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Virtual Instructor-Student Interaction: A New Method for Stimulating Class Participation in an Asynchronous Learning Network

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ABSTRACT

The goal of this paper is to describe a new virtual form of instructor-student interaction that can enable students to interact with their instructors without the pressures inherent in a traditional setting where they must face other students. Virtual instructor-student interaction (VISI) is a new pedagogical technique, developed by the author, which involves the transformation of an online survey into a medium that can simultaneously present course material, ask questions, obtain feedback and deliver responses. The interaction takes place asynchronously in a private space between the student and the instructor. By using this method instructors can enable students to grow their knowledge of subject material through brainstorming and direct communication with the instructor, in an intellectual space that is devoid of the peer pressure that pervades both traditional face-to-face interactions as well as the public interaction that takes place in online courses on open access websites.

Keywords: blended learning, distance education, flexible learning, personalized learning, surveys

INTRODUCTION

Asynchronous learning techniques enable students to engage with their instructor and their classmates outside of a normal schedule during the times they find most convenient. In courses taught fully online, a class of students and their instructor often form an Asynchronous Learning Network by communicating intensely on discussion boards, blogs or social media (Wu, Bieber, & Hiltz, 2008). Interaction in an Asynchronous Learning Network is public if it takes place on an open-access website, or at least viewable by other students if it is conducted on a private message board. In this way, many online courses require students to interact with their instructors in the presence of other people, much like in a traditional face-to-face class.

Virtual Instructor-Student Interaction (VISI) is a new pedagogical technique that enables instructors to interact with students virtually during the times when students are engaging in an Asynchronous Learning Network. The method involves the transformation of an online survey into a medium that can simultaneously present material, ask questions, obtain feedback, deliver appropriate responses, and go back over material. By using this teaching style, instructors may be able to increase student participation in the learning process, raise student interest during the delivery of course

content, and develop a more reliable assessment of student learning at different points within the experience.

This paper demonstrates how VISI can be used to stimulate class participation in an introductory sociology course. The model can be applied to other disciplines and also to upper-level courses, both as a supplement to face-to-face instruction as well as a component of a fully online course or a hybrid course. When determining how to use VISI, instructors are advised to review the literature on interaction in pedagogy in their own disciplines, and develop their goals for using the method accordingly.

BACKGROUND

Ideas for stimulating class participation are plentiful, but few of them are developed to address needs that are specific to the discipline of sociology. Atkinson, Buck and Hunt (2009) have described this as a major shortcoming in the Scholarship on Teaching and Learning (SOTL) in Sociology. Their recommendation is to promote a Sociology of the College Classroom (SoCC) to foster the creation of pedagogical techniques that are inspired by the perspectives of sociology. In practice, this means developing methods for interaction that challenge students to ask meaningful questions about society and social behavior. Following the tradition of C. Wright Mills (1959), sociologists typically emphasize the importance of biography and

history in social inquiry, and in their teaching, most sociologists seek to foster a new understanding among their students about topics such as race, gender, inequality, deviance, and sexuality. Mollborn and Hoekstra (2010) exemplify this well in their analysis of student "clicker" use in large sociology classes. Clickers enable students to respond to instructor-initiated questions during a lecture as a way of fostering active learning. Mollborn and Hoekstra demonstrate ways in which this technology can be used specifically to satisfy sociology instructors' needs for classroom discussion on real-life experiences and sociological research methods. Yamane's (2006) Course Preparation Assignments also seek to raise participation by initiating small and large group discussions, with an emphasis on the achievement of specific outcomes in student learning and engagement on authentic sociological questions.

In face-to-face classes there are also many challenges posed by external factors such as the social environment and the presence of peer pressure. Rocca's (2010) interdisciplinary review of the literature on class discussions found that unavoidable aspects of a class, such as the size of the room, the number of students in the class, and the time of day can create challenges for maximizing participation. But as Karp and Yoels' (1976) classic study found, participation levels frequently rely upon the contributions of just a few students in both small and large classes. This effect, which Karp and Yoels referred to as the "consolidation of responsibility," has also been found in other research. For example Howard and Henney (1998) made a similar observation in classes with a mixture of traditional students (ages 18-24) and non-traditional students. In this study, the authors found that non-traditional students were more likely to lead discussions and respond to an instructor's attempts to begin conversations. Traditional students were more likely to hold back because they felt less prepared or more anxious about how they would be viewed by the other students.

Research on gender differences in participation has found that male students participate more than female students, but female instructors may have more success in obtaining general class engagement than male instructors (Rocca, 2010). Karp and Yoels (1976) found that male instructors were more likely to ask questions directly to male students and that male students were more likely to respond to questions posed to the class. Hall and Sandler (1982) suggested that this may be the effect of a "chilly climate" for women due an instructor preference for male opinions and the frequent usage of masculine sexual humor. Subsequent research has

confirmed that males hold advantages in many measurable forms of classroom participation (Williams, 1990). In a longitudinal study of an all-girl's college transitioning to coeducation, Canada and Pringle (1995) found that increases in the number of males in the classroom was associated with a decrease in overall participation, and specifically a decrease in participation among females.

Since most of the existing literature refers to constraints in classroom participation in face-to-face interaction, it seems logical to ask what class participation looks like on the internet.

Some instructors have reported on their use of online discussion forums as a way of adding to the interaction level in a face-to-face course. The evidence suggests that these forums have fostered active learning and increased student-student interaction and peer review (Persell, 2010; Scarboro, 2004). But although online discussion forums remove the face-to-face pressure that may inhibit general class participation, they cannot remove the feelings of anxiety that are induced by other classmates since other students can read their posts. VISI holds the added advantage of not permitting students to view one another's contributions to class.

USING VIRTUAL INSTRUCTOR-STUDENT INTERACTION (VISI)

VISI can be used in a fully online course or as a supplement to any class. Instructors utilizing VISI first prepare their course materials in written, audio and visual formats and divide it across several modules (or classes) as is done in most fully online courses. Afterwards, they insert portions of the content into an online survey maker to generate a "survey" that will either supplement a course module, or serve as a module on its own. The text and media are entered into the fields where questions are normally found, but ideally in small doses separated by page breaks. Then the instructor adds new textual commentary directly targeting the online user. For example, the instructor might write: "In my face-to-face class, I often find that students have difficulty with this section." After the student then watches the video clip or views a presentation, the instructor might write: "So what do you think? Is this making sense?" Students then have the opportunity to write to the instructor about that section. If the instructor would like to see a formal and detailed response from the student, that can be requested. In other cases, the instructor might seek a simple affirmation that something was understood. Questions in modules can also be used to quiz students, take a poll

of their expectations or opinions, or to gauge their interest level. These and other VISI interactions may be numerous in the module, or used sparingly, depending on the instructor's needs.

The instructor will read these comments later by opening a file that aggregates all of the student responses for each question together in a database. Sometimes this will enable the instructor to see a trend in the responses, such as a great deal of difficulty or misunderstanding. In cases like these, he or she can email the entire class, or even set up a new module, with or without using VISI, to address the issue. Once a course has been taught once or twice, the instructor may also be able to anticipate difficulties and address them earlier by adding a question that asks whether the student has understood. If the student replies yes, the survey will lead them on to the next section. If the student replies no, the survey will provide more explanation, which may include routing them back to earlier material for the purpose of review. In cases where individual students have questions or problems that are not shared by others in the class, the instructor can contact that student individually via email.

Using VISI, instructors can invite students to view a picture or a video clip while absorbing the material, and then write back about how it made them feel. There are also many opportunities for instructors to add humor by asking stimulating questions to break the ice, much like what would occur in a face-to-face course. Instructors also have the option to utilize the many features available in online survey software such as multiple choice questioning, skip patterns, and creative response tools such as barometer gauges that can be dragged to the left or the right. These features can enable students to rate their understanding of the material, inform the instructor of a need to provide better examples, or gain needed direction to outside sources of information.

The method is best described by example. At the beginning of a module, a student is asked to enter his or her name and email address. In Figures 1 and 2 below, the student finds that the system remembers her name. This technique can be used throughout the module to address students directly and ask them questions. The instructor then begins delivering a lecture in an interactive way. By the end of the first page, the instructor has asked the student a question that she is required to answer in order to move on.

The Sociological Imagination

Welcome Angela!

I'm glad you are ready to get started. My name is Chris, but you should probably call me Dr. Donoghue.

Why "Dr."??

Hmm. That's a good question, Angela. If I were to draw from my own experiences in the world, I would have to say that you should call me Dr. Donoghue because I have learned that most students use a proper title when addressing their professors, and the title "Dr." is used for someone who has earned a terminal (or highest) degree in his or her field.

That answer might satisfy you, but think about it more carefully. Is it TRUE just because I say so? How many explanations in life do you accept because someone simply says they are true? I would suggest that sometimes you accept explanations and sometimes you do not. For example, should I believe my 6-year old brother if he says that he went to England yesterday, got himself knighted, and now I should call him Sir. Jonathan? Yes or No? Choose a response below.

Yes

No

Figure 1. Welcome Screen.

Some software packages support mobile as well, making student interaction even more flexible (see Figure 2).

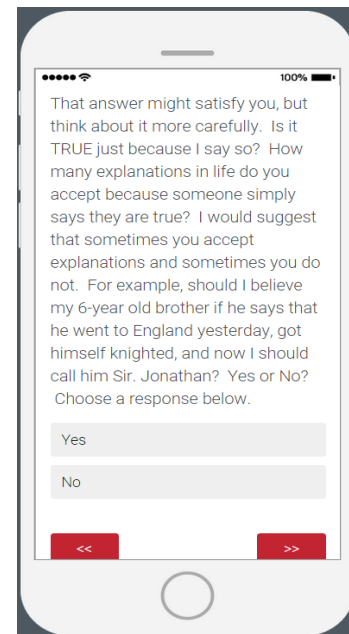


Figure 2. Flexible mobile interaction.

Later in the module, the instructor asks open-ended questions, as in Figure 3. Open-ended responses can be read just by the instructor, and in instructor can send individualized responses. In this way, students are invited to interact with the instructor without the peer pressure that is normally present in a face-to-face class, or on an open-access website.

Reread "The Sociological Perspective" in the beginning of Chapter 1. Then look at Global Map 1-1 "Women's Childbearing in Global Perspective." Orient your eyes to the map. In the blue and purple nations, women have 1-3 children on average. In the orange and red nations, women have 6-8 children on average.

THINKING OUT LOUD

Type some thoughts below about WHY you think these differences exist. Try to list at least 4 reasons.

Figure 3. Open-ended questions.

In Figures 4, 5 and 6, the instructor can be seen asking students to guess his ascribed and achieved characteristics. After the module has been taken by the class, data from an exercise like this can be viewed by the instructor in aggregate form and then shared back with the class.

Please make your best guesses about the ASCRIBED CHARACTERISTICS of your professor

Age	<input type="text"/>
Gender	<input type="text"/>
Ethnicity (Nations of family origin)	<input type="text"/>
Race	<input type="text"/>

Figure 4. Asking about ascribed characteristics.

What do you think I looked like in high school?

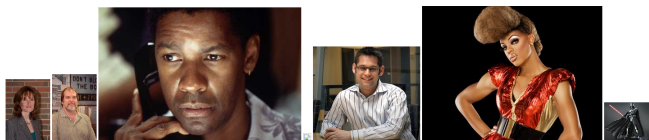


Figure 5. Using pictures.

...actually none of those people was me ..

Now guess some of my ACHIEVED CHARACTERISTICS.

My annual income	<input type="text"/>
My marital status	<input type="text"/>
Number of years of education	<input type="text"/>
The make of my car	<input type="text"/>

Figure 6. Asking about achieved characteristics.

Students complete the surveys on their own time, taking breaks and resuming their work as needed. Since

the surveys are taken by students asynchronously, they may do them on their own time and submit them when they are due. After a student completes a VISI module, the results, containing all of the course material and the student responses, can be automatically sent by email to both the student and the instructor. Additionally, the instructor can access a dataset containing all of the responses made by the students. Much can be learned from analyzing the results, such as an average self-rated comprehension score, a list of questions that arose at particular points in the material, and the number of minutes spent working on the module. Instructors can respond directly to the individual students and/or collectively to a subset or the whole class, to address questions or initiate more focused discussions in a blog or a discussion group.

Although VISI can be used in many ways, instructors using the technique should not expect that it to replace other forms of interaction. In fact, it may be detrimental to do so since the students would be unable to interact with one another. In a fully online course, or a hybrid, it may be most effective to use VISI as a supplement to other forms of communication, such as email, blogs, and discussion groups. In a face-to-face course, a VISI module can be used to prepare students for a class discussion. It can also be assigned to students who have missed a face-to-face class on the same topic, or who would benefit from a review. Since VISI is asynchronous, and can only be used in one-on-one exchanges between the instructor and the student, most classes would benefit from these uses, rather than making it the only form of class communication.

THE WORKSHOP

The VISI method was demonstrated by the author in a 90-minute workshop at the 3rd annual Emerging Learning Design Conference at Montclair State University on June 7th, 2013 as part of the Learning, Pedagogy & Technology track. The goal of the workshop was to explain the interaction method and demonstrate how it can accommodate the interests and needs of both instructors and students participating in an asynchronous learning network. Participants in the workshop also engaged in a discussion of the benefits of permitting students to ask questions and make comments as they proceed through an online course module, such as the ability of the instructor to identify specific sections of the material that spark interest, raise concern or create confusion among students. Discipline and instructor-specific ways of using the technique were also discussed.

CONCLUSION

VISI is a new way for students to engage with their instructors without the pressures and constraints that are inherent in either face-to-face meetings or online discussions. Students tend to report that classes with face-to-face meetings are more rich with interaction and communication than fully online courses (Milhelm, 2012; Wasilik & Bolinger, 2009), but the literature suggests that there are also many inhibitors to a full discussion in face-to-face meetings (Karp & Yoels, 1976; Rocca, 2010). In fully online courses, one solution is to create supplemental opportunities for synchronous interaction within the course (see Hsiao 2010). Synchronous interaction may be less impersonal but students tend to show less interest in course activities if they do not lead directly to the attainment of a higher grade (Murray, 2012), and although modern computers and mobile phones now provide the means for instructors and students to interact synchronously, there is a general consensus that online courses require asynchronous forms of interaction and information exchange for their success (Driscoll, 2012). In addition, in larger classes such as Massive Open Online Courses, it is often impossible to engage in synchronous two-way interaction. VISI is unique because it permits instructors and students to communicate privately during an online lecture, a simulated version of what would take place in a face-to-face class if no other students were present.

VISI allows an instructor to invite students to share their feelings about the material being covered in the class with the knowledge that only the instructor will review and respond to what they say or ask. This feature of the interaction enables them to ask questions and experiment with their ideas in a space that feels safer than a live classroom or a public website. Under these conditions, students may speak more openly and with fewer fears about how they sound to their peers. Thus, it may eliminate the "consolidation of responsibility" effect observed by Karp and Yoels (1976). In addition, it may reduce inequality in participation by ethnicity, race, gender and age since all questions posed by the instructor during a lecture are equally directed to all students, and students do not have to be called on to contribute. This gives them the opportunity to speak first, and at every opportunity that the instructor allows.

Interaction between instructors and students in an introductory sociology course is important to both professors and students (Dennen, Darabi, & Smith, 2007), yet students often express problems such as a lack of self confidence, and fears about how they will appear to other students, as reasons for withholding

participation (Rocca, 2010; Howard and Henney 1998). In sociology courses, students often must face not only the challenges of interacting with an instructor in the presence of others, but also the fears associated with expressing one's own opinion on sensitive topics such as race, gender and inequality. Instructors in other disciplines may find that VISI can also be used in a variety of other ways to complement the pursuit of greater communication in their own courses.

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