to build upon their knowledge in the course. Discussions are also evaluated in a social context (e.g., how ideas were accepted and developed, how did students work together, etc.). Students are encouraged to constructively and positively build upon one another's ideas. At the end of the class, the instructor saves some time to provide feedback. A grade is later assigned for the facilitators and the group discussion.
- Faculty lead a traditional course on the other day(s) that the class meets. At times, especially earlier in the course, they may themselves demonstrate the IF discussion process by being a facilitator of learning rather than an expert who conveys knowledge. The instructor also answers questions that arose during the student

discussion sessions and gives students feedback on their overall understanding of the topic, as judged by students' discussions.³

The IF process proves a good "fit" to the modern student based upon two broad realms: (1) the cultural characteristics of this generation of students and (2) the set of skills our students tend to need if they are to be prepared for the modern work world.

The IF Process and Its Fit to the Modern Student's Learning Style

It would seem that the IF discussion process, with its emphasis on student engagement in a group and hands-on development of ideas, provides a very "natural" fit to the culture of millennial students. Additionally, the process engages and develops a set of skills that may be especially valued by this particular generation.

The earlier section of this paper lists some of the cultural forces that characterize the lives of today's university students. These cultural forces can be grouped into seven broad themes. This section will elaborate upon the ways in which the IF process provides a good fit to these characteristics that 21st Century students share.

Minimally Structured, Collaborative, Hands-on Learning

The IF process is, at its heart, a group endeavor. This collaborative orientation appeals strongly to the millennial generation's collaborative style. While there are some guidelines and instructional materials, there is a minimal amount of imposed structure. Basically, beyond a discussion assignment and a few ground rules, students direct their own learning under the guidance of the instructor. Students themselves get to develop their own discussion direction. They lead the discussions. They keep and distribute the

³ You can obtain more information on this student-centered approach to education by visiting the Interactivity Foundation website: http://www.interactivityfoundation.org.

notes. They together generate the final reports. All of this is very hands-on and collaborative and thus also quite a good "fit" to this population of students.

The skills learned by engaging in this process are likely to be invaluable to our students. The ability to facilitate productive discussion, engage all members of a discussion group, and empower those people least likely to contribute to a group discussion are highly marketable in the modern, information-age workplace. They learn all of these things in a hands-on fashion, by *doing* the work.

The IF process also allows students to discuss substantive ideas that relate to the course's topic, but it also permits students the joy of "discovering" on their own the things we want to teach them. Over the course of their small-group discussions, students will inevitably develop for themselves the insights the instructor might have provided in lecture but will likely be able to better retain the information because they will have developed the insights themselves. Instructors can observe student discussions and see where they are and then, during lectures, highlight and extend what students already know. Instructors are sometimes surprised at how much their students do already know. By starting with a student's current framework, or intellectual scaffolding, an instructor can add additional related information. The student is more capable of retaining the new information because the instructor took the time to understand the student's current base of knowledge so as to add the new knowledge to the student's existing scaffolding.

Overcoming Sarcasm

The group nature of the IF model also appeals to millennial students' public natures. The sharing of ideas is open and public, as is the feedback. Students are instructed in the art of constructive criticism. Sarcastic or derisive criticism is not tolerated within the IF

model. This is probably the most significant challenge for students engaging in the IF process. Having grown up in a world where information, opinions, and feedback from others are just a click away, millennial students have incorporated critical feedback into their lives. Their feedback to one another tends to be direct but at times acerbic or sarcastic. They value highly feedback that is honest and developmental.

Within the IF process, however, students are challenged to build a *collaborative* discussion together. All ideas are to be encouraged, welcomed, and respectfully explored. The acerbic sarcasm of this generation can sometimes make this hard for them to do, but it is a skill they need to develop. Students can be too quick to "cut down" a fellow student's idea with, "That'll never work," or with some more cynical or sarcastic quip. Students must be given feedback so as to help them learn how to more effectively and productively work in a truly collaborative manner within a group. The direct observation and feedback by the instructor provides an ideal setting by which to teach this skill.

Instructors must make a careful but concerted effort to respectfully confront students when this sort of critical cynicism seeps into the discussion. Otherwise, such quips will derail what would otherwise have been a productive discussion. Effectively, providing such feedback to students either individually or as a discussion group puts to use a teaching moment. The more quickly you challenge students to go beyond their safe, known comfort zone of cynicism, the sooner they will move on to learn new skills such as how to build a collaborative discussion and how to encourage colleagues to do their best.

Constructive Feedback

Feedback from faculty is highly sought after by this generation of students. Within the framework of the IF process, students enjoy one or two days in a semester during

which they are the center of a faculty member's attention. The faculty member is able to learn much about his or her students by simply sitting and observing their discussion.

Faculty members are subsequently able to engage students in a much deeper, richer learning experience than is possible in a traditional classroom.

Faculty members have a chance to really *see* the students as they are and where they are via the process of providing feedback to students. Instructors can better help students identify and hone their strengths and address their weaknesses. In fact, when faculty members spend time observing students "in action," this allows faculty members to better know their students and how they think. Instructors can tailor their feedback and material to individual students and groups. The IF discussion approach supports retention of students by forging a personal bond between students and their teacher and by facilitating the emergence of a strong camaraderie among the groups of students.

In fact, this model may be especially well-suited to freshman seminar courses since students are most likely to drop out between their first and second year of college (Thompson and Geren, 2002). Students get one-on-one feedback from faculty and work to develop a competency with a powerful skill set: facilitating group discussion. Students learn to engage their fellow students, to stand in front of a small group and lead a discussion, and to be creative and open to new ideas. Some students already possess significant aptitude within these skill sets, and getting developmental feedback regarding the worth of such aptitudes can provide much confidence to a student who might be struggling with regard to other college courses.

Public Lives

The millennial generation lives online. Sites like MySpace and Facebook become carefully crafted presentations of self. The IF process appeals to this public nature of our

students by providing a learning space that is open and public. Students are in it as a group and, while some will complain about having to accept a group grade, most students will demonstrate a strong ability to work with their fellow students.

Most students remark that they really appreciate being able to hear their peers' interpretations of the course material because it provides an alternative and accessible interpretation. Humans enjoy observing and understanding their counterparts. When teachers focus on lecture, students are left with only one stream of input regarding the material: the instructor. Peers will typically use an anecdote to illustrate a complex idea, and this can be effective if the instructor helps to frame the broader issues and connections. The IF process allows the instructor to pay attention to students' discussions and use the students' insights and examples to illustrate the course topic during lectures.

Technological Integration

This generation has been raised in a digital era. They have laptops and palm tops—not desktop computers. Their computers are associated with ten other gadgets that can communicate with the main computer unit: phones, PDAs, iPods, cameras, etc. They are constantly in communication with everyone they know, and so they are accustomed to full disclosure of their lives. Their hands-on and collaborative natures likely also extend from having grown up in a world where information, opinions, and feedback from others is just a click away.

Incorporating a paper and/or a PowerPoint presentation into the group project assignment takes good advantage of students' technological skills. Students will typically develop really creative PowerPoint presentations. Often they will even incorporate multi-media (photos, YouTube videos, etc.) to illustrate their ideas. Students will also be inclined to organize the group's planning, distribution of notes, and other management tasks in an online forum. Finally,

students will engender a sense of collective responsibility by collecting one another's cell phone numbers and using these to call or text students who are late or absent. Eventually, most students start to develop a sense of obligation to their peers and will start making a much stronger effort to be in class on time.

Real-World Connections

Because students must actively develop their own ideas, they have a chance to connect their work to the broader world they see. The IF process, though, allows them to feel like more of a world citizen rather than just an observer. They can imagine conceptual possibilities that address the issues they see. This approach invites students to think about their topic with an eye to the future. What issues are likely to emerge? How might a democratic, mixed-market society respond to these issues? A conceptual approach asks that students go beyond the present-day problems and consider the more central, or foundational, issues at the heart of those problems. Thinking about an issue that is not yet a critical social problem allows students to imagine a wider range of possibilities.

When we face a critical or urgent problem requiring an immediate response, it is often harder to think creatively about a range of possible responses to it. The IF process calls students to imagine conceptual possibilities, which necessitates that they be discussing an *emerging* social issue. This is a bit overwhelming to them at first, but they quickly take to it and, often, come up with interesting possibilities. Also, by wrestling with conceptual possibilities and imagining the consequences—positive and negative—of these possibilities, students are forced to (1) really understand what the subject is about and how it relates to what they see happening in the world and (2) challenge their own formative personal beliefs by understanding quite vividly that the world is much more grey and nuanced than it may previously have seemed.

Diversity

Finally, because faculty assign or determine the student groups in the IF model, students can be put in a position in which they gain the experience of working with people they might not otherwise have ever met or with whom they might never have chosen to work. Students will generally complain about being assigned a team at first, but they will grow to appreciate the developmental experience of working with others who are perhaps different from them.

What is interesting to note is that many of the faculty that tested the IF discussion process in their classroom found that those students who tended to perform well on traditional academic measures of success such as tests and paper-writing tended to strongly resist being assigned to a team. These students tend to be the most resistant to group work generally, often constructing their critiques in terms of the "free rider" problem. A "free rider" is the construct held up as the bane of group work by the most eager students. Free riders, among student groups, are those one or two individuals who attempt to benefit from everyone else's work while minimally contributing their own effort. In a big enough group, the inherent anomie of having 6-10 individuals working together can allow some group members to feel that they can get a free ride by obtaining the group grade without doing much work.

Several faculty members who have used the IF process in their classes have noted that the weaker students were generally not acting as free riders. Instead, they were resisting the efforts by the stronger and often more traditionally articulate students to control and dominate the discussion process. One may have to work most assiduously with the "good" students to help them to be more democratic within their discussions and to help them to recognize that, in the "real world," book smarts alone will not necessarily

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equate to success. One must learn to work well with others. One of the most marketable and successful skills, in fact, is likely to be the ability to engage and empower others. This is something at which our stronger students are often most lacking as their model of success is to compete with others and to attempt to "show off," sometimes by belittling or deriding others.

Conclusion

This paper makes the case for a classroom discussion model that takes better advantage of this generation of students' learning styles. Too frequently, faculty members complain that students today are "lazy" or "unmotivated" or "not really interested in ideas" or are "disrespectful." When teaching approaches are adapted to the students, this generation of students will surprise everyone with their interests and their insights. The IF discussion model is one approach for engaging students in a way that is not provided by traditional lecturing.

References

- Bain, K., 2004. *What the Best College Teachers Do.* Cambridge, MA: Harvard University Press.
- Barr, R. and J. Tagg, 1995. "From Teaching to Learning: A New Paradigm for Education." *Change* 27(6):13-25.
- Barnas, M., 2000. "'Parenting' Students: Applying Developmental Psychology to the College Classroom." *Teaching of Psychology* 27:276-277.
- Boice, R., 1996. "Classroom Incivilities." *Research in Higher Education* 37:453-486.
- CBS, 2008. "The Millennials are Coming." 60 Minutes.
- Czarnocha, Bronislaw, Vrunda Prabhu, and Anne Rothstein, 2008. Mathematics Teaching-Research Journal (MTRJ). Web site: http://199.219.158.116/~mathdepartment/TRJ/editors.htm.
- DeLucia, R. C. and Iasenza, S., 1995. "Student Disruption, Disrespect, and Disorder in Class: A Seminar for Faculty. *Journal of College Student Development* 36:385-388.
- Edtechatouille, 2007. "'Millennials' are <u>NOT</u> Different Learners." Blog posting made on September 28, 2007. Web site:

 http://edtechatouille.blogspot.com/2007/09/millenials-are-not-different-learners.html.
- Gamoran, Adam and Martin Nystrand, 1991. "Background and Instructional Effects on Achievement in Eighth-Grade English and Social Studies." *Journal of Research in Adolescence* 1:277-300.
- Gleason, Paul, 2008. "Born Digital." *Harvard Magazine*. March/April.
- Gundersen, Adolf, Jack Byrd, and Jeff Owen Prudhomme, 2006. "Why Political Science Should Teach Democratic Facilitation-- and How." Presented at the 2006 Annual Meeting of the American Political Science Association.
- Howe, N., & Strauss, W., 2003. "Millennials go to college." *The American Association of Collegiate Registrars and Admissions Officers.*
- Kilmer, P. D., 1998. "When a few Disruptive Students Challenge an Instructor's Plan. *Journalism & Mass Communication Educator* 53:81-84.

Student-Centered Discussion Strategies for the 21st Century

- Klausner, M, 1998. "Teaching Techniques for the Small College Class." *Teaching Sociology at Small Institutions* by Eric Godfrey (Ed.). Washington, DC: American Sociological Association.
- McKeachie, Wilbert, 1999. *Teaching Tips, 10th Ed.* Boston, MA: Houghton Mifflin.
- Morissette, P. J., 2001. "Reducing Incivility in the University/College Classroom." *International Electronic Journal for Leadership in Learning* 5(4).
- Murray, N. D., 1997. "Welcome to the future: The millennial generation." *Journal of Career Planning & Employment* 57(3):36-42.
- Nicoletti, B. A., & Merriman, W., 2007. *Momentum* 38(2):29-31.
- Novak, Gregor, Andrew Gavrin, Wolfgang Christian, and Evelyn Patterson, 1999. *Just-in-Time Teaching*. Saddle River, NJ: Prentice-Hall.
- Prensky, M., 2001. "Digital natives, digital immigrants." On the Horizon 9(5):1-6.
- O'Brien, 2007. "Meet the Millennials: Here's How to Ensure that Your Campus Keeps up with the Dynamic Expectations of the New Wave of Digitally-Minded Faculty." *Ed Tech*. Retrieved on May 25, 2008. Web site:

 http://www.edtechmag.com/higher/august-september-2006/meet-the-millennials-2.html.
- Otero, Valerie, Noah Finkelstein, Richard McCray, and Steven Pollack, 2006. "Who is Responsible for Preparing Science Teachers?" *Science* 313(5786):445-445.
- Smith, Page, 1990. Killing the Spirit: Higher Education in America. New York: Viking.
- Sweeny, R., 2006. *Millennial behaviors and demographics*. New Jersey Institute of Technology.
- Taylor, M. L., 2006. "Generation next comes to college: 2006 updates and emerging issues." Self-study and Institutional Improvement 2(2):248-255.
- Thompson, Barry and Peggy Ruth Geren, 2002. "Classroom Strategies for Identifying and Helping College Students at Risk for Academic Failure." *College Student Journal* 36.
- Wesch, 2008. "A Vision of Students Today." Blog: *Digital Ethnography.* Posting made on April 28, 2008. Kansas State University.
- Westerman, Jim, 2007. "Motivating Generation Y in the Classroom." *Teaching Excellence: Toward the Best in the Academy* 18(5).
- Yamane, David, 2006. "Course Preparation Assignments: A Strategy for Creating Discussion-Based Courses." *Teaching Sociology* 34(3):236-248).

