Social Networks and Labor Market Inequality: A Role-Playing Activity to Teach Difficult Concepts

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Abstract

Role-playing activities, as a form of active learning, enable instructors to teach difficult concepts in ways that better facilitate student learning. This note tests the effectiveness of a role-playing activity that simulates the job market: most students play job seekers seeking employment and a few play the employers who make employment decisions. However, students are constrained in that they can only talk to students they already know or meet during the game. We find two major results: 1) students successfully achieved the learning goals from the activity including understanding the basics of social networks and how social networks reproduce inequality in the labor market; and 2) students enjoyed the activity and felt like they learned a lot. We were especially pleased that these results were true even of students typically unengaged in the courses. Overall, we recommend role-playing activities to other instructors teaching difficult concepts to successfully engage all students.

Keywords

active learning, classroom-based exercises, scholarship of teaching and learning, student learning, simulation

College instructors are increasingly emphasizing an active learning environment whereby students interact more frequently in the classroom and engage in discussions for deeper understandings of course materials. Research has shown that undergraduate students benefit from an engagement in the college classroom beyond lectures and note-taking (Atkinson and Hunt 2007). In active classrooms, students are more likely to retain course material and have an increased motivation to participate in class (Atkinson and Hunt 2007; Bowen et al. 2011).
Through active learning students also develop critical thinking skills and are able to better articulate and apply sociological concepts correctly (Bonwell and Eison 1991; Bowen et al. 2011; Holtzman 2005; McCammon 1999). Active learning strategies can include classroom discussions, student-led group projects, and presentations (Strangfeld 2013). Role playing activities are another active learning method that increases student engagement and learning. This note analyzes the results of implementing a role-playing activity to demonstrate the effect of social networks on labor market inequality.

Role-playing activities have frequently been used to facilitate classroom participation and help students learn about complex sociological concepts (Simpson and Elias 2011). Using imaginary roles or characters, students interact with one another in a fictional, constrained environment that mimics limitations in society (Fine 1983; Lortz 1979). Students are given some degree of freedom in which to perform and react in their imaginary role. After assessing their constructed environment, students can respond in a way of their choosing and experience the consequences of their actions, whether negative or positive. Role playing activities therefore allow students to engage in complex situations that they are not used to experiencing (Ablev, Vincent, and Hanes 2008; Groves, Warren, and Witschger 1996). Students can also observe, experience, and analyze society from a new perspective through the use of role-playing activities.

In this note, we demonstrate how a role-playing activity helped students participate in class, interact with their peers, and learn a significant sociological concept. After class discussions concerning inequalities in the labor market, students participated in a role-playing activity that demonstrated the importance of social networks to labor market outcomes (Wellman and Berkowitz 1988) and the “strength of weak ties” (Granovetter 1973). This labor market role-
playing activity, used in three different undergraduate sociology courses with diverse groups of students, also assisted students in interrogating the interaction between structure and agency in society. Students often have a hard time understanding the social structures that shape society and individual choices (Coghlan and Huggins 2004). Many students, particularly those who have not studied sociology, believe that only individual choices affect social outcomes. The persistence of structural inequalities is difficult for students to grasp only through readings and class lectures (Eells 1987; Greenfeld 2006). By taking on different roles in a good activity, students are able to develop a sociological imagination (Mills 1959). They are more readily able to connect their own personal experiences from the activity to larger structural forces that influence individual actions and decisions. Thus, we analyze whether our role-playing activity helped them understand social networks and labor market inequality.

ACTIVITY OVERVIEW

In order to teach students how social networks reproduce labor market inequality, we sought an activity that would demonstrate this learning objective. Previously, Giuffre and Paxton (1997) and Groves, Warren, and Witschger (1996) proposed classroom exercises that use strings to demonstrate how social networks can have an effect on job opportunities. The authors divide students into “majority” and “minority groups” and give all students strings to symbolize social ties. Students in the “majority” group are given advantages such as more strings, longer strings, and/or fewer movement constraints around the classroom. After forming networks with the strings, the instructor gives an object, signifying a job, to one student. Students connected to the first student stand or raise their hands, demonstrating access to the potential employer. These classroom exercises help students understand the role of social structures on opportunities.
However, they do not take into account individual choices and actions. Thus, we created a new role-playing activity that would allow for greater student agency.

The activity we created is a role-playing game meant to mimic, in a simplified way, the job search process of college seniors. There are three types of roles: Job Seekers, Employers, and Connectors. The Job Seekers are college seniors seeking employment after graduation and are given a character name, a college they attended, a GPA, and whether they had an “easy” or “hard” major.¹ Employers are looking to hire people into entry level positions and use their hiring budget at their discretion for giving offers to Job Seekers. There are one or two Connectors in the game who are told they graduated last year and already have a job, but they are socially connected to many current students and employers. Connectors facilitate introductions between people.

All role sheets include the student’s assigned pseudonym and role, their qualifications, and a list of the other characters their assigned role knows at the beginning of the game and the role of those players. For instance, a Job Seeker role sheet might say: “Role: Sophia (Job Seeker); Qualifications: UNC; 3.9 GPA; hard major; You know Jackson (Job Seeker), Emma (Job Seeker), Aiden (Job Seeker), and Abigail (Connector).” An Employer role sheet might say: “Role: Harper (Employer); Looking to fill three positions: available budget of $100,000; You know Alexander (Employer), Caleb (Employer), Abigail (Connector), and Sophia (Job Seeker).” Students are randomly handed a piece of paper with this role information when they walk into class the day of the activity and are instructed to create a name tag with their character’s name, in this case Sophia or Harper. Because student attendance is generally not perfect, we strategically create a few roles that are not critical to the success of the activity (such as a few Job Seekers who only know one other Job Seeker). We randomly distribute all role sheets to students except
these extra roles, which we only give out to the last students to enter class if there is perfect attendance.

The rules of the game state that characters can only talk to people they know, unless they are introduced by a third person who knows both characters. This means that Employers can only interview Job Seekers they already know or meet during the course of the game. While all characters are connected in the social network, some Job Seekers begin more closely connected to Employers and Connector(s) than other Job Seekers, and some networks are more densely connected (see Figure 1). Students do not see this figure until the post-activity class discussion. Students only know the names and positions given to them at the beginning of the activity and must try to meet other people who can introduce them to the Employers or Connectors. We have successfully implemented this activity in class sizes of about 45 students and 16 students (though the 16 student course was a trial run of this activity and we did not collect data from these students). In order to adjust the activity based on the class size, we cut off parts of the social network so that we still have some students in better network positions than others. For instance, in a 30 student class, we might reduce the available roles to total 5 Employers, 1 Connector, and 24 Job Seekers. Using the role numbers in Figure 1, we might eliminate the Job Seeker friendship groups of 1-4, 8-10, and 21-23; the Employer 35; and the Connector 41; but we would largely keep the rest of the network in place other than a few small adjustments to centralize the sole Connector left. While these adjustments might take a bit of preparation time in advance, small changes in student numbers do not require these moderate adjustments. Instead, instructors should add or subtract individual Job Seekers (as long as the instructor does not eliminate a role that is the only tie connecting for an entire friend group to the rest of the network).
No players know the full range of qualifications of Job Seekers nor the number of jobs or hiring budgets available—mimicking the real life limited knowledge people face in the labor market. Employers are required to interview at least five Job Seekers before they can begin giving out offers of employment. This rule attempts to give time for the Job Seekers with less desirable positions to meet more people. Employers are told that they are allowed to prioritize any hiring characteristics they want. Unemployment is typically set around 20-30 percent so that about a quarter of the Job Seekers will not be able to land a job. After all jobs have been filled, the class fills in a chart listing all Job Seekers’ characteristics, interviews completed, and job offer/salary amount (if applicable). The instructor then facilitates a discussion of the results, helping students think through in small groups and as a class why some Job Seekers with worse qualifications were hired while others with better qualifications were not even though employers could hire whoever they wanted. The discussion asks students to reflect on their own outcome in the game compared to others, explain choices they made in the game, and analyze how their position in the social network affected their outcome. We have found that ideally this activity should be conducted in one 75 minute course or two 50 minute courses to fully be able to debrief the activity, though it can be successfully completed in one 50 minute period if students enter the course with prior knowledge about the topic (as was the case with the 400-level education course). The activity typically takes 15-30 minutes depending on class size, how many candidates Employers interview before they start hiring, and how interactive the students become with inventing backstories and bragging about themselves during interviews.
As a product of this activity and subsequent discussion, students come to realize that the structure of the social network matters for individual success. Job Seekers with great qualifications but fewer or lower-positioned ties in the social network tend to meet Employers too late in the activity, after many positions are already filled. Thus, no matter how much effort Job Seekers expend or how great their qualifications are, hard work is not always enough to overcome their structural disadvantage. While there is nothing to prevent a pure meritocracy based on qualifications, the game is set up as a competition not only for Job Seekers to get the best jobs, but also for Employers to hire the best Job Seekers before the other Employers do. In all of the times we facilitated this activity, the competition among Employers was effective in driving some Employers to hire quickly—even if they unknowingly only interviewed Job Seekers with some of the worst qualifications in the game, thus causing inequality in initial social network position to perpetuate. We do not give rewards to winners, as student pride and enjoyment seems to be enough incentive to try to win. Readers are welcome to email the corresponding author for additional resources to implement this activity in their own courses, if interested.

METHODS
This activity was conducted in three classes of approximately 45 students each: a 100-level introduction to sociology course, a 100-level sociology of race course, and a 400-level sociology of education course, none of which required prerequisites. The classes were taught by two instructors, both at the same highly selective public research university in the southeast. In the 400-level course the activity and discussion occurred in the same 50-minute period while in the two 100-level courses the activity and discussion occurred in subsequent 50-minute class periods.
to allow extra time to introduce the new concepts to students with less exposure to sociological perspectives.

In order to analyze the effectiveness of this role-playing exercise, we use two data sources: pre- and post-class quizzes and an anonymous survey. The pre- and post-quizzes were both conducted outside of class time in the 400-level education course and the 100-level introduction course—before the activity and after the discussion was completed—and were counted as quiz grades in the courses. The pre- and post-quizzes were not assigned for a grade in the 100-level race course. The pre-quiz was conducted outside of class and the post-quiz was administered in class after the discussion was completed. We had valid responses on both the pre- and post-quiz for 111 of the 116 students in both courses who signed consent forms to participate in this research and were in attendance the day of the activity. In order to assess student learning from the activity and discussion, we compare student responses on the pre- and post-quizzes for understanding of basic concepts about social networks, as well as analyzing how social networks reproduce inequality. The scoring was a scale of one to three, indicating weak, moderate, or strong responses and we calculated whether students showed a significant score increase between the two assessments.

In order to assess student knowledge, the first author coded all responses a score from 1-3, and the second author randomly selected a subset of responses to code to ensure validity of the scores. For the social networks question, responses were coded as weak if students simply referred to social networks as groups of people or social interactions (or other incorrect answers, such as social media sites). Moderate answers explained that social networks referred to relationships between people, but their explanation was vague. Strong answers clearly articulated that social networks are the ties and connections between people with concrete and clearly stated
language. Likewise, for the reproduction of inequality question, a weak score did not explain how social networks connect people to better jobs or why some people have better networks than others. Moderate scores explained one of these components well but were vague or missing the other part. Strong responses clearly articulated how social networks help someone get a better job and why some people have better social networks than others. A two-sided difference of means t-test was used to test the significance of the pre- and post-quiz score differences. This pre- and post-treatment is in accordance with best practices for assessment of student learning, as it allows us to take into account how knowledgeable students were about the topic beforehand so that changes between the quizzes should be due to class learning (Sweet and Cardwell 2016).

We also conducted an anonymous survey of students after completing the activity to gauge their response to the activity while allowing them to feel that they could truthfully report how they felt. Because this was anonymous, ungraded, and given at the same time period as the post-quiz there was a slightly lower response rate of 74 percent. This survey asked students to report if they enjoyed the activity, if they felt they learned about social networks, how realistic they found the activity to be, among other questions. We evaluate the mean responses for each question. We also asked open ended questions for student reactions, suggestions for improvement, and other comments. We analyze these comments to show how students responded to the activity.

RESULTS

The pre-quiz, post-quiz, and anonymous survey demonstrate that the role-playing game was effective at teaching students about social networks and how they reproduce inequality, as well a fun activity that students enjoyed. Two of the lesson’s learning objectives were to help students
understand the basics of social networks and analyze how social networks reproduce inequality in the labor market. By comparing pre- and post-class quizzes, we demonstrate that students successfully achieved these goals (see table 1).

[Table 1 about here]

Analyzing Quizzes: Basics of Social Networks

Students successfully increased their knowledge about the basics of social networks. The average pre-quiz score for the question, “When sociologists say they are studying social networks, what does that mean they are studying?” was 2.09, demonstrating that the average student entered the class with a moderate understanding about social networks. The students in the 400-level course in particular were likely to already be familiar with the basics of social networks, receiving an average of 2.45 on the pre-quiz, so that the typical student response was already between a moderate and strong response. Nevertheless, students still successfully increased their understanding as a result of the activity and discussion, so that the average post-quiz score across all three groups was 2.67, an average increase of 0.58, which is significant at the .001 level.

The typical moderate response on the pre-quiz meant that students identified that social networks referred to the relationships between people, but their answers were vague or otherwise did not fully incorporate the necessary components of a strong response, which include indicating that studying social networks refers to studying the ties and connections between people. For instance, a student in the 100-level introduction course moved from a moderate response on the pre-quiz to a strong response on their post-quiz:
Pre-quiz: Relationships and interactions that occur when people socialize [score: moderate (2)]

Post-quiz: How people are connected and how that impacts their interactions [score: strong (3)]

This student originally explained that social networks include people’s relationships, but the stronger response refers to how people are connected; studying social networks is not just about people interacting and relating to one another, it is also about the degree and form of the ties between people, which students understood after the activity.

*Analyzing Quizzes: Social Networks Reproduce Inequality*

Because of the wording of a core question on the quiz—“How do social networks reproduce inequality in the labor market?”—students knew that social networks must reproduce inequality, but prior to the activity they were generally unable to articulate the mechanism. The average pre-quiz score was 1.96, indicating that most students prior to the activity could articulate moderate answers. However, the average post-quiz scores increased to 2.40, indicating an average score increase of 0.44 on a three-point scale. The difference is significant at the 0.001 level.

Considering 22 students articulated a strong response on the pre-quiz and could not improve their score, this average increase demonstrates great average learning increases.

For this question, student scores were assessed as strong if they explained both how the social network/connection helps someone get a better job (e.g., hearing about opportunities or receiving preferential treatment in the hiring process) and explained sociologically why some people have better networks (e.g., indicating that social networks are a hierarchy with some connections being better than others, indicating differences by social class or race, referring to differences in social capital by family background, or some other similar mechanism). The
following student received a moderate score for their initial response but a strong score for their post-quiz response:

Pre-quiz: We tend to create social networks with those similar to us in socio-economic status. This reproduces labor market inequality. [score: moderate (2)]

Post-quiz: Job seekers typically have connections with those similar to them in socio-economic status. This limits them in being connected to those of higher status and climbing the ladder. [score: strong (3)]

Prior to the activity and discussion, this student knew that social networks tend to be comprised of people of similar socioeconomic status, but did not articulate how this affects the labor market. In the post-quiz, they build on the idea that our connections are usually to people similar in background, but further articulated that this prevents job seekers from being likely to be connected to higher status employers which can reduce the likelihood of receiving a higher status job compared to people who are of a higher social class and will have better connections.

Analyzing Survey to Show Student’s Reactions

The anonymous survey results showed that generally students enjoyed the activity and also perceived that they learned a lot. All questions related to learning and enjoyment resulted in high averages, at least a 4 out of 5: enjoyed the activity 4.3, activity was interesting 4.5, activity was realistic 4, activity was helpful in demonstrating how social networks work 4.3, understand a lot better how social networks work 4.1, and understand a lot better how social networks reproduce inequality 4.3. The lowest average was about how realistic the activity was—and certainly some students were frustrated by the fact that the activity had to be simplified by only including a few pieces of information about each job seeker rather than more extensive profiles. For instance,
two students wrote anonymously about this on the survey for the 100-level introduction course in a question asking for suggestions for improvement:

I know it would make the data analysis harder because there would be more variables, but I think it would benefit adding more credentials to have the employers look at that were not solely just GPA or school. It could be interesting to see what factors might also influence getting a job.

This exercise is certainly not indicative of the job search as a whole. Several factors go into the search beyond GPA, school, and major.

Nevertheless, students generally understood the necessity of scaling down some characteristics of the job search to be feasible to implement as a class activity.

Meanwhile, the highest average on the survey was for students finding the activity interesting. Many students were enthusiastic about the activity, reporting on the survey:

This was an interesting and informative activity! [100-level introduction course]

I liked the interactive-ness of the activity a lot! [100-level introduction course]

No [suggestions for improvement], I really enjoyed the game. [100-level race course]

This is a neat game and helpful for thinking about the labor market/social capital!! [100-level race course]

This activity was awesome! [400-level education course]

This was my favorite day of class, I really enjoyed the activity! [400-level education course]

As demonstrated through these student comments, students across all courses generally highly enjoyed the activity believing it to be enjoyable in part because of the interaction and in part because they felt like they were able to effectively learn in this role-playing way. Furthermore, students not only reported this enthusiasm on this survey, but several went beyond that to thank
their instructor face-to-face for the creative activity. In multiple cases, this included students who otherwise had very low engagement in the course, but who really enjoyed the interactive activity and became involved in that class period, approaching the instructor after class to express how much they enjoyed it. Likewise, several students specifically commented about the activity on their end-of-the-semester course evaluations of both instructors, despite the activity occurring around midterm, usually two months before course evaluations opened. Overall, the anonymous survey after the activity demonstrated that by and large students enjoyed the activity and felt like they learned a lot—which the analysis of the quizzes confirmed.

DISCUSSION AND CONCLUSION

As sociology instructors, we are constantly looking for ways to convey the complexity of social life to students in engaging ways. Role playing activities such as this give students a shared experience and deeper understanding of the course material. Students are therefore more likely to participate in class discussions. Role playing activities also help students to develop their sociological imagination with a chance to view society from a different perspective. Many students, particularly those in introductory-level courses, have not been previously exposed to sociology. They may come to class with preconceived notions that social outcomes are solely due to the individual choices that people make. Students may also assume that everyone has the same opportunities in social situations. Role playing activities allow sociology instructors to effectively teach about the role that larger social structures may play in the choices we have and decisions we make. Our activity demonstrates social network theory and highlights the persistence of inequalities in the labor market despite the choices and actions of individuals.
Overall, the results from our pre-quiz, post-quiz, and anonymous survey provide convincing evidence that students achieved the learning objectives of the lesson and enjoyed doing so. The quizzes demonstrated that students entered the class with varying levels of knowledge about social networks but after the activity/discussion were able to articulate much more clearly the basics of social networks as well as analyze how social networks reproduce inequality in the labor market—increasing on average half a point on a three-point scale (despite a number of students scoring the highest score originally with no ability to improve). Like prior research suggested, not only did almost all students achieve the learning objectives, but they almost all enjoyed the activity and recognized that they learned a lot from it. A minority of students did complain that the activity was not completely realistic about how social networks cause inequality, but these comments tended to want the activity to be more complex than is feasible in a one-day classroom exercise—and the vast majority did report that they found it realistic. While pleased that essentially all students enjoyed the activity, we were particularly pleased to hear from students who are not typically engaged in the class that they also really enjoyed it—several such students in each course personally thanked the instructor for taking the time to have an activity that allowed them to engage the course material in a way that was easier for them to understand and visualize. Overall, we viewed the activity as highly successful to helping students learn and engaging them in the classroom.

We acknowledge that there are limitations to this activity. Role playing activities are very dependent on class attendance. In this case, if fewer students show up to class than anticipated, roles will go unfilled. While we build in a few disposable roles just in case, if more students than expected do not show up to class, the unfilled roles could pose serious challenges to the integrity of the game. Another limitation is that instructors must adjust the number of roles each semester
depending on class size. While this is tedious, if student numbers are relatively stable semester to semester these adjustments should not have to be made often. Finally, role playing activities generally require a minimum number of students to succeed; for instance, this activity has successfully been conducted in courses of only 15 students, but it would be unlikely to succeed in smaller courses. However, the evidence is overwhelming that the effort is worth it to use role-playing activities in sociology courses, especially to teach complicated subjects and to reach students who do not get engaged through traditional class structures.

Our results have shown that after participating, students have a greater understanding of persistent structural inequalities despite individual choices. Future attempts at this role playing activity can incorporate issues of race, class, gender, and other social identities that have been shown to impact social networks and labor market outcomes. To try and simulate racial inequality in the labor market, students in the 100-level sociology of race and ethnicity course were arbitrarily given colored labels (pink, yellow, green, and orange) on their role sheets and name tags to symbolize racial group membership within social networks. Trying to model possible implicit bias in hiring practices, the students were not made aware of the meaning behind the colored labels. Without instructions about the added element to the role playing activity, the colored labels did not seem to influence any decision-making throughout the activity. Students commented during class discussion that they had noticed the colors but had not used them to make decisions during the activity. While this particular attempted adaptation did not work as desired, we plan to continue trying modifications for the activity that explicitly incorporate various social identities so that it may be used for a wide range of topics in other sociology courses across all course levels. Because role playing activities have the benefit of
being easily adaptable, they can be customized for different sociology courses or concepts to help students achieve multiple learning outcomes.

In all, this article provides further compelling evidence that role-playing activities can be a terrific asset in sociology courses. These activities help students better understand the interplay of structure and agency, see the social world from a new perspective, and engage students in a way that makes them excited to learn. While these activities do require creative innovation from instructors, the long-term payoff is well worth the upfront effort as they facilitate the learning of all students—even those typically with low engagement.

ACKNOWLEDGMENTS

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AUTHORS’ NOTES

1 The simplistic “easy” and “hard” major distinction was inspired by Armstrong and Hamilton’s (2013) study of college students. The authors identified as easy majors those that require less work and fewer general education requirements than those harder majors that are located in more rigorous colleges within universities. For instance, “business-lite majors” in interior design compared to business school majors in business administration.

2 This research was conducted in accordance with all stipulations provided by the IRB. The cases of missing data were due to the fact that in the 400-level education course and the 100-level
introductory course, students were required to take daily quizzes on readings, and some forgot or chose not to complete these extra quizzes.

EDITOR’S NOTE
Reviewers for this manuscript were, in alphabetical order, Sarah Becker, Mellisa Holtzman, Maria Paino and Joseph Simpson.

REFERENCES


AUTHOR BIOGRAPHIES

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**Brionca Taylor** is doctoral student in sociology at the University of North Carolina at Chapel Hill. Her research broadly concerns the experience of race/ethnicity and gender in K-12 schools. She teaches courses on the sociology of race and ethnicity from an intersectional framework.
Table 1. Quiz Results as Percentages and Mean Scores.

<table>
<thead>
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<th>Social Networks, N=117</th>
<th>Reproduce Inequality, N=117</th>
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<tr>
<td></td>
<td>Pre-Test</td>
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<tr>
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<td>2%</td>
</tr>
<tr>
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<td>39%</td>
<td>30%</td>
</tr>
<tr>
<td>Strong</td>
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<td>68%</td>
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<tr>
<td>Mean score</td>
<td>2.09</td>
<td>2.67***</td>
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***Indicates that the difference of means between the pre- and post-test is significant at the .001 level.
Figure 1: Map of Social Network for 42 Student Class.

Note: The top row is the Employers (35-40), the second row is the Connectors (41 and 42), and all other people are Job Seekers clustered into different configurations of connections.