

Perceiving teaching as an interactive process leads to the adoption of teaching styles which draw upon the fund of research and experience with group processes of learning.

Teaching as an Interactive Process

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Like most university professors, I was a university student for many years. Most of my classes were concluded a few minutes before the bell—just in time for the professor to ask: "Are there any questions?"

This was the "discussion" part of what was termed the lecture-discussion mode. To me those few minutes were often the most invigorating part of the entire class. Years later when I made the transition from student to professor, I considered a technique which would expand those last few minutes to the entire class period but which would not dilute the content or diminish the intellectual challenge. Realizing the attractiveness of finally being able to pass on the knowledge I had been amassing and the authority implicit in this posture, I nevertheless felt I had to confront the discrepancy between what felt comfortable to me as a teacher and what had felt comfortable to me as a learner. That confrontation opened the door to an exploration of my role as teacher and of my students' roles as learners.

In the main, a person's values, beliefs, and philosophy can easily be ascertained by the way he or she teaches. The instructional strategies and techniques that are adopted by a teacher bespeak his attitudes about himself, his students, and their respective roles in the teaching-learning process. They bespeak his belief about how people learn and therefore about the proper techniques one utilizes to help learning occur.

Style and Interactive Techniques

Instructors who begin to move to genuinely interactive discussion techniques quickly realize that these techniques oppose the traditional authority posture of the professor. The concern is valid. Group interaction techniques remove (if only temporarily) the professor from his role as primary information-giver and explainer. To adopt interaction strategies, a teacher must make some changes with respect to his psychological position toward both his subject matter and his students. Bolton and Boyer (1971), in describing the many differences between one-way (lecturing, for example) and two-way (interactive techniques) communication processes in the college classroom, note the psychological effect that occurs when a teacher engages in a group discussion activity. In this instance he relinquishes his "psychological bigness" and instead assumes a "psychological smallness." When the teacher is perceived as bigger than any of his students, students hesitate to speak up; they are reluctant to express opinions which might offend the teacher.

When the teacher is psychologically big, students have a tendency to lean heavily upon him. They expect him to solve many problems, to see that all goes well, to take care of them. This can easily result in apathy, lack of initiative, and dependence. Another, less apparent consequence, is hidden resentment and frustration in those who are psychologically small. Believing they must carefully nurture the good will of the "big" leader they do not feel free to be themselves. They feel they must defer to him and, in a sense, deny their own individuality. Thus, even when the teacher is doing a good job of taking care of his students, considerable inner resentment may be building. Stated in psychological terms, conditions producing inappropriate dependency usually produce hidden frustration and hostility.

The solution . . . is for the teacher to reduce his psychological size (Bolton and Boyer, 1971, p. 5).

Barnes-McConnell says that "Being successful as a discussion leader requires an attitude of openness and mutual enquiry on the part of the instructor to encourage student participation and support the development of a basic level of trust within the group" (Barnes-McConnell, in Milton, 1978, p. 65). She adds that faculty members will be more successful if they view themselves less as judges or dispensers of wisdom and more as resource persons.

Adult students are even more likely than younger students to be resistant toward instruction presented as dogma without opportunity for discussion and rebuttal. Discussion techniques "satisfy the adult's

need for active learning and, what is more, are better for overcoming resistance to new ideas than are more dogmatic methods based upon persuasion by an instructor" (Olmstead, 1974, p. 80).

Some university faculty members have traditionally viewed themselves as the sole authority figures in their classrooms and have described their role as teachers as being transmitters of the information they possess to their students. Other faculty members, however, would describe themselves primarily as facilitators of student learning, in this role they would serve as stimulators and as resource persons, but the learning is student-directed and the teacher can only encourage and assist in this process. Of these two philosophies, the latter is clearly more conducive to the utilization of group interaction techniques. For in order to successfully implement such techniques, an instructor needs (again, at least temporarily) to drop her autocratic manner, to desist from her expert/authority role, and to be humble enough to become a co-learner with the students.

How is one to effect the personal transformation necessary to make this consequential shift in roles? One way is to consciously shift attention from what and how the teacher is teaching to what and how students are learning. And how does one find out about that? The easiest way may be the best way: engaging students, individually and in groups, about the what and how of their learning. Some of this can be done in class—intruding into subject matter time to be sure, but still kept within the framework of the learning objectives of the course. Another part can well take place outside where some of the constraints of the classroom are removed and where the common problems of teaching and learning can be faced.

A shift in perspective may come from reflection upon the outcomes, not only for the students but for the teacher as well. If one loses something of one's authority, he or she may gain in a different kind of trust and respect from the students. When I first began teaching about twenty years ago, students respected teachers just because they were teachers. That respect has diminished in the past two decades. The situation as I see it now is that while respect from students can no longer be situationally demanded, it can be earned by being both respectful of them and of one's subject matter. Professors in their specialized subject matters know a great deal more than students, students know a good many things professors do not know. Respecting both kinds of knowing may be at the heart of both the teacher's and student's learning.

Benefits of Interactive Techniques

If more favorable student responses may have to be taken somewhat on trust, contemplating gains in student learning is not purely speculation. Research into interactive processes supports a number of

important outcomes: students become active rather than passive participants in the learning process; students retain the information longer; various interactive techniques are democratic processes and give students experience in cooperating and collaborating with others; problem-solving and critical thinking skills are best served in discussion contexts; students can reality-test their ideas within a microcosm of society; students develop feelings of psychological ownership of or identification with a class; some students learn better in a group situation than they do individually; self-esteem is enhanced by class participation; students are given the opportunity to clarify their values and beliefs; student motivation for future learning is increased; student attitudes are more likely to change in a more open classroom environment; and the instructor is able to receive informal feedback about the progress and attitudes of the students throughout the semester.

In a well-handled small group discussion, it can be assumed that at least two purposes will be accomplished: "students get new insights into problems by hearing many different viewpoints and by having their own ideas critiqued, and . . . they learn new ways of behaving to which they are committed because of group discussion and decision" (Olmstead, 1974, p. 92).

With all of its advantages, however, group discussion is not a panacea. Used properly and knowledgeable to accomplish appropriate course objectives, it is beneficial and usually enjoyable for both instructor and students. Research continues to indicate that no one strategy is better than any other with regard to attaining learning objectives, but used appropriately, each strategy may have its place. Perhaps the greatest drawback from the instructor's point of view is that group work is so time-consuming.

In the course of exploring what is to be gained with respect to student response and student learning, teachers may find themselves setting aside some of the myths surrounding the utilization of a discussion/interaction technique: that it is only a frill to be added to other techniques which cannot stand alone as a way for students to achieve course objectives; that it can only be used with small classes; that it is a technique suitable only to the social sciences or humanities; and that any instructor who wants to can do it well with very little preparation.

Contrary to the myth that group discussion is merely a frill is Barnes-McConnell's well-supported assertion that "the discussion process can be the principal means by which course objectives are attained" (in Milton, 1978, p. 62). Properly structured, a group technique is not the sharing of unfounded notions or incorrect information. The myth that holds that group discussion activities are only possible with small classes is also inaccurate. Although different strategies are necessary, small group discussions can be used with classes of almost any size by

dividing the class into smaller subunits. Barnes-McConnell says: "large groups of fifty, seventy-five, one hundred, or more can be broken up into small groups in different parts of the room, facilities permitting. In this case, the instructor can float from group to group to monitor activity. Although the noise level may be a bit high, this can contribute to the excitement up to a certain point rather than being a source of worry" (in Milton, 1978, p. 64). Nor is it true that small group interaction techniques are limited to certain subject matters. They are being used in university classrooms today in almost every field including the sciences, engineering, the arts, and the professional schools. The techniques are amazingly adaptable in that they can be used only once or twice during the semester to teach certain specific areas of content, or they can be the primary daily instructional strategy for a unit or an entire course. Although certain strategies are more commonly found in certain disciplines such as law (the Harvard Case Study) and economics (simulation techniques), there is really no subject matter field that cannot beneficially use some variation of some interactive technique.

Finally, instructors who have tried a small group technique or a group discussion know that preplanning is as essential as it is when one prepares a lecture, and that the instructor's presence during its implementation is just as necessary. Preplanning includes the same areas of concern as do the presentational modes—for example, the formulation of instructional competencies or objectives, time estimations, the specific planning of the implementation of strategy, and evaluation procedures. Interactive techniques, as a matter of fact, are more likely to fail if done in a slipshod manner than are non-interactive techniques. Because more people are involved and the responsibility for accomplishing the goals is more diffused, extra care must be taken to see that the activities are clearly and succinctly structured, and that sufficient time and resources have been allocated to ensure their successful completion.

In general, groups will have one or more of the following purposes: to solve a problem; to complete a task; to reach a conclusion; to consider an issue from a variety of points of view; to more thoroughly understand and apply a concept; to gain additional information; to learn specific techniques and skills; to stimulate new and creative ideas; to aid in analysis and synthesis; to share ideas, experiences, and opinions. Depending upon the purpose to be accomplished, very different techniques would be indicated: "the importance of a method lies not in itself but in how well it accomplishes the purposes of the instructor" (Olmstead, 1974, p. 76).

Many small group interaction techniques have in common the presentation of a stimulus-situation by the instructor to the students to which the students then react in some assigned manner such as arriving

at a solution, solving the problem, listing the pros and cons, or simply sharing their individual opinions or experiences. The initial stimulus situation can be a film, video or audio tape, a book, an article, a legal brief, a case history or study, or a scientific problem. The essence of this technique is that the group discussants must have some common experience with which they all begin. This experience can of course also be current as in the case of a field trip students have taken together, or a research project they have conducted as a group.

The *case study* method, a traditional tool in such graduate fields as law, medicine, and social work, is one of the most frequently used group techniques that employs an initial stimulus. According to the editors of *Change Magazine* in their *Guide to Effective Teaching* (1978):

The technique involves analysis of statements of problems or issues drawn from life, or simulating life, in the context in which they occurred over a set period of time. The purposes of the case technique are to teach students to select significant from less important factors and to apply principles and theories to the solution of the problem or the resolution of the issue.

Cases can be open ended with the solution not identified or closed with the actual solution indicated or alternate solutions posed. . . Most cases used with undergraduates should be accompanied by a set of questions that help the student analyze the case. Questions should deal specifically with how the problem or issue is defined, how it is analyzed by persons in the case, how it is or would be solved, the degree of objectivity of persons involved, their level of sophistication in approaching the problem or issue, and the possible consequences and impacts of solutions as well as problems (p. 80).

There are many interesting variations of the case study such as the Harvard Method (a carefully disciplined rationale encompassing case preparation, lengthy advance preparation by students, discussion leading and method of analysis); the abbreviated case (a greatly abbreviated case that can even be assigned at the beginning of the class period, individually read, and then discussed by the group); the dramatized case (wherein a short open-ended case is presented on either film or video tape and the group discusses issues and solutions); and the incident-process method. The incident-process method is one of the most exciting methods available if the purpose is to systematically teach students to seek out relevant information. Developed by Pigors and

Pigors (1961), the technique involves the presentation to the students of a brief incident requiring adjudication and decision. The group's task is to decide what additional information is required, but the instructor cannot provide information unless it is specifically requested. At the end of the allocated time for students to question the teacher: "students may finally be required to decide a case on the basis of only partial information because they failed to ferret out everything needed to make a valid decision. After obtaining the desired information, each [student] writes his decision and the supporting reasons for it. The decisions are presented publicly and debated with pleasure by the leader toward arriving at a common conclusion. The students then hear the real decision and analyze the adequacy or inadequacy of their fact finding and decision making in contrast with it" (Olmstead, 1974, p. 101).

Another general category of small-group techniques can be termed *leaderless group discussions*. This includes activities (topic discussions and buzz sessions, for example), for which a formal leader has not been designated and in which the instructor does not participate. In these cases the role of the teacher is to assign the topic, problem, or issue to be discussed, divide the class into small groups, and specify the amount of time to be allocated. Olmstead (1974) notes that "the purpose is to generate more effective learning by overcoming the formalities inherent in large classes through subgrouping and spontaneous discussion" (p. 96). These group discussions may either precede or follow a presentation of content by the instructor, and they may or may not be followed by some kind of reporting by the individual groups. Reporting is particularly useful in letting the students know where their opinions fall with respect to the class norm. In cases, for example, where one student may have taken a minority stand within his or her own small group, the student may learn during the reporting panel discussion (during which time a recorder from each small group reports) that his position was the position taken by the majority of the students in several other small groups.

Finally, there are a variety of techniques which are more generally known because they have been so frequently used in civic organizations and in public schools: *brainstorming* (where group members suggest in rapid-fire order all the possible solutions they can think of and no criticism is initially allowed); *symposium* (a series of short speeches on different aspects of a topic given by the students in front of their classmates); *role playing* (a brief, spontaneous and unrehearsed acting out of a human conflict situation by two or more persons for the purpose of analysis by the class); *panel discussion* (a discussion in conversational form with a leader in front of the class); *debate discussion* (a pro and con discussion of a controversial issue by groups representative of each

side); and *committee problem solving* (wherein a specific problem is presented to a group for its group solution or for individual solutions made after the group discussion).

Guidelines

With all that said, how does an instructor actually do group work? What tips and guidelines should direct planning and actual implementation within one's classroom?

Perhaps the single most important thing an instructor can do is to establish clear objectives for the group activity or discussion and to communicate these objectives to the students. These may be distributed to the students in advance as hand-out materials. Gage and Berliner (1975, p. 532) provide an example of such objectives:

After viewing the film on the origins of science, the students will discuss the improvements science offered over alchemy, and the four major reasons for the popular resistance to scientific methods.

After reading the descriptions on alternative sources of energy, the students will discuss the possibilities of bringing such ideas to fruition, their economic feasibility, the time it would take, the government's role, and the environmental impact of the various energy suppliers. Five forty-five-minute discussions of these issues will be conducted.

After establishing and communicating such objectives, a technique should be selected which best accomplishes that purpose, keeping in mind that most experienced teachers modify the available techniques to suit their own needs.

With university-age students, discussion groups containing six or seven students each are ideal, but this can vary depending upon total class size and the nature of the task to be accomplished. The larger the group, however, the fewer persons can have a chance to be heard, and the more likely some students will be intimidated. Groups containing fewer than four students will not function well either. An examination by Gibb (1951) observed groups ranging in size from one to ninety-six and found that the number of solutions produced for a problem-solving task was a negatively accelerating function of size (Davis, 1969, p. 72). Davis further notes that "changes in personal and interpersonal processes that occur with an increase in group size have primarily negative implications for performance—in spite of positive returns to be expected from an increase in potential resources" (p. 73). McKeachie (1969) says: "Since group members may be less likely to express diver-

gent opinions in large groups than in small groups, we might venture the paradoxical hypothesis that the larger the group, the more effect a few outspoken members are likely to have in determining the success of discussion" (p. 81).

An easy way to break a large group into smaller subgroups is just to have students count off up to the total number of groups you plan to have. Then instruct the "one's" to meet by your desk, the "two's" by the door, and so on. If the students are experienced with group process (and if the weather or facilities permit) sometimes the subgroups may be allowed to find a space for themselves, like adjoining hallways or classrooms or outside on the grass. Be sure to keep track of them, however, as you will need to move from group to group during the process. Beginning groups need close supervision; it is tempting for them to lapse into small talk when there is no instructor to oversee.

The subgroups can of course be formed in much more sophisticated ways such as by using sociometric questionnaires or by teacher assignment based upon a more desirable combination. In a sociometric questionnaire students who know one another well can identify which of their classmates they would enjoy doing a group project with or being in a group discussion with. Groups can then be formed by clustering those students together who have opted to work with one another. This is a very good technique to use when the work groups will be in existence throughout the semester or when an important part of their grade will be determined by the group's product. Teacher-assisted group compositions can only be done after the semester is well under way. The advantages would be that one could more evenly balance the group with regard to motivational level or level of verbal participation, and, depending upon the content being taught, by majority and minority opinions. (These opinions could be ascertained by a brief questionnaire.) The research indicates that one dissenter in a group will more likely concede (even when correct), but two within a group (even if their areas of dissent are different) are less likely to.

Although techniques differ for getting groups started on their activities, a few general guidelines may be helpful. If the group is leaderless (as in buzz groups or topic discussions), the group's general goals, procedures, and timetable should be made very clear to all groups in advance. It is helpful to write this information on the chalkboard or to hand it out in mimeographed form to each class member. Generally it is better to give all verbal instructions before the class is broken into subunits.

If the goal of the group interaction is to solve a problem, the following problem-solving sequence of steps (drawing upon John Dewey in 1933, p. 107-118) will be helpful: (1) an awareness of the problem is developed, (2) the nature of the problem is defined; (3) solutions are

suggested to solve the problem; (4) the suggested solutions are compared and evaluated; (5) the best solution is selected; (6) the selected solution is put into effect.

If students serve as small group leaders (and this is usually a very desirable procedure), the class needs to be given instructions before they break into subgroups about the selection of discussion leaders and the responsibilities of the leader and the group. If reporting to the whole group is envisioned, provisions for recording and reporting should be made.

The leader should assume the following responsibilities within the group (these can be written on the chalkboard):

- See that the group members place their chairs in a circle where every member can see and face every other member.
- Be sure everyone in the group understands the assignment or objective and the time allowed for completing it.
- Keep the group on the subject and on time. Remind them occasionally how much time is left. Bring them back to the subject if they stray.
- Encourage quiet members to contribute.
- If everyone tries to talk at once, suggest that each proceed in order around the circle giving everyone some appropriate amount of time to state his/her position. This can be repeated as necessary.
- The leader should not do most of the talking while he or she is serving as leader. The leader's job is to see that the group accomplishes its goal—not to accomplish it for them.
- When the discussion wanders, restate the question and get a new start.
- Summarize (or ask one of the group members to) at the end of the discussion and throughout, if appropriate.

While the small groups are working, it is very important for the instructor to move about the room, stopping briefly at each small group and checking to see if instructions are being followed and if the discussion is moving along well. This group-to-group visiting will provide valuable information about areas of confusion or factual inaccuracy as well as whether or not directions were clear and complete enough.

The first time or two that these group-discussion procedures are used, it would be wise to allow ten to fifteen minutes after the completion of the process to get verbal feedback from the class as to the use of the process itself. This can be an informal give and take, or it can be more structured by asking each group to report on the problems they had (if any) in actually carrying out its tasks. Sometimes very simple factors can cause the technique to be unsuccessful, such as insufficient space where the groups are too close to other groups to concentrate

upon what people in their own group are saying. Sometimes the reason is that the group leader did not function well, at other times it is because the instructor's directions or objectives were unclear.

Wallen suggests that if a group is having trouble getting work done it may need to shift from working on the task to discussing the interaction and feelings of the members about what is going on. Symptoms of difficulty he notes include, "excessive hair-splitting or nit-picking, the same points are repeated over and over; suggestions are not even considered; private conversations take place in subgroups; two or three members are doing nearly all of the talking; members take sides and refuse to compromise; ideas are attacked before they are completely expressed; or there is apathetic participation" (Wallen, in Bergquist and Phillips, 1975, p. 149).

A final alternative option to leaderless and student-led groups is the small group discussion led by the instructor. This can be accomplished in the traditional manner only if total class size is twenty or less. For larger classes, however, it may be possible to involve all of the students in the process without actually including all of them in the discussion at the same time. One popular variation is called the "circle-within-a-circle" (or "fish bowl" or "concentric circle"). A small group of students form the inner circle and serve as the initial discussants. The rest of the students form a larger circle around them and listen. After a period of time, persons in the outer circle can move to the inside, or part of them can replace the inner circle if the two groups are not identical in size. Another variation utilizes one empty chair in the circle of discussants. Members of the class who are not in the circle of discussants may enter the discussion group at any point by occupying the chair, expressing their opinion, and then vacating the chair. A final variation is a tap-in procedure whereby class members can tap on a group member's shoulder as a signal that he or she is being replaced. The last two variations allow for a constant interplay of small-group members and class members, but (unlike the "circle-within-a-circle" technique) have the disadvantage that the discussion may become choppy and repetitive. As people move in and out of the group, points tend to be brought up over and over, and it is difficult to arrive at solutions or consensus. For problem-solving discussions these final two variations would not be highly recommended.

In addition to following the suggestions given for students who serve as small group leaders, instructors should also do the following when serving as the group discussion leaders:

1. Explain to the class that your role as group leader or group facilitator (a more descriptive term) will be different from your role as presenter of information. As group leader you will want them to do the talking and to share information

and positions with one another. Suggest that they not address their remarks to you (for they will do this if you do not prevent it), but that they direct their comments to the entire group. If factual inaccuracies should occur, you should of course correct them.

2. When a group member makes a statement that is or could be misinterpreted by other members, clarify it. Ask the member what he means, to give an example, or to elaborate more. Try to restate what he or she said in your own words without adding your own editorial comments.
3. Discourage members who try to monopolize the conversation by avoiding eye contact with them, by asking what others think, or by asking how others react to what has been said.
4. Increase the individual student's sense of participation by encouraging and motivating the group. Enthusiasm, responsiveness, and genuine interest in the subject can be effectively demonstrated without the leader's taking over the group or dominating the discussion.
5. Guard against the discussion's losing its sense of direction or focus. Some confusion is likely to arise in any discussion and should be respected. But the leader should recognize when it gives away to pointless wandering and be able by a pertinent question or a response to another speaker or by initiating a line of inquiry to restore a sense of movement or focus even within a freely-ranging discussion.
6. Summarize, as it may appear necessary, the course of a discussion which has proceeded to a point of useful clarification. Such a summary may be a way of getting a faltering discussion back on track or of shifting from a subtopic that has been sufficiently explored to other aspects of the main topic.
7. Stimulate individual thinking and responding as a means of achieving the group's purpose. Instead of "Do we all agree," say: "Who doesn't agree with that? Will someone try to put into words a counter position?"
8. Encourage students to freely question one another's ideas, but to do so in a friendly manner. This is not an encounter or a sensitivity group; do not allow people to hurt one another or to delve into personal matters. Keep conflict related to ideas or issues, not personalities.
9. Do not be uncomfortable when no one is talking, thinking is important too.
10. Resist being judgmental and avoid dominating the discus-

sion verbally or nonverbally, or becoming he resident expert-in-the-group. When students try to put you back into the authority role (and they will), throw the question back to the group. If you continue to sense that your role as discussion leader is precluding the students from active (or honest) participation, let a student lead the discussion, and you become the group's external resource person.

Process Evaluation

Most instructors who experiment with a small group technique are curious to receive feedback regarding its effectiveness. There is a plethora of instruments designed to provide this feedback. Rosenfield (1976) suggests a simple nine-point questionnaire that may be answered by individual group participants and by the instructor at the conclusion of the discussion:

1. Am I satisfied with the conclusions reached in the discussion?
2. Am I satisfied with the behavior of the participants? With my own behavior?
3. Did the group follow a logical and orderly approach to the problem, one which was easily understood by all?
4. Did the sequence followed by the group help solve the problem?
5. Am I satisfied with the contributions made by the other group members?
6. Am I satisfied with my contributions?
7. Have I gained new insights, new information, new solutions, or a new understanding of the problem? Am I better for having participated in or having observed the discussion?
8. Was the leadership adequate, or could it have better served the group?
9. What could have been done to make this a better discussion? (p. 88).

The results of this analytical questionnaire can also be used as the content for a wrap-up group discussion.

Perhaps the simplest way to solicit written feedback, however, is to ask each student at the end of the period to briefly state in writing how he or she felt about today's session. Ask for these to be turned in unsigned or signed (student's preference).

Developing an effective interactive teaching style involves more than a mastery of discussion techniques. Yet only by increasing one's skill in encouraging others to take an active part in learning is one likely to be effective. As one's own teaching role may seem to diminish,

so may one perceive a growth in students' active engagement in teaching themselves. The satisfaction a teacher often gets from an excellent performance may give way to as great a satisfaction in seeing a greater number of students perform well.

In moving to this teaching style, one should not expect too much too soon. Students who are used to being passive listeners must be led slowly into assuming more active, involved roles during the learning process. In the present university atmosphere, they are likely to find the shifts in expectations made upon them fully as disturbing as the changes in behavior required of the teacher. Discussing the effectiveness of group sessions with the students can provide useful guidance for both teacher and students. It is also a wise idea to ask a colleague or a member of an institution's faculty development office to sit in on group work and to discuss it afterward.

Finally, the fear or reluctance that goes with any shift in behavior may be lessened by finding out about the proposed new directions. Group discussion and small group interaction have been the subject of a substantial amount of formal research as well as of individual trial-and-error which has become part of the anecdotal material on teaching. In any college or university, there are individuals who have developed skills in interaction methods who are willing to share experiences, to be observed, to advise and counsel.

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