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AUTHOR Beins, Bernard C.

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## **ABSTRACT**

A technique to increase student participation in lecture classes and to learn about their reaction to the system was used in a large general experimental psychology course. Students were encouraged to submit questions in writing if they felt uncomfortable asking them in class. The students wrote their questions on a separate page in a small booklet that was used to take attendance. The queries could be anonymous if the student desired. Questions were asked for each class; the mean number of questions was 3.95 per class. Thirty-one students submitted questions or comments concerning course content, careers, and procedural matters for the class. A general breakdown of the questions by category is provided. Students were highly satisfied with this method for taking attendance and dealing with their questions. Benefits from using this system to generate questions include: the finding that students are very interested in career prospects and salary; letting students know that the teacher is interested in answering their questions; being able to review or adjust lectures based on student questions; and providing a means for shy students to ask questions. (SW)



The Introductory Psychology Class: What Students Want to Know Bernard C. Beins

I haca College

Running Head: What Students Want to Know

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# Abstract

Students in a large General Experimental Psychology course were encouraged to submit questions in writing if they felt uncomfortable asking them in class. The students needed only to write their questions on a separate page in a small booklet that was used to take attendance; the queries could be anonymous if the student desired. The questions that were submitted involved course content, careers and procedural matters for the class. Students were highly satisfied with this method of taking attendance and dealing with their questions. Some benefits of the system are discussed.

The Introductory Psychology Class:
What Students Want to Know

Bernard C. Beins

Ithaca College

The introductory psychology course typically surveys a vast spectrum of material which we assume students should learn. The topics that are covered will prepare our students for later, specialized courses. It would be worthwhile, however, to know what our students have questions about. This presentation will focus on a technique designed to increase student participation in lecture classes and their reaction to the system.

The procedure was described previously by Smith (1987) as part of his attempt to encourage otherwise shy or silent students to participate in class. As part of every class, when students signed a paper indicating their attendance, they could write questions that he would address during the subsequent class. As Smith hat delay allowed him to research any question about which he is uncertain. At the same time, students were assured that their queries would be addressed and some answer provided.

I replicated his technique in my class and monitored both the kinds of questions students asked and their reactions



to the answers I gave them. The current description of the technique will outline the kinds of questions of interest to beginning students and how well they responded to the procedure described; this paper will also mention some typical kinds of dissatisfactions associated with the technique and possible remedies.

#### Me thod

The Class. There were 98 students enrolled in this

General Experimental Psychology class at Ithaca College. The

course covers the traditional "experimental" areas of

psychology like biological bases of behavior, learning, sensory

and perceptual processes, cognition and language, and

methodology. It is a one-semester course in which attendance

is mandatory. It is the first course for the psychology major,

although a substantial majority have taken at least one

previous non-majors course. The class is also required for

psychology minors; non-majors can take the class to fulfill

part of the school's natural science distribution requirement.

There were 70 freshmen, 22 sophomores, 8 juniors and 1 senior.

Procedure. At the beginning of class, students in each row signed their names on separate pages (10.5cm x 5.5 cm) in a booklet. I used these booklets to monitor attendance. In addition, they were told that they could write questions on any



topic of interest, even if their queries fell outside the boundaries of the lecture or even of the course itself. To date, I have set no restrictions on the nature of the questions, and I have provided an answer to every question posed. (Students may also ask questions at any point during the class.) While they signed in, I took the time to answer the questions from the previous class. This procedure typically lasted about five to ten minutes.

During one class, I administered a brief questionnaire on which the students wrote their reactions to the system of asking questions. The responses were anonymous.

### Results and Discussion

Since I started this procedure, no class has gone by without questions being asked. The modal number of questions is 3 and 4; the mean number is 3.95 per class. The range is from 1 to 14 questions. Thirty-one different students have submitted questions or comments, many of them only once although there were several repeaters.

The Nature of the Questions. The questions were quite varied in scope. In fact, not all submissions were questions. A few students made comments that did not necessarily warrant a reply. Table 1 provides a general breakdown of the questions by category.



Insert Table 1 About Here

Most of the questions posed no great difficulty. In those cases where the queries passed beyond the range of course topics, I responded with an introductory level answer and noted which advnced courses would present the topic in greater detail. I also referred the students to Ithaca College faculty with greater expertise in the area of the question. For questions directly relevant to the class, I would respond in greater depth. In some cases, I would redirect a marginally relevant question toward a focus more appropriate for the course content. For example, one student asked "In what part of the ear does one get an ear infection?" I noted that it was the middle ear and I took the opportunity to review the concept of equalization of pressure on both sides of the eardrum via the Eustachian tube, in what cases the equalization was a passive process and when one has to do it actively by swallowing hard, chewing gum, etc. Students were not tested on the material unless it was also covered in the text or more systematically as a planned aspect of my lectures.

In another case, a student inquired about Eric Berne's
Transactional Analysis and the development of life "scripts" in

childhood. My course does not cover personality theory, so I gave a general outline of some different developmental theories regarding personality, and noted that this kind of material would be covered both in the Developmental Psychology Proseminar and in the Personality course. Another student asked about blushing. This is a good opportunity to talk about the relationship between the experience of emotion, central nervous system responses to emotional situations, the concept of having to learn when blushing is "appropriate" (i.e., babies don't blush), the release of adrenalin in situations of stress, the phenomenon of vasodilation, etc. I also pointed out that even though we know about each of these areas individually, we still do not know how they come together in our emotional resonses to the environment around us. With these questions and the potential ways of answering them, students can get an appreciation of the complexity of even simple behaviors.

Student Response to this Procedure. An analysis of this procedure revealed that the students generally took this opportunity seriously. Part of my conviction involves the nature of the questions, no of which appeared to be totally without merit. Even "irrelevant" questions suggested interest rather than frivolity. Part of my feeling also arises from the number of different people who chose to use this avenue of



questioning. Further, some students did not hesitate to make comments that were decidedly negative in tone concerning either the system of asking questions or aspects of my lecturing, even though their names were on the same piece of paper as the comments. For example, when I expressed negative sentiment concering some Freudian concepts, one student noted that I should refrain from doing this because some students take Freud seriously. This kind of reaction suggests to me that the students realize that I take their ideas seriously and will not deal punitively with someone who differs with me.

The questionnaire that I administered gave more quantitative information about their reactions. The students rated the worth of this procedure on a scale of 1 (worthwhile) to 7 (worthless). The modal value was 2. The distribution of scores was positively skewed, with the mean response being 2.99, significantly lower than the expected, neutral value of 4, t(63) = -5.96, p << 0.0001. Further, based on a null hypothesis that the responses were normally distributed across the scale and centered on the neutral value of 4, I computed a G-test on the frequency of the student responses, G = 51.16, df = 1, p < 0.001. (The G-test is a more sensitive alternative to the chi-square test; it is also based on the theoretical chi-square distribution, cf. Sokal & Rohlf, 1981) There are



Even two of the three students who rated the exercise as "Worthless" agreed that this practice should be continued.

Such ratings are difficult to interpret unless one assumes that the students did not attend very carefully to either the scale of resonses or the wording of the questions, or that they did not take the questionnaire seriously. Further, an overwhelming proportion of the students favored continuation of the practice (0.92), with most agreeing that they had learned worthwhile material from the questions (0.89).

It is impossible to find unanimity in what the students liked and disliked. Some students felt that the questions should cover only topics directly addressed in the book or lecture. Opposed to these "strict constructionists" was a substantial number who felt that the materia' from the book and lectures should not constitute appropriate material for questions. Likewise, those expressing sentiments were about equally split over whether information on careers and graduate schools is appropriate. With regard to the latter points, there were enough questions that I created a handout on careers in psychology with a bachelor's degree and referred them to the American Psychological Association's booklet on the subject. I offered to lend them my copy should anyone be

interested. This approach should quell the negative feelings of those who were not interested in career, salary or graduate school information, at the same time providing useful information to the others.

Suggestions for Improvement. Students seemed generally satisfied with the procedure although there were some comments for improvement. The suggestions that I will probably not implement include answering the questions on the same day that they are submitted and having an entire class devoted to questions and answers; a few students also suggested limiting the questions to "relevant" material and giving the class guidelines about what is appropriate. Because I want to generate the greatest possible involvement, I do not favor these latter two possibilities. Instead, I will act as censor when appropriate.

The students made a few cogent points as well. There was a suggestion that I make provisions for anonymous questions (i.e., not on the sign-in sheet per se) and for working the answers into the lectures rather than dealing with them at the beginning of the class period. I have been reluctant to incorporate the questions into my lectures for fear that students would not recognize that their questions were being addressed, lessening the appearance that I am aking them

seriously. Consequently, I will probably continue to answer the questions at the start of class, but also work the answers into the lectures as well, noting at relevant times in the lecture that a question was being addressed.

Based on the overall support for this procedure, I will continue with it and make modifications when they are warranted. Should students stop asking questions or if the submissions show little thought, I will either alter or abandon the system.

Benefits. There are several benefits that derive from using this system to generate questions.

First, I am now aware that students are intensely interested in career prospects and salary. The number of questions related to this is much higher than I would have expected. As a result, I have spent more time dealing with the treatment of different disciplines within psychology and career prospects with bachelor's, master's and doctoral degrees.

Second, the students know I am interested in answering their questions. Several of them made such comments on the questionnaires.

Third, I can gauge the nature of their uncertainty with respect to the content material and can review or adjust my lectures appropriately.



Fourth, students can comment on what they do not like without feeling that they will be in a face-to-face

Finally, the students can ask questions without the distress of having to speak up in a large lecture hall.



# Reference

- Smith, R. A. (1987) Increasing discussion in general psychology classes. Paper presented at the 95th annual convention of the American Psychological Association. New York, Aug. 27-Sept. 1.
- Sokal, R. R. & Rohlf, F. J. (1981). <u>Biometry</u> (2nd ed.).

  San Francisco: W. H. Freeman & Co.



Table 1. Nature of questions asked by studencs.

Type of Question	Percentage
Content	52
Abnormal Psychology	4
Cagnition	4
Learning	2
Physiological Psychology	16
Sensation/Perception	12
Sleep/Dreams	14
Procedural (Tests, review	
sessions, etc.)	18
Career/Graduate School	14
Other Psychology Courses	2
Attendance Policy	5
Other Comments	8

Note: Sum of percentages does not equal 100 due to rounding.