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# Are You Listening? Social Roles and Perceived Value of Statements in Online Learning Communities

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**Abstract**

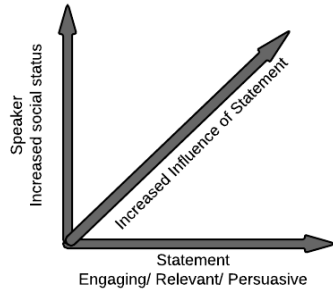
An important part of learning is interactions with peers, mentors, teaching assistants and the instructor. Discussions and group work allow for interactive learning and deeper understanding of class concepts. Online learning environments struggle to replicate this process. This is especially true when the scale of an online class is increased. In order to address this issue a few MOOCs solicit teaching assistants to answer questions, and through their social position, help set academic standards in discussion forums. However, little is known about how different social roles influence the attribution of value to statements in these environments. This study demonstrates that the attitudes expressed by individuals in facilitating roles influence the acceptance of information shared in a discussion board setting.

**Author Keywords**

Online education; MOOCs; social status in online environments; attribution of value

**ACM Classification Keywords**

H.5.3 asynchronous interaction, theory and models, computer-supported cooperative work



**Figure 1:** Expected Ratings of Statements

## Introduction

In traditional educational environments, students interact with the instructor, the learning material and with each other. Each student learns not only from personal experience, but also learns vicariously by observing other students interact with those in various roles. The transition to learning in computer mediated (CM) environments brings challenges in trying to replicate strategies that have proven to enhance interactive and observational learning. There is a need for systematic, theory-based research to begin to fully comprehend the intricacies of the social relationships in these environments and how these affect CM collaborative learning, especially when scaled to larger sizes.

One consistent finding in online educational case studies is the importance of social presence and immediacy, which is traditionally established through the instructor's responses to students questions, comments, and postings [6]. This sense of immediacy not only improves student satisfaction, it has been found as a key factor in retention [5]. In Massive Open Online Courses (MOOCs), there are even greater challenges to provide students with a sense of connectedness, immediacy and spaces for meaningful interaction. Encouraging students to answer each other's questions is the norm, but without guidance, the array of disjointed discussion threads do not substantively foster learning [2]. If there is no socio-technical structure to provide direction to discussions, demonstrate norms of civil engagement, and encourage substantive quality, it is no wonder that MOOCs frequently become a spectator arena, where participants simply download learning materials or watch videos. The student struggles on, alone in the

midst of thousands.

To address this issue, a few MOOCs offer a handful of trained TAs to help answer questions and guide discussion boards or peer feedback. In addition to these planned interventions, a few students are able to negotiate these amorphous forums very successfully, interacting with fellow students and providing clear and insightful comments [7]. These "superposters" add value and community to group discussions [7]. The contribution of social roles such as T.A. and "superposters" are just starting to be understood [10].

Even though these positions are generally seen as adding some value to the MOOC experience [8], they require the investment of resources to develop and support these roles. Social interaction with experienced class members or teaching assistants could provide feedback and guidance in what is frequently a complex learning environment. A further challenge is that MOOCs reach a wider age demographic than typical college classes. Older or non-traditional students might benefit from social engagement that includes hierarchical guidance[4]. Research is needed not only to justify this investment, but also to understand the potential influence these roles have.

## Theoretical Framework

MOOC research, up to this point, is primarily case studies [9]. This research is theoretically guided by learning theories (e.g., social cognitive theory, social presence, and Bloom's taxonomy), online communities engagement research, and generative collective models.

The theoretical framework that has been frequently used to understand the learning process is Social Cognitive Theory (SCT) [1]. This framework includes

the constructs of the individual, the environment, and behavior. All of these constructs work in a dynamically evolving and changing process. In a traditional setting, students learn by observing others ask questions and how those in authority respond to those questions. Often behavioral changes or mastery of a new skill is best developed in a small group or setting where interaction and encouragement from either the instructor or others can help in the learning process [3].

Immediacy in verbal and non-verbal behaviors by teachers in traditional, face-to-face, classrooms are significant in improving student learning[3]. Simple actions like smiling, nodding, or looking attentively at a student improves student engagement [3]. Smaller online classes rely on the instructors to be available to answer questions, interact with students and provide a sense of social presence. Giving teaching assistants, experienced students, and those who are willing to commit to being group leaders the training and status to help answer questions may help alleviate this situation.

Bloom's taxonomy is a widely adopted rubric for helping evaluate the learning process by setting measurable objectives. In this research, three elements of Bloom's taxonomy are utilized in assessing the participant's perception of class content on the learning spectrum. This would indicate levels of readiness to learn. If a student finds information understandable (clear), interesting to think about (engaging), and able to influence their attitudes (persuasive), then they are already learning from it.

## Social Status in Forum Experiment

Our participants go through a pre-test to assess the mental models of the participant, comfort with learning in online spaces, and previous experiences with online learning. Then the participants are assigned to one of five conditions: the TA or a starred student who either support or oppose statements that were highly rated by the initial testing of statements without attribution This is a 2 by 2 design with an extra condition for only fellow students as a control condition. Subjects are given the class scenario and read four short discussions. They rate if the discussion was persuasive and evaluate the persona in the role under consideration. Demographic information is also gathered to look for the influence of age, gender, or cultural background in influencing the view of a persona's social status. Ratings are done using seven point Likert-type scales.

### Pretesting statements

The valance of the statements, apart from social context, was tested using a student sample (N=115) from a major Midwestern university for credit in a communications class as a convenience sample. Both individual statements and entire discussions were rated for clarity, engagement and persuasiveness. Discussions were then arranged for the experiment with social attribution added.

### Experiment Population

To get a sample that would best represent MOOC participants and test for a later, larger sample, we collected an Amazon M-Turk sample of 45 individuals using only United States IP addresses and individuals who had a 90% or higher approval rating. Both attentiveness and manipulation check questions were added. Participants were told about the classroom

<b>Discussion 1</b> (All student condition) Mean =3.38 (N=8)		
	Teaching Assistant	Starred Student
Authority supported	3.82 (N=11)	4.00 (N=10)
Authority opposed	3.90 (N=8)	3.44 (N=9)

**Table 1:**  
Results of a discussion with low ratings when all student condition

<b>Discussion 3</b> (All student condition) Mean =3.88 (N=8)		
	Teaching Assistant	Starred Student
Authority opposed	3.18 (N=11)	3.40 (N=10)
Authority supported	4.00 (N=8)	3.56 (N=9)

**Table 2:**  
Results of a discussion with high ratings when all student condition

scenario and asked to rate the discussions. Social roles were introduced and are represented using small icons rather than actual pictures which might produce a bias.

Initial results indicated that both roles examined had influence on the participants. Surprisingly, the “starred student” seemed to have the most impact. Even though the authority figure only made one statement in each discussion, it appeared to have influence.

Further research in this area may demonstrate the value of developing systems to encourage, support and reward peers who are willing to invest time and effort into enhancing group discussions. Ongoing work is to duplicate this study in a larger scale.

If having established roles within the MOOC experience brings increased engagement, deeper processing of information, and increased interaction then it is well worth the investment.

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