

## Teaching Controversial and Contemporary Topics in Economics Using a Jigsaw Literature Review Activity

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### Abstract

Most economics courses are still taught using traditional lecture; and, despite gaps in textbook coverage of research developments in empirical economics, most economics courses do not incorporate outside readings. To address these two pedagogical shortfalls, we present a “jigsaw literature review” cooperative learning activity. Our jigsaw activity requires that students work together in small groups. We designed our jigsaw to guide students through formulating a position by synthesizing key ideas from academic readings with diverse perspectives on a common topic or research question (e.g., does the minimum wage increase unemployment?). We provide detailed guidance on conducting the activity in upper-level economics courses based on our experiences while teaching labor economics, public economics, urban economics, and econometrics. We then use anonymous surveys to assess students’ perceptions regarding the usefulness of our jigsaw literature review. Overall, our jigsaw literature review is associated with increases in students’ self-efficacy regarding class discussions and group work. We argue that our activity provides a meaningful way to integrate recent research findings, policy topics, and diversity issues while promoting student-student interactions. For ease of implementation, we provide sample course materials, including prompts and additional teaching notes.

JEL Codes: A2.

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## **Introduction**

Over the past four decades, there has been a shift in economic scholarship from theoretical to empirical inquiry; most published research in applied microeconomics and even macroeconomics is classified now as empirical (Colander 2005; Angrist et al. 2017). However, most textbooks do not adequately cover empirical research findings (Girardi and Sandonà 2018); and textbooks that do include empirical applications often include out-of-date ones.

Moreover, many curriculum plans stress the importance of incorporating diverse perspectives regarding contemporary issues (Kuh and Umbach 2005; Denson 2009). Though there has been increased coverage of gender- and race-related material in introductory economics textbooks (Robson 2001), only 6% of professors teaching upper-level field courses report referencing these issues in their courses. This proportion did not change from 2000 to 2010 (Watts and Schaur 2011). The lack of focus on diversity topics, particularly around race, has contributed to severe underrepresentation of economics students who are Black, Indigenous, or people of color (BIPOC): economics has lower BIPOC representation than most science, technology, engineering, and mathematics (STEM) fields (CSMGEP 2017; Bayer, Hoover, and Washington 2020). The Committee for the Status of Minority Groups in the Economics Profession (CSMGEP) also recommends teaching policy applications relating to, e.g., race and inequality, to re-enforce the relevance of economics and boost interest by underrepresented groups (CSMGEP 2020).

Upper-level courses are intended to challenge students to expand their knowledge and apply core economic models to controversial and contemporary topics (Allgood, Walstad, and Siegfried 2015). To reach this goal, economics professors should use recently published, peer-reviewed papers or working papers to fill content gaps and add breadth to course content. Yet, scholarly readings are rarely incorporated in econometrics courses and are only used occasionally in other upper-level courses (Watts and Schaur 2011). Also, incorporating more than one

perspective on economic topics is especially important, as economists often lack consensus on key economic questions.<sup>1</sup>

Hence, we propose the jigsaw literature review as a cooperative learning activity that meaningfully integrates research developments with course content based on standard textbooks. In short, the jigsaw literature review is a type of cooperative learning exercise in which students independently read one of a set of research articles on a given topic. Students are then placed in small groups to summarize their readings, first with peers who read the same article and then with peers who read a different article in the series.

Our overall goal in incorporating academic readings using the jigsaw approach (Aronson 1978) is to enhance students' abilities to achieve the core economic competencies. These include gathering and organizing information about economic phenomena, performing positive and normative policy analyses using economic concepts, and communicating economic ideas in diverse collaborations both orally and in writing (Allgood and Bayer 2017). Specifically, upon completion of the jigsaw literature review exercises, students will be able to:

1. identify and summarize the main research questions, key findings, and implications of academic research papers;
2. contrast and explain competing arguments regarding the effects of controversial or contemporary economic policies; and
3. formulate a position or thesis by synthesizing multiple academic readings on the same topic.

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<sup>1</sup> For example, the "Consensus Among Economists" survey indicates that many economic questions lack consensus among economists. Out of all 44 of the questions asked, \* have a lack of consensus (measured as at least 0.9 in entropy score, where a value of zero means complete agreement and a value of one means a uniform distribution of responses, so absolutely no consensus. The three economic questions with the least consensus (entropy  $\geq 0.99$ ) in 2011 were "Changes in aggregate demand will affect real GDP in the short run but not in the long run.", "The Earned Income Tax Credit program should be expanded", and "A minimum wage increases unemployment among young and unskilled workers." (Fuller and Geide-Stevenson 2014). The later two economic questions happen to be addressed in our literature review jigsaw activity examples.

We assess the extent to which students met these objectives using worksheets or short writing assignments that students can complete individually or collectively.

### **Purpose and Context**

The purpose of this study is to evaluate the effectiveness of using the jigsaw literature review collaborative activity to improve students' abilities to retain and think critically about the content presented in academic journal articles and working papers. Though instructors can adapt the activity for use in principles courses,<sup>2</sup> we focus on upper-level undergraduate and masters-level courses since much of the pedagogical literature in economics provides insight on student engagement in principles courses (McGoldrick 2014). Hence, we aim to guide instructors on implementing a jigsaw literature review activity that may improve specific student learning outcomes in courses where introductory economics is considered a pre-requisite.

To that end, we obtained data derived from anonymous surveys completed by undergraduate and master's students at Tulane University, a small, private, research-intensive (R1) institution in New Orleans, Louisiana, and St. Cloud State University, a medium-sized, public, comprehensive institution (M1) in St. Cloud, Minnesota. We use the survey data to assess students' overall experiences with the jigsaw activity and students' perceptions of general self-efficacy and task-specific self-efficacy regarding summarizing academic readings and participating in group exercises both before and after completing the jigsaw literature review assignments. In open-ended questions, students also provided feedback on the jigsaw activities and provided suggestions for improving them.

Table 1 provides details regarding the courses included in the study, course enrollments, and response rates for both the pre- and post-surveys. Of the seven courses included in the study,

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<sup>2</sup> This can be done by, for example, using newspaper articles or descriptive readings instead of empirical or journal articles research.

three are economics electives with introductory microeconomics as a pre-requisite (Labor Economics and two Urban Economics sections). Three courses are electives with intermediate microeconomics as a pre-requisite; they are open to both undergraduate and master's students (Health Economics and Policy, Public Finance and Public Policy, and Introduction to Econometrics). One course is an elective that is open only to master's students (Econometrics). Except for the two econometrics courses, all courses are medium-sized classes with typical enrollments ranging from 25 to 50. In each course, our jigsaw literature review exercises are low-stakes assessments, which contribute to participation or homework grade components that range from 5% to 15% of students' overall course grades.

[Table 1 about here.]

As shown in Table 2, on average, survey respondents were 21 years of age with a grade point average of 3.63 on a 4-point scale. Roughly 50% of respondents were women, while only 8% were non-native English speakers. In terms of educational background, most survey respondents were undergraduate economics or political economy majors or minors (56%) in their sophomore year (28%) or later (64%), and a small proportion were masters-level economics students (7%). Of the respondents, 93% previously completed two or more economics courses, with 35% having previously completed seven or more economics courses.

[Table 2 about here.]

However, results in Table 3 reveal that, of the economics courses previously completed, respondents were typically assigned optional or required readings in only one course, a low number given that the average student previously completed about five economics courses. Moreover, of those students who completed a course with required readings, only 34% reported that they were ever assigned multiple readings on a common topic or research question in economics. On the other hand, of those that were assigned multiple readings on the same topic, most (78%) reported

being asked to compare methodologies or conclusions. Overall, this initial background information suggests that most survey respondents have a significant economics background; however, the courses they have taken rarely incorporated academic readings.

[Table 3 about here.]

## **Contributions to the Literature**

Though cooperative learning exercises such as the jigsaw and other active-learning strategies are often touted, they are often used rarely when teaching economics (Watts and Becker 2008; Watts and Schaur 2011). Traditional lecture or “chalk and talk” is well documented as the dominant teaching method within economics (Allgood, Walstad, and Siegfried 2015; Watts and Schaur 2011). “Chalk and talk” is wide-spread despite evidence that well-structured cooperative learning exercises improve student outcomes (Yamarik 2007). Based on results from a 2010 survey of economics professors, only 14% of those teaching upper-level field courses reported incorporating student-student discussions, and only 6% reported incorporating cooperative learning or small-group assignments (Watts and Schaur 2011). Hence, there is a need for innovative ways to incorporate academic readings and vary instructional strategies in elective courses.

Our approach to the jigsaw activity encourages student-led exploration and collaboration by providing scaffolding to interpret and synthesize academic readings within the context of an overarching, general research question. Hence, the jigsaw literature review facilitates both student-content and student-student interactions and provides a way for professors to change their teaching methods and flexibly incorporate various learning activities (e.g., individual readings, worksheets, discussions, and group writing assignments). Variation in learning activities increases student motivation, and student motivation is positively associated with student achievement (Hänze and Berger 2007; Nilson and Goodson 2018). Moreover, research has shown that the jigsaw method

increases feelings of autonomy and competence (Hänze and Berger 2007) and improves attitudes toward peers (Walker and Crogan 1998).

In the remainder of the paper, we provide teaching notes for implementing the jigsaw literature review exercise, including details on the role of the instructor in planning and organizing the activity and details on the role of students in each stage of the jigsaw. Next, we describe the pre- and post-surveys used to identify students' self-efficacy and perceptions regarding the exercise's usefulness overall. After describing the results from the surveys, we discuss the main take-aways from the study as well as the study limitations. We close with some final guidance on incorporating the activity.

### **The Jigsaw Literature Review Activity**

The jigsaw literature review activity is a group activity that facilitates student discussion of multiple sources on the same economic or policy topic (e.g., the effect of the Earned Income Tax Credit on labor supply). The activity allows students to hear a summary of multiple academic readings on the same topic while only reading one journal article. In this section, we will first provide an overview of how this activity works, and then we will discuss each step of the activity in detail, pointing the reader to helpful worksheets and examples.

[Figure 1 about here.]

Figure 1 presents the general structure and flow of the jigsaw activity. Students form groups of between two and five students in the first grouping. In these first groupings – the focus groups – all students were assigned to read the same journal article. Students discuss the assigned reading in these focus groups to get on the same page to summarize their assigned reading to their peers later. Then, students form a second and final grouping, where (approximately) each student in the group has read a different paper. In these second groupings, students summarize their reading to each other in turn. After everyone has summarized their readings, the group collaborates on an

activity that requires them to synthesize the varying conclusions from their readings. This activity can range from answering a low-stakes question (e.g., do you think the minimum wage is a good idea or a bad idea?) to a more involved group assignment such as a one-page briefing note. In Online Appendix A, we provide more detailed guidance on conducting the jigsaw literature review, including providing examples and resources such as handouts and assessment tools.

### **Student Survey Methodology**

We designed two anonymous, voluntary surveys for our students: a pre-survey, conducted before we did any jigsaw activities, and a post-survey near the end of the course. We based our survey's design on Chemers, Hu, and Garcia (2001), Noonan and Erickson (2017), Zimmerman, Bandura, and Martinez-Pons (1992), and the University of Wisconsin-Madison (2020). We designed the surveys to be answered in fifteen minutes using Google Forms. Online Appendix B presents the entire pre- and post-surveys, and Online Appendix Table B1 summarizes the overall structure of these surveys.

The surveys collected information on student demographics and academic history, background in economics, and experience with journal articles and reading activities in their prior courses. In both the pre- and post-surveys, we asked 15 self-efficacy and self-regulation questions and four scenario questions that had students evaluate their perceived challenge with literature review and synthesis activities. In the post-survey, we additionally asked students to evaluate the jigsaw activities relative to the student learning outcomes, and more generally (e.g., "I would like to see these activities practiced in other classes.")



## **Student Survey Results**

### **Quantitative Survey Questions**

Table 4 describes the students' perceptions of reading ahead of the class and preparing for discussion. We report the average response to four statements that pertain to whether students completed readings before class and how prepared they were for small group discussions. Across all four statements, the post-survey reveals an increased willingness to read before class and participate in group discussions. The most noticeable increase is in response to "I participate in class discussion" (4.86 in post-survey versus 3.18 in pre-survey).

[Table 4 about here.]

Table 5 presents the average scores for 15 self-efficacy statements presented to the students both in the pre- and post-surveys. In the pre-survey, the statement with the lowest self-efficacy score (seen as the most lacking) is whether the student can "focus on progress." The highest self-efficacy (seen as the most present) in the pre-survey is, "Believe hard work pays off."

[Table 5 about here.]

We see changes in many self-efficacy questions between the surveys, although on-average, there is not much change. In the pre-survey, the average across all questions is 4.07 out of five on a Likert scale ranging from "1 = strongly disagree" to "5 = strongly agree". This average increases slightly to 4.11 in the post-survey. The most improved self-efficacy questions are "Can participate in class discussions," "Can focus on progress," "Achieve goals set for myself," and "Can express opinions when others disagree." These generally align with the student learning outcomes of our activity. However, this was balanced by several self-efficacy scores decreasing. The self-efficacy questions with the largest decreases were "Can succeed," "Can overcome challenges," and "Believe hard work pays off." This could suggest general frustration and fatigue with our courses during a difficult semester but could also suggest some challenges with the activities.

Table 6 presents the pre-survey and post-survey average reported challenge levels of four scenarios where students had to summarize and synthesize the economics literature on an economics topic. We asked students to report how challenging each scenario was on a scale of “1 = very easy” to “5 = very challenging”. The challenge level ranged from closest to “somewhat easy” for summarizing one journal article to between “neither easy nor challenging” and “somewhat challenging” for summarizing a technical journal article.

[Table 6 about here.]

Comparing the pre- and post-surveys, we found a decrease in the mean challenge level for all four scenarios. The scenarios with the largest decrease in challenge were the more complicated scenarios. For example, the largest decrease occurred for the scenario where we asked students to summarize four journal articles and come to an assessment, in a one-page briefing note, about what the papers collectively say about a topic.<sup>3</sup> For this most challenging scenario, the mean challenge level decreased from 3.11 to 2.51. The smallest decrease was for the simple task of summarizing one journal article, which decreased from 2.28 to 2.22.

Finally, Table 7 summarizes the students’ feedback on our literature review jigsaw activity. The statement “The readings were appropriate to the goals of the course” received the most positive response (4.49 on a five-point Likert scale from “strongly disagree” to “strongly agree”). The statement “The activity was challenging” received the lowest average at 3.20, suggesting that, on average, the students found the jigsaw activities neither easy nor challenging. Overall, Table 7 indicates that the jigsaw activity effectively increased understanding of the subject and increased interest in economics readings among the student participants.

[Table 7 about here.]

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<sup>3</sup> This was essentially our higher-stakes briefing note assessment, described in Online Appendix A.

## **Qualitative (Open Ended) Questions**

In addition to the quantitative responses, we collected qualitative feedback from students based on five open-ended questions. These questions provide an opportunity for students to offer specific recommendations for improving the jigsaw activity, describe what aspects of the activities aided or hindered their learning experience, and suggest what changes might improve their learning. We now summarize the feedback for each question.

The first question, “What parts of the activity aided your learning the most?” was the most popular of these open-ended questions. Most of the students reported that discussing the assigned articles with their classmates aided their understanding of the jigsaw readings' subject matter. Moreover, students appear to have benefited more from engaging in discussions with classmates who were assigned the same article in the first grouping. The following verbatim comment best summarizes this sentiment: “The part of the activity that helped my learning the most was when we met with the groups that had our same article before meeting with the larger group. This definitely helped ease some confusion.”

The second question had to do with aspects of the jigsaw activity that impeded students' learning experience. Specifically, “What parts of the activity were obstacles to your learning?” The responses to this question were more varied than the first one. One set of reactions lamented the attitude and ill-preparedness of their classmates for the jigsaw activity. Some students mentioned that many of their classmates had not read their assigned articles thoroughly enough to engage in meaningful discussions. Other students thought that some of the articles were too long or too difficult to comprehend. Finally, some students thought that having to complete worksheets during the jigsaw activity made it harder to understand the subject matter. Like other teamwork or group assignments, incentivizing students to read their assigned articles in advance and be prepared for the jigsaw activity should improve the students' overall learning experience.

The next two questions ask students to make specific recommendations for improving the jigsaw activity or suggest changes to the jigsaw activity. The questions were, “Do you have any specific recommendations for improving the Jigsaw activity?” and “What changes to the Jigsaw activity might improve your learning?” Not surprising, there was a great deal of overlap in students' responses to both questions. Most of the suggestions were concerned with what the instructor can do to encourage their classmates' preparation for the jigsaw activity. For instance, some students suggested that instructors provided more guidelines for reading and summarizing the articles. Some students thought they should have been asked to complete the worksheets ahead of time for class, while others felt that any worksheets should be discarded entirely. Students also made suggestions regarding group formation for the jigsaw activity. While some students would like to form their groups, others preferred to keep their initial group assignments for all future jigsaw activities. Finally, students reported that they would have wanted additional time spent discussing the articles with their peers, especially in the second groupings, where they interacted with students who were assigned other journal articles.

The final question, “Any additional comment?” had the lowest response because the earlier questions may have elicited most of the students' feedback. Those who responded to this question used the opportunity to praise the jigsaw activity and express how much they enjoyed it. One comment aptly summarizes the common themes in student responses: “I definitely think this model should be incorporated into other classes. As someone interested in continuing to pursue economics academically, these activities made me more confident in my continued interest (and even somewhat my knowledge though there is much more for me to learn) in this field.”

### **Discussion and Conclusion**

In this article, we present a literature review jigsaw activity used to help students read academic journal articles in economics. The activity helps students synthesize sometimes

competing perspectives, conclusions, and methodologies regarding important economic policy or diversity topics such as the minimum wage, earned income tax credit, racial bias in policing, difference-in-differences, immigration, the impacts of economic development incentives, and geographical differences in healthcare utilization. Instructors can adapt our jigsaw literature review activity to any context where there are multiple readings on the same topic. The activity is best suited for courses with enrolments no larger than about 60.<sup>4</sup>

Our results suggest that the jigsaw literature review effectively helps achieve some student learning outcomes and improves some aspects of self-efficacy, namely around participating in class discussions. We also find that students generally favor the activity; most students at least “somewhat agree” that other classes should incorporate our jigsaw literature review activity. In both the quantitative and qualitative (open-ended) questions, students often suggested that the activity increased their interest in economics. We hope that our inclusion of diversity topics, such as racial bias and the Deferred Action for Childhood Arrivals (DACA) program, also increased interest in economics for underrepresented groups. (However, this was not something we quantified.)

Despite our survey results showing generally favorable outcomes from our jigsaw literature review activity, there are some limitations, due to our implementation of the student surveys, to our ability to draw firm, broad conclusions about our jigsaw literature review activity’s effectiveness.<sup>5</sup> There is also the opportunity cost that the activity is more time-intensive than other

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<sup>4</sup> This suggested maximum depends on depending on the physical or virtual classroom location and if the instructor has the support of a teaching assistant. We do not recommend conducting a jigsaw activity for the first time on a class larger than 40.

<sup>5</sup> A major limitation is that we were unable to follow students over time longitudinally to observe changes in self-efficacy or views. To preserve anonymity, we did not collect names which would have allowed us to do this. Similarly, response rates were lower in the post-survey, suggesting attrition, in addition to possible non-random selection into responding to either survey. Future research could test the effectiveness of our jigsaw literature reviews more rigorously to confirm our suggestive evidence.

active learning activities. Generally, our jigsaw literature review activity improves the depth of knowledge on the topics covered at the cost of reducing the number of topics that could be covered.

### **Implementation Advice**

Our experiences using these jigsaw literature reviews in seven courses in Fall 2020 and numerous prior courses allow us to give the following advice to instructors:

1. *Assess the first jigsaw activity done in a class as a low-stakes activity.* This will ease anxiety for students and instructors who are new to the activity.
2. *Allow students to revise and re-submit higher-stakes assessments.* This is important, especially for the first time using higher-stakes assessments, such as briefing notes, as there could be a learning curve. Allowing a revise and re-submit also provides students with meaningful feedback critical to achieving student learning outcomes.
3. *Thoroughly prepare for the jigsaw activity.* This means assigning the readings to students, remind them to do the reading before class, providing them with instructions for what they will be doing in the activity, and doing any physical/virtual classroom set-up. We detail all of this in Online Appendix A. While our jigsaw literature review activity requires minimal supervision, the transition between first groups (focus groups) and the second groups (task groups) can be hectic, so instructors can make this go more smoothly with preparation.
4. *Encourage students to do their assigned reading beforehand.* While the focus groups allow briefed students on the reading that they may have failed to do, this does not resolve all the issues with students failing to do their assigned reading. Frustrations caused by students who did not do their reading were a notable narrative from our post-survey. The survey respondents suggested incentivizing students to do the reading by, for example, requiring students to submit a summary of their reading before or at the start of class. We think this is a fantastic idea that we look forward to incorporating.

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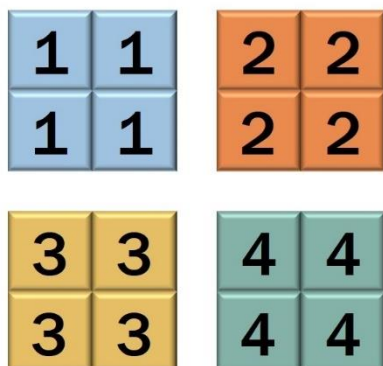
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**Figure 1: Diagram of Jigsaw Activity Groupings**

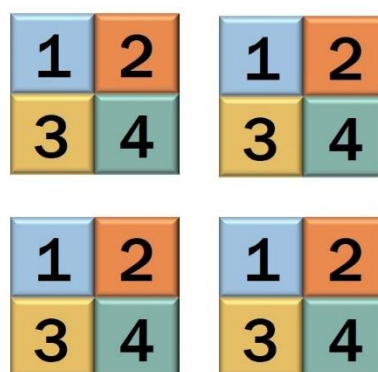
**Round 1 – Focus Groups**

Divide students into groups and give each group a different text to read and discuss.



**Round 2 – Task Groups**

Mix the groups so that students can bring their specific focus to a common task or problem.



Vanderbilt University Center for Teaching

Jigsaw developed by Aronson (1978)

*Notes:* this figure is from Vanderbilt University Center for Teaching (2019) and is used here under Creative Commons attribution license. See <https://creativecommons.org/licenses/by/3.0/us/> for more information on this license. We have cropped the figure to provide for a more detailed, numbered title, but otherwise the figure is identical. The jigsaw activity we describe, along with the jigsaw activity shown in this figure, are both adapted from Aronson (1978).

**Table 1: Course Characteristics and Response Rates**

Course Title	University	Pre-Requisites	Number of Students	Pre-Survey Responses (Rate)	Post-Survey Responses (Rate)
Labor Economics	Tulane	Intro. Micro.	46	29 (63.0%)	15 (32.6%)
Urban Economics (Section 1)	Tulane	Intro. Micro.	50	25 (50.0%)	9 (18.0%)
Urban Economics (Section 2)	Tulane	Intro. Micro.	26	11 (42.3%)	8 (30.8%)
Health Economics and Policy	Tulane	Interm. Micro.	24	17 (70.8%)	15 (62.5%)
Public Finance and Policy	Tulane	Interm. Micro.	27	6 (22.2%)	2 (7.4%)
Intro. to Econometrics	St. Cloud State	Interm. Micro.	8	8 (100.0%)	7 (87.5%)
Econometrics	St. Cloud State	Grad. Student	5	5 (100.0%)	3 (60.0%)
Total			186	101 (54.3%)	59 (31.7%)

*Notes:* All courses were taught in Fall 2020. Response rates are calculated as the number of unique survey respondents divided by the number of students in the course. See Online Appendix A for the syllabi and other details for each course.

**Table 2: Student Demographics and Background in Economics**

Variable	N	Mean	Std. Dev.	Min.	Max.
Age	98	20.65	2.14	18	31
GPA	95	3.63	0.30	2.70	4.30
Female	101	0.50	0.50	0	1
Not native English speaker	100	0.08	0.27	0	1
Freshman	100	0.01	0.10	0	1
Sophomore	100	0.28	0.45	0	1
Junior	100	0.33	0.47	0	1
Senior	100	0.31	0.46	0	1
Graduate student	100	0.07	0.26	0	1
Economics or Political Economy (Major or Minor)	101	0.56	0.49	0	1
Number of economics courses completed	101	4.68	2.09	0	1
<i>Course workload expectation relative to other courses:</i>					
Lighter	100	0.11	0.31	0	1
Similar	100	0.71	0.45	0	1
Higher	100	0.14	0.35	0	1
Other	100	0.04	0.20	0	1

Notes: All courses were taught in Fall 2020. See Online Appendix A for the syllabi and other details for each course. See Online Appendix B for the entire pre-survey that includes these questions.

**Table 3: Student Experiences with Academic Journal Articles**

Summarized Question	N	Mean	Std. Dev.	Min.	Max.
# of completed econ. courses with optional reading	68	1.46	1.46	0	6
# of completed econ. courses with required reading	68	1.13	1.48	0	6
(Yes = 1/No = 0) Asked to compare readings. (Universe: econ courses with any readings.)	61	0.47	0.50	0	1
# of courses that assigned group readings with others (Universe: econ. courses with required readings.)	60	0.83	1.03	0	4
(Yes = 1/No = 0) Assigned multiple readings on the same topic. (Universe: econ. courses with required reading.)	61	0.34	0.47	0	1
(Yes = 1/No = 0) Asked to compare readings. (Universe: econ. courses with required multiple readings on the same topic.)	36	0.78	0.42	0	1

Notes: All courses were taught in Fall 2020. See Online Appendix A for the syllabi and other details for each course. See Online Appendix B for the entire pre-survey that includes these questions. For responses regarding whether students were asked to compare methods we include two variations: A. whether students were asked to compare methods when reading was required. B. whether students were asked to compare methods when multiple readings were required.

**Table 4: Pre-Survey vs. Post-Survey Student Perceptions of Article Readings and Class Discussions**

<b>Summarized Question</b>	<b>Pre-Survey Average</b>	<b>Post-Survey Average</b>
I participate in class discussion.	3.18	4.86
I like courses that require reading articles.	3.14	3.49
I read in advance for class.	3.11	3.40
I can participate in small group discussions.	4.22	4.34
<i>Average across all questions</i>	3.41	4.02

*Notes:* We sort the question from most positive increase to most negative decrease. For the exact phrasing of each question and the information provided before this set of questions, see the entire surveys in Online Appendix B. We calculate these averages by averaging over the Likert scores, which range from 1 (strongly disagree) to 5 (strongly agree). N = 101 (pre-survey) and N = 59 (post-survey).

**Table 5: Pre-Survey vs. Post-Survey Self-Efficacy Scores**

<b>Summarized Question</b>	<b>Pre-Survey Average</b>	<b>Post-Survey Average</b>
Can participate in class discussions	3.81	4.19
Can focus on progress	3.23	3.44
Achieve goals set for myself	4.14	4.32
Can express opinions when others disagree	4.20	4.36
Accomplish difficult tasks	3.96	4.07
Can work in a group	4.15	4.25
Obtain important outcomes	4.35	4.37
Can develop any skill	4.08	4.09
Can do most tasks compared to others	3.95	3.93
Can perform quite well when things tough	4.01	3.98
Can figure out anything	4.07	4.00
Can perform effectively on tasks	4.25	4.17
Can succeed	4.21	4.10
Can overcome challenges	4.28	4.15
Believe hard work pays off	4.38	4.19
<i>Average across all questions</i>	4.07	4.11

*Notes:* We sort the question from most positive increase to most negative decrease. For the exact phrasing of each question and the information provided before this set of questions, see the entire surveys in Online Appendix B. We calculate these averages by averaging over the Likert scores, which range from 1 (strongly disagree) to 5 (strongly agree).

**Table 6: Pre-Survey vs. Post-Survey Reported Challenge Level to Fictional Literature Review and Synthesis Tasks**

Scenario	Mean Challenge Level	
	Pre-Survey	Post-Survey
1: Suppose you are given an academic journal article in economics to read, and you are asked to briefly summarize the general research question, approach, and results in your own words.	2.28	2.22
2: Suppose you are given an academic journal article in economics to read. Now suppose that the article is very technical, using statistical or mathematical methods with which you have no or very limited familiarity. You are asked to briefly summarize the general research question, approach, and results in your own words.	3.39	3.00
<i>Prompt for Scenarios 3 and 4:</i> Suppose you are an economist at a think-tank or consulting firm, and your boss needs to know what research says about an economics topic. She gives you four academic journal articles on that topic and asks you to write her a short summary memo (no longer than a page) by next week. She further instructs you to give her a summary of each individual paper <i>AND</i> also to come to an assessment of what those papers collectively say about the topic.		
3: First, how challenging would it be for you to summarize the position that the four papers collectively take?	2.83	2.31
4: Second, suppose some of the papers come to different conclusions. In this case, how challenging would it be for you to summarize the position that the four papers collectively take?	3.11	2.51

*Notes:* Survey respondents are asked to report how challenging these scenarios are on a scale from 1 to 5, where 1 is very easy, 2 is somewhat easy, 3 is neither challenging nor easy, 4 is somewhat challenging, and 5 is very challenging. We calculate these means by averaging over these scores. N = 101 (pre-survey). N = 59 (post-survey).

**Table 7: Student Feedback on the Effectiveness of Jigsaw Activities, Post-Survey**

Question	Mean
The readings were appropriate to the goals of the course.	4.49
The activity increased my understanding of the subject matter of the assigned articles.	4.34
This activity increased my interest in the field of Economics.	3.81
The activity improved my ability to evaluate arguments.	3.75
I would like to see these activities practiced in other classes.	3.72
The activity helped me improve my intellectual and critical thinking skills.	3.72
The activity increased my confidence in engaging with my classmates to participate in class discussions.	3.67
This activity gave me the confidence to do more advanced work in the field of Economics.	3.66
The activity was challenging.	3.20

*Notes:* We sort the question from most positive to most negative mean responses. We calculate these averages by averaging over the Likert scores, which range from 1 (strongly disagree) to 5 (strongly agree).

## **Online Appendix A: More Detailed Information and Resources on Our Jigsaw Literature Review**

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## **I.) More Detailed Overview and Implementation Steps for Our Jigsaw Literature Review Activity**

### **Preparation - Assigning the Readings**

Instructors first gather between about three to five readings, usually peer-reviewed journal articles or working papers in economics, on the same topic (e.g., the effect of the minimum wage). Instructors then assign these readings to students randomly, usually by last name (e.g., Last names starting with A to C will read Smith (2018)). When these readings are assigned, it is important for instructors to brief the students on why and how they should do the reading. If students lack guidance, it can cause anxiety, or they could perform poorly at summarizing the article. At a minimum, instructors should explain that, on the day the activity will occur, students will need to summarize their assigned reading to their classmates in small groups in about two to four minutes. The summary should focus on what the research question is, the general approach (usually without getting technical), and the main results, and the conclusion. Instructors should stress that a goal of the jigsaw activity is that students will hear summaries of several papers on the same topic instead of having to read several papers themselves. We recommend telling the students that the most useful parts of the article to focus on are the abstract, introduction, and conclusion sections, as these all summarize the main points of the paper and avoid more of the technical details which are usually not the focus.

After students are assigned their reading, they should complete that reading before the class when the jigsaw activity will occur. We recommend reminding students to complete this task. Optionally, instructors can also assign a low-stakes activity that students will need to complete after they finish their reading. This could be, for example, a short worksheet that provides structure for the student's summary of their paper (see later in this Online Appendix for examples).

## **Preparation – Scheduling**

Jigsaw activities require much more class time than other active learning activities. At a bare minimum, a jigsaw would take at least 45 minutes, usually at least 10 minutes for the first group (focus group) and 20 minutes for the second group (task group), with additional time for providing instructors and making groups. However, instructors could usefully allocate up to two hours for jigsaw activities that have larger deliverables. For courses that are no longer than two hours, this could be done by splitting the first group and second group into separate class days, or by having both groupings on the first day, and allowing additional time for the second (focus group) to meet on the second day to continue their work.

## **Preparation – Classroom or Zoom Set-up**

Before the class, the instructor should set up a space – virtual (e.g., Zoom) or physical – for the students to meet. If the jigsaw activity is done in-person, this could be designating zones or tables in the classroom for the groups, perhaps with signage (e.g., reading #1 area). For example, with four readings, those who were assigned reading #1 can all meet in the northeast corner of the classroom, reading #2 in the southeast, and so on. From these larger groups, students can then breakout into smaller groups (usually between two to five). If it is natural to re-arrange the classroom furniture to create groups that seat up to four to five students, then that can be done as well but it by no means required. If the jigsaw activity is done online, such as on Zoom, then we highly recommend that instructors make pre-assigned breakout rooms if the class has more than about 15 students.<sup>6</sup>

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<sup>6</sup> For instructions on how to make pre-assigned breakout rooms on Zoom, see here: <https://support.zoom.us/hc/en-us/articles/360032752671-Pre-assigning-participants-to-breakout-rooms> (last accessed December 16, 2020). In our experience, this is still imperfect since creating the breakout rooms using student email addresses may not capture everyone, as some students may not be using a Zoom account that is associated with their student email address. In our experience, roughly 20% of the students do not get assigned to their breakout room in this way. If this happens after you open the breakout rooms for the students, then these students will need to be manually invited into their

## **Facilitating the First Grouping (Focus Groups)**

Before helping students get into the first grouping – the focus groups (see Figure 1) – the instructor should explain how the jigsaw activity will go and what the expectations are for the students (although this should also have also been done when students were assigned readings in the first place). Presenting a figure like Figure 1 to them is often very helpful to explain the two groupings. It will also be important to explain what tasks they will be expected to complete in the task groups. We discuss options for this in the assessment sub-section below.

After explaining the activity, the instructor helps students get into focus groups: groups of between two and five students where everyone has read the same paper. If in person, the easiest way to get students into their focus groups is to have them separate into larger homogenous groups on different sides of the room (e.g., those who did reading #1 locate at the front of the room, those who did reading #2 locate on the left) before then splitting into smaller groups of (ideally) three or four students.

### **Goal(s) for the Focus Groups**

The primary goal of the focus groups is for students to all get on the same page about how to summarize their reading to others. This is particularly helpful for the few students who inevitably do not finish their assigned reading before class and need to be caught up on it to be successful in their task groups. To optionally give students structure in coming up with their summary of their reading, the instructor can provide students with a worksheet that they can fill out. This could be as a low-stakes in-class activity that is graded. Another optional goal of the focus groups would be for students to meet each other. This is especially helpful if the activity is

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breakout rooms and will remain the main room until you do so. We recommend having the list of student breakout room assignments open at this time so you can more quickly move these students to their appropriate room.



assigned early in the semester. Students could start by introducing each other before they get started on summarizing their reading.<sup>7</sup>

### **Facilitating the Second Grouping (Task Groups)**

The instructor then helps students get into the second grouping – the task groups (see Figure 1). The task groups usually have four or five students where, ideally, everyone has read a different paper. If in person, there are different ways that the instructor can help the students form groups. The instructor could, while students are working on in their focus groups, create the focus groups based on who is in the classroom at the time, and then present these focus groups on the whiteboard or projector. Instructors could instead bypass this and tell the students to make their own groups, making clear what the requirements are.<sup>8</sup> To help students form groups, the instructor could provide students with colored pieces of paper with their reading number on it (just like those in Figure 1). These are visual cues that the students can then hold up while they move around the classroom finding a group. Forming groups on Zoom requires making breakout rooms.<sup>9</sup>

### **Goal(s) for the Task Groups**

The primary goal of the task groups is for students to collaborate on an activity that has them synthesize the readings covered in their group. Students will first summarize their readings to each other in three to five minutes. To give students listening to the summary a kind of structure

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<sup>7</sup> We provide examples of these worksheets for the reading summary and introductions later in this Online Appendix.

<sup>8</sup> Especially if the students make their own groups, then you will need to be more flexible. When we did this in-person (pre-COVID-19), we required that the focus groups be between three and five students, covering at least three readings, with only one duplicated reading. We told student that if they need to deviate from that then they need to ask permission. Usually only one or two groups (in a class of between 40 and 50 students) needed to deviate from this in a minor way, which was fine.

<sup>9</sup> As of writing, it is not possible to save two different breakout room formations on Zoom. So, if you created the breakout rooms for the focus groups, as recommended, then you will need to create the breakout rooms manually for the task groups. This will take a few minutes depending on the size of your class. While you are making the breakout rooms for the focus groups, you could tell the students that the class will be taking a three-to-five-minute break.

for taking notes, you could provide them with a worksheet that they can fill out, which could be graded as a low-stakes activity if desired (see later in this Online Appendix for examples). Like in the focus groups, another optional goal is for students to meet each other, and the students could start with introductions before starting to work on the activity. After students take turns summarizing their papers, they can get started on the primary activity of synthesizing their readings to answer a question as part of the main assessment.

### **Assessment**

The main assessment for the jigsaw activity can range from a low-stakes in-class activity, to be done during class time only, to a more involved group project that would be continued outside of class. In our courses, we typically had the first jigsaw activity be a low-stakes in-class activity, written in a Google document. This allows the students to learn how the jigsaw activity works in a low-stakes environment. In this low-stakes option, our task groups worked together to write up an answer to a short answer exam-style question on the research question addressed by the readings (e.g., to what extent do tax incentives affect economic development?)<sup>10</sup>

### ***The Group Briefing Note Assignment***

For our second and later jigsaw activities, the assessment was higher stakes and more involved. Students collaborated on a one-page briefing note in a Google document. The goal of the briefing note was to briefly summarize the literature in relation to the general research question connecting the assigned readings (e.g., is the minimum wage a good policy?). Online Appendix A presents our handout of instructions for students, including examples of common mistakes made, and our grading rubric for the briefing notes.

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<sup>10</sup> See later in this Online Appendix for examples of these short answer questions from our classes.

### ***Assessment Grading Weight***

For the first jigsaw activity, and any optional, related worksheets, we have these activities fall under a generic “activities” section on the syllabus that has low weight (e.g., 10%) and includes other activities such as practice questions, pop quizzes, or “Do Now” exercises (Collins 2020). In addition, the student learning outcomes of the jigsaw activity are assessed during regular exams, through similar short answer questions as those used as prompts in the jigsaw activities and briefing notes.

For the second and following jigsaw activities, where we assign a one-page group briefing note, we usually have the briefing notes be best two out of three or best three out of four, and worth a combined 5% to 15%. We use a rubric out of ten points to grade the one-page group briefing notes based on the introduction (out of 2), content (out of 3), structure (out of 3), and grammar and references (out of 2) (see Online Appendix A). We allow students to optionally revise and re-submit their briefing notes once. This is especially helpful for the first briefing note since grades on the first draft of the first briefing note are often lower (between 4/10 and 8/10) as students make many common mistakes. In Online Appendix A, we provide a discussion of these common mistakes that we provide to students when we first assign the briefing note. We also reference these common mistakes and point students toward the document when we grade their briefing notes.

## **II.) Summary of Activities**

While a detailed discussion of the activities precedes this appendix, the activities in this appendix follow the same general structure. First, students are sorted into groups (typically numbered 1, 2, and 3). Those groups come together virtually or physically and are instructed to discuss and complete worksheets about their assigned readings. Next, the students are instructed to form new groups with students from different groups (e.g. if a student was in group 1, they must form a new group with students from groups 2 and 3). Finally, students are instructed to take turns summarizing their reading to this new group.

Some activities are a variation on the above description in which the student's deliverable is a briefing note on a given topic. In this variation, students are only assigned to one group. Each group covers the same topic, but each student in the group is assigned a different reading on that topic. Each student then discusses the conclusions of their readings with the group, and in turn hears similar discussions from their peers. Finally, students synthesize an overall conclusion on the topic based both on their own reading and the readings discussed by their peers. These overall conclusions are recorded in a briefing note with an intended audience of policymakers.

Some activities offer a variation on this theme, streamlining the above process in which students only break into one group, with each student asked to discuss one reading on a given topic, while others discuss different readings on the same topic. After each student has discussed their particular reading, students are instructed to summarize the economic research on the topic in the form of a briefing note. Unless activities are specified to be briefing notes, they are organized in the manner of a standard jigsaw literature review. The rubric for grading these briefing notes as well as a discussion of common issues students experienced in writing those notes will follow in section VI of this appendix.

Activities are listed below by instructor, then by course. We provide links to worksheets and other documents relating to these activities, which we hope will be helpful to instructors who wish to use or adapt these activities.

## II.) Patrick Button

### a. Urban Economics (Tulane ECON 3320) [[syllabus link--online courses](#)] [[syllabus link F2F](#)]

#### i. Activity 1: Incentives Economic Development Incentives [[activity link here](#)] [[rubric link here](#)]

This activity is a briefing note. Students are assigned 1 of 6 readings:

1. Neumark, David, and Jed Kolko. 2010. "Do enterprise zones create jobs? Evidence from California's enterprise zone program." *Journal of Urban Economics*, 68(1): 1-19.  
<https://doi.org/10.1016/j.jue.2010.01.002>.
2. Holmes, Thomas J. 1998. "The effect of state policies on the location of manufacturing: Evidence from state borders." *Journal of Political Economy*, 106(4): 667-705.  
<https://doi.org/10.1086/250026>.
3. Moretti, Enrico, and Daniel J. Wilson. 2014. "State incentives for innovation, star scientists and jobs: Evidence from biotech." *Journal of Urban Economics*, 79: 20-38.  
<https://doi.org/10.1016/j.jue.2013.07.002>.
4. Coates, Dennis, and Brad R. Humphreys. 2000. "The stadium gambit and local economic development." *Regulation*, 23: 15-20. <https://ssrn.com/abstract=235867>.
5. Strauss-Kahn, Vanessa, and Xavier Vives. 2009. "Why and where do headquarters move?." *Regional Science and Urban Economics*, 39(2): 168-86.  
<https://doi.org/10.1016/j.regsciurbeco.2008.07.001>.
6. Lee, Yoonsoo. 2008. "Geographic Redistribution of US Manufacturing and the Role of State Development Policy." *Journal of Urban Economics*, 64: 436-50.  
<https://doi.org/10.1016/j.jue.2008.04.001>.

**Note:** In recent semesters, Button added: Button, Patrick. 2019. "Do Tax Incentives Affect Business Location and Economic Development? Evidence from State Film Incentives." *Regional Science and Urban Economics*, 77: 315-39.  
<https://doi.org/10.1016/j.regsciurbeco.2019.06.002>.

**ii. Activity 2: Racial Bias in Policing and Criminal Justice** [[activity link here](#)] [[rubric link here](#)]

This activity is a briefing note. Students are assigned 1 of 6 readings:

1. Arnold, David, Will Dobbie, and Crystal S. Yang. 2018. "Racial Bias in Bail Decisions." *Quarterly Journal of Economics*, 133(4): 1885–932. <https://doi.org/10.1093/qje/qjy012>.
2. Fryer Jr, Roland G. 2019. "An empirical analysis of racial differences in police use of force." *Journal of Political Economy*, 127(3): 1210-61. <https://doi.org/10.1086/701423>.
3. Antonovics, Kate, and Brian G. Knight. 2009. "A new look at racial profiling: Evidence from the Boston Police Department." *Review of Economics and Statistics*, 91(1), 163-77. <https://doi.org/10.1162/rest.91.1.163>.
4. Alesina, Alberto, and Eliana La Ferrara. 2014. "A test of racial bias in capital sentencing." *American Economic Review*, 104(11): 3397-433. <https://doi.org/10.1257/aer.104.11.3397>.
5. Eren, Ozkan, and Naci Mocan. 2018. "Emotional judges and unlucky juveniles." *American Economic Journal: Applied Economics*, 10(3): 171-205. <https://doi.org/10.1257/app.20160390>.

**Note:** In more recent semesters, Button replaced Fryer (2019) with Hoekstra and Sloan (2020), and Alesina and La Ferrara (2014) with Sloan (2020) (both cited below). Alternatively, one could have activities focused on more narrow topics, splitting the broader topic into:

**1. Racial Bias in Criminal Justice and Policing, which would include the following papers:**

- a. Sloan, CarlyWill. 2020. "Racial Bias by Prosecutors: Evidence from Random Assignment." Working Paper. Accessed December 29, 2020 from [https://github.com/carlywillsloan/Prosecutors/blob/master/sloan\\_prosecutors\\_jpe.pdf](https://github.com/carlywillsloan/Prosecutors/blob/master/sloan_prosecutors_jpe.pdf).
- b. Eren, Ozkan, and Naci Mocan. 2018. "Emotional Judges and Unlucky Juveniles." *American Economic Journal: Applied Economics*, 10(3): 171–205. <https://doi.org/10.1257/app.20160390>.
- c. Coviello, Decio, and Nicola Persico. 2015. "An Economic Analysis of Black-White Disparities in the New York Police Department's Stop-and-Frisk Program." *Journal of Legal Studies*, 44(June 2015): 315–60. <https://doi.org/10.1086/684292>.
- d. Arnold, David, Will Dobbie, and Crystal S. Yang. 2018. "Racial Bias in Bail Decisions." *Quarterly Journal of Economics*, 133 (4): 1885–932. <https://doi.org/10.1093/qje/qjy012>.
- e. Antonovics, Kate, and Brian G Knight. 2009. "A New Look at Racial Profiling: Evidence from the Boston Police Department." *Review of Economics and Statistics*, 91(1): 163–77. <https://doi.org/10.1162/rest.91.1.163>.
- f. Alesina, Alberto, and Eliana La Ferrara. 2014. "A test of racial bias in capital sentencing." *American Economic Review*, 104(11): 3397–433. <https://doi.org/10.1257/aer.104.11.3397>.

## **2. Racial Bias in Police Use of Force, which would include the following papers:**

- a. Hoekstra, Mark, and Carly Will Sloan. 2020. "Does Race Matter for Police Use of Force? Evidence from 911 Calls." National Bureau of Economic Research Working Paper No. 26774. <http://doi.org/10.3386/w26774>.
- b. Correll, Joshua, Bernadette Park, Charles M. Judd, Bernd Wittenbrink, Melody S. Sadler, and Tracie Keese. 2007. "Across the Thin Blue Line: Police Officers and Racial Bias in the Decision to Shoot." *Journal of Personality and Social Psychology*, 92(6): 1006–23. <https://doi.org/10.1037/0022-3514.92.6.1006>.
- c. Johnson, David J., Trevor Tress, Nicole Burkel, Carley Taylor, and Joseph Cesario. 2019. "Officer Characteristics and Racial Disparities in Fatal Officer-Involved Shootings." *Proceedings of the National Academy of Sciences of the United States of America*, 116 (32): 15877–82. <https://doi.org/10.1073/pnas.1903856116>.
- d. Ross, Cody T. 2015. "A multi-level Bayesian analysis of racial bias in police shootings at the county-level in the United States, 2011-2014." *PLoS ONE*, 10(11): 2011–4. <https://doi.org/10.1371/journal.pone.0141854>.
- e. Fryer Jr., Roland G. 2019. "An empirical analysis of racial differences in police use of force." *Journal of Political Economy*, 127(3): 1210–61. <https://doi.org/10.1086/701423>.
- f. Fryer Jr., Roland G. 2018. "Reconciling Results on Racial Differences in Police Shootings." *American Economic Association Papers and Proceedings*, 108: 228–33. <http://doi.org/10.1257/pandp.20181004>.

### **iii. Activity 3: Industry Clusters [[activity link here](#)]**

Students are assigned 1 of 3 readings:

1. Klepper, Steven. 2007. "Disagreements, spinoffs, and the evolution of Detroit as the capital of the US automobile industry." *Management Science*, 53(4): 616-31. <https://doi.org/10.1287/mnsc.1060.0683>.
2. Saxenian, AnnaLee. 1996. "Inside-out: regional networks and industrial adaptation in Silicon Valley and Route 128." *Cityscape*, 41-60. <https://www.huduser.gov/Periodicals/CITYSCPE/VOL2NUM2/saxenian.pdf>.
3. Florida, Richard, Charlotta Mellander, and Kevin Stolarick. 2012. "Geographies of scope: an empirical analysis of entertainment, 1970–2000." *Journal of Economic Geography*, 12(1): 183-204. <https://doi.org/10.1093/jeg/lbq056>.

**b. Labor Economics (Tulane ECON 3810) [[syllabus link](#)]**

**i. Activity 1: EITC Earned Income Tax Credit (EITC) and Labor Supply [[activity link here](#)] [[rubric link here](#)]**

This activity is a briefing note. Students are assigned 1 of 4 readings:

1. Chetty, Raj, and Emmanuel Saez. 2013. "Teaching the tax code: Earnings responses to an experiment with EITC recipients." *American Economic Journal: Applied Economics*, 5(1), 1-31. <https://doi.org/10.1257/app.5.1.1>.
2. Eissa, Nada, and Liebman, Jeffrey B. 1996. "Labor supply response to the earned income tax credit." *Quarterly Journal of Economics*, 111(2), 605-37. <https://doi.org/10.2307/2946689>.
3. Chetty, Raj, John N. Friedman, and Emmanuel Saez. 2013. "Using Differences in Knowledge across Neighborhoods to Uncover the Impacts of the EITC on Earnings." *American Economic Review*, 103(7): 2683-721. <http://doi.org/10.1257/aer.103.7.2683>.
4. Eissa, Nada, and Hilary Williamson Hoynes. 2004. "Taxes and the labor market participation of married couples: the earned income tax credit." *Journal of Public Economics*, 88(9-10): 1931-58. <http://doi.org/10.1016/j.jpubeco.2003.09.005>.

**ii. Activity 2: Is the Minimum Wage Good Policy? [[activity link here](#)] [[rubric link here](#)]**

This activity is a briefing note. Students are assigned 1 of 5 readings:

1. Dube, Arindrajit, T. William Lester, and Michael Reich. 2010. "Minimum wage effects across state borders: Estimates using contiguous counties." *Review of Economics and Statistics*, 92(4): 945-64. [https://doi.org/10.1162/rest\\_a\\_00039](https://doi.org/10.1162/rest_a_00039).
2. Neumark, David, and William Wascher. 2002 "Do minimum wages fight poverty?" *Economic Inquiry*, 40(3): 315-33. <https://doi.org/10.1093/ei/40.3.315>.
3. Neumark, David, and William Wascher. 1992. "Employment effects of minimum and subminimum wages: panel data on state minimum wage laws." *ILR Review*, 46(1), 55-81. <https://doi.org/10.2307/2524738>.
4. Ruffini, Krista. 2019. "Higher Wages, Service Quality, and Firm Profitability: Evidence from Nursing Homes and Minimum Wage Reforms." Working Paper. Accessed December 29, 2020 from <https://sites.google.com/view/kristaruffini/home/research>.
5. Meer, Jonathan, and Jeremy West. 2016. "Effects of the Minimum Wage on Employment Dynamics." *Journal of Human Resources*, 51(2): 500-22. <https://doi.org/10.17848/wp15-233>.



### III.) Augustine Denteh

#### a. Health Economics (Tulane ECON 4500/6500) [[syllabus link here](#)]

##### i. Activity 1: Explaining geographic differences in healthcare utilization [[activity link here](#)]

Students are assigned 1 of 5 readings:

1. Baicker, Katherine, and Amitabh Chandra. 2004. "Medicare Spending, The Physician Workforce, And Beneficiaries' Quality of Care: Areas with a high concentration of specialists also show higher spending and less use of high-quality, effective care." *Health Affairs*, 23(Suppl1): W4-184. <https://doi.org/10.1377/hlthaff.w4.184>.
2. Cooper, Richard A. 2008. "States with More Health Care Spending Have Better-Quality Health Care: Lessons About Medicare: Health care spending is an important contributor to quality, but the determinants of quality reach more deeply into a community's sociodemographic fabric." *Health Affairs*, 27(Suppl1) : w103-w115. <https://doi.org/10.1377/hlthaff.28.1.w103>.
3. Skinner, Jonathan, Amitabh Chandra, David Goodman, and Elliott S. Fisher. 2008. "The Elusive Connection Between Health Care Spending and Quality: Cooper may believe that he has challenged the basic scientific findings of the Dartmouth group. But he has not." *Health Affairs*, 27(Suppl1): w119-w123. <https://doi.org/10.1377/hlthaff.28.1.w119>.
4. Zuckerman, Stephen, Timothy Waidmann, Robert Berenson, and Jack Hadley. 2010. "Clarifying sources of geographic differences in Medicare spending." *New England Journal of Medicine*, 363(1): 54-62. <https://doi.org/10.1056/nejmsa0909253>.
5. Doyle, Joseph J. 2011. "Returns to local-area health care spending: evidence from health shocks to patients far from home." *American Economic Journal: Applied Economics*, 3(3): 221-43. <https://doi.org/10.1257/app.3.3.221>.

##### ii. Activity 2: Diversity and Health—Does race concordance in physician-patient relationships matter? [[activity link here](#)]

Students are assigned 1 of 3 readings:

1. Meghani, Salimah H., Jacqueline M. Brooks, Trina Gipson-Jones, Roberta Waite, Lisa Whitfield-Harris, and Janet A. Deatrick. 2009. "Patient–provider race-concordance: does it matter in improving minority patients' health outcomes?." *Ethnicity & Health*, 14(1): 107-30. <https://doi.org/10.1080/13557850802227031>.
2. Greenwood, Brad N., Seth Carnahan, and Laura Huang. 2018. "Patient–physician gender concordance and increased mortality among female heart attack patients." *Proceedings of the National Academy of Sciences*, 115(34): 8569-74. <https://doi.org/10.1073/pnas.1800097115>.
3. Alsan, Marcella, Owen Garrick, and Grant Graziani. 2019. "Does diversity matter for health? Experimental evidence from Oakland." *American Economic Review*, 109(12): 4071-111. <https://doi.org/10.1257/aer.20181446>.

#### IV.) Mónica I. García-Pérez

##### a. Econometrics (St. Cloud State ECON 485/585) [[syllabus here](#)]

Students are assigned 1 of 3 readings for each of the following activities:

##### i. Activity 1: Wages, returns to education, and the gender wage gap [[activity link here](#)]

1. Amuedo-Dorantes, Catalina, and Francisca Antman. 2017. "Schooling and labor market effects of temporary authorization: Evidence from DACA." *Journal of Population Economics*, 30(1): 339-73. <https://doi.org/10.1007/s00148-016-0606-z>.
2. Pope, Nolan G. 2016. "The effects of DACAmentation: The impact of Deferred Action for Childhood Arrivals on unauthorized immigrants." *Journal of Public Economics*, 143: 98-114. <https://doi.org/10.1016/j.jpubeco.2016.08.014>.
3. García-Pérez, Mónica. 2019. "DACA recipients and their health insurance dream: Employment, schooling, and health coverage." *Journal of Economics, Race, and Policy*, 2(1-2): 77-108. <https://doi.org/10.1007/s41996-019-00029-x>.

##### ii. Activity 2: Immigration and Wages [[activity link here](#)]

1. Greenwood, Michael J., and Gary L. Hunt. 1995. "Economic effects of immigrants on native and foreign-born workers: Complementarity, substitutability, and other channels of influence." *Southern Economic Journal*, 61(4): 1076-97. <https://doi.org/10.2307/1060742>.
2. Card, David. "Is the new immigration really so bad?." *The Economic Journal*, 115(507): F300-F323. <https://doi.org/10.1111/j.1468-0297.2005.01037.x>.
3. Borjas, George J., Richard B. Freeman, and Lawrence Katz. 1996. "Searching for the Effect of Immigration on the Labor Market," *American Economic Review*, 86(2), 246-251. <http://doi.org/10.3386/w5454>.

##### iii. Activity 3: Public Policy, Difference-in-Differences (DD), Triple Differences (DDD), and Program Evaluation [[activity link here](#)]

1. Amuedo-Dorantes, Catalina, and Francisca Antman. 2017. "Schooling and labor market effects of temporary authorization: Evidence from DACA." *Journal of Population Economics*, 30(1): 339-73. <https://doi.org/10.1007/s00148-016-0606-z>.
2. Pope, Nolan G. 2016. "The effects of DACAmentation: The impact of Deferred Action for Childhood Arrivals on unauthorized immigrants." *Journal of Public Economics*, 143: 98-114. <https://doi.org/10.1016/j.jpubeco.2016.08.014>.
3. García-Pérez, Mónica. "DACA recipients and their health insurance dream: Employment, schooling, and health coverage." *Journal of Economics, Race, and Policy*, 2(1-2): 77-108. <https://doi.org/10.1007/s41996-019-00029-x>.

## V.) Elliott Isaac

### a. Public Finance and Policy (Tulane ECON 4540/6540) [[syllabus link here](#)]

Students are assigned 1 of 3 readings for each of the following activities:

#### i. Activity 1: Does the EITC reduce poverty? [[activity link here](#)]

1. Bitler, Marianne, Hilary Hoynes, and Elira Kuka. 2017. "Do in-work tax credits serve as a safety net?" *Journal of Human Resources*, 52(2): 319-50. <https://doi.org/10.3368/jhr.52.2.0614-6433r1>.
2. Hoynes, Hilary W., and Ankur J. Patel. 2018. "Effective policy for reducing poverty and inequality? The Earned Income Tax Credit and the distribution of income." *Journal of Human Resources*, 53(4): 859-90. <https://doi.org/10.3368/jhr.53.4.1115-7494r1>.
3. Jones, Maggie R. 2017. "The EITC over the great recession: who benefited?." *National Tax Journal*, 70(4): 709-36. <https://doi.org/10.17310/ntj.2017.4.01>.

#### ii. Activity 2: Does minimum wage reduce employment? [[activity link here](#)]

1. Jardim, Ekaterina, Mark C. Long, Robert Plotnick, Emma Van Inwegen, Jacob Vigdor, and Hilary Wething. 2017. "Minimum wage increases, wages, and low-wage employment: Evidence from Seattle." National Bureau of Economic Research Working Paper No. w23532. <https://doi.org/10.3386/w23532>.
2. Card, David, and Alan B. Krueger. 2000. "Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania: Reply." *American Economic Review*, 90(5): 1397-420. <https://doi.org/10.1257/aer.90.5.1397>.
3. Janet Currie and Bruce Fallick. 1996. "The Minimum Wage and the Employment of Youth Evidence from the NLSY." *Journal of Human Resources*, 31(2), 404-28. <https://doi.org/10.2307/146069>.

#### iii. Activity 3: Do people actually adjust labor supply in response to taxes or is it just misreporting? [[activity link here](#)]

1. Mortenson, Jacob A., and Andrew Whitten. 2020. "Bunching to maximize tax credits: Evidence from kinks in the US Tax Schedule." *American Economic Journal: Economic Policy*, 12(3): 402-32. <https://doi.org/10.1257/pol.20180054>.
2. Chetty, Raj, John N. Friedman, and Emmanuel Saez. 2013. "Using Differences in Knowledge across Neighborhoods to Uncover the Impacts of the EITC on Earnings." *American Economic Review*, 103(7): 2683-721. <https://doi.org/10.1257/aer.103.7.2683>.
3. Eissa, Nada, and Hilary Williamson Hoynes. 2004. "Taxes and the labor market participation of married couples: the earned income tax credit." *Journal of Public Economics*, 88(9-10): 1931-58. <https://doi.org/10.1016/j.jpubeco.2003.09.005>.

## VI.) Supplemental Materials for the Briefing Note Variation of the Jigsaw Literature Review

### a. Suggested rubric

Rubric for Briefing Notes	3 points	2 points	1 point	0 points
<b>Introduction Paragraph (out of 2)</b> (Can you introduce and motivate the topic?)		Intro provides a useful, brief, and focused introduction to the issue. The paragraph provides a convincing and focused motivation for why the issue is important.	Intro provides a useful introduction to the issue but may lack focus or may not be as clear. The paragraph provides motivation for why the issue is important but could be more focused or more vivid.	Does not argue in any meaningful way why the issue is important. Doesn't introduce the topic well so that there is confusion.
<b>Content (out of 3)</b> (clarity of purpose, quality of sources/ evidence, critical thought)	Central idea is well developed and clarity of purpose is exhibited throughout the paper. Abundance of evidence of critical, careful thought and analysis and/or insight. Evidence is vivid and specific, while focus remains tight.	Central idea and clarity of purpose and generally evidence throughout the paper. Evidence of critical, careful thought and analysis and/or insight. Evidence is relevant.	The central idea is express thought it may be vague or too broad; Some sense of purpose is maintained throughout the paper. Some evidence of critical, careful thought and analysis and/or insight. The evidence is not related enough to the question.	Central idea and clarity of purpose are absent or incompletely expressed and maintained. Little or no evidence of critical, careful thought or analysis and/or insight. Evidence is absent or irrelevant.
<b>Structure (out of 3)</b> (Organization, flow of thought, transitions)	Paper is logically organized. Easily followed. Effective, smooth, and logical transitions.	Paper has a clear organizational structure with some digressions, ambiguities, or irrelevances. Generally easily followed and well structured.	There is some level of organization though digressions, ambiguities, irrelevances are too many. Difficult to follow. Rambling format.	No apparent organization. Painful to follow.
<b>Grammar and References (out of 2)</b> (sentence structure, punctuation, mechanics, bibliography)		No punctuation or mechanical errors of any significance, including in the bibliography.	Few punctuation or mechanical errors.	Too many errors, to the point that they are distracting or I cannot determine sources in the bibliography.

## **b. Common Student Issues with Briefing Notes**

Here are some common issues that came up with group briefing note assignments:

### **1) Listing author names or paper titles or journal names in-text**

When you cite a paper, just APA or Chicago Author-Year format like:

- Eissa and Hoynes (2004) find that...
- EITC had effect X on group Y (Eissa and Hoynes, 2004)

Rather than listing author names or titles of the paper or the journal, such as,

- Nada Eissa and Hilary Hoynes find in their paper that...
- In "paper title", authors X and Y find...
- In work publishing in the American Economic Review, authors X and Y find...

Here is more information on in-text citations in APA (which is similar to how they are done in Chicago Author Year):

[https://owl.purdue.edu/owl/research\\_and\\_citation/apa\\_style/apa\\_formatting\\_and\\_style\\_guide/in\\_text\\_citations\\_the\\_basics.html](https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/in_text_citations_the_basics.html)

### **2) Other issues with in-text citations**

If you are going to reference which page number a point comes from (which is usually optional) then don't do something like Eissa and Hoynes (1956) as that confuses the page number with the year of publication. You'd want to use Eissa and Hoynes (2004, p. 1956). I think this error stems from MLA style, which it's common to reference page numbers. Here is more information on in-text citations in APA (which is similar to how they are done in Chicago Author Year):

[https://owl.purdue.edu/owl/research\\_and\\_citation/apa\\_style/apa\\_formatting\\_and\\_style\\_guide/in\\_text\\_citations\\_the\\_basics.html](https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/in_text_citations_the_basics.html)

### **3) Passive voice**

For some reason many of us are taught that writing with passive voice sounds more academic, but it's highly fallen out of favor. It makes your writing harder to read and it reduces the confidence in your writing. Here is more information on passive voice: [https://www.grammarly.com/blog/active-vs-passive-voice/?gclid=Cj0KCQjwufn8BRCwARIsAKzP694pPSihWL\\_HENtbpSWUecx1QzzhB2Np9HjRfim-F50Oj1UjdjghCxYaAtivEALw\\_wcB&gclsrc=aw.ds](https://www.grammarly.com/blog/active-vs-passive-voice/?gclid=Cj0KCQjwufn8BRCwARIsAKzP694pPSihWL_HENtbpSWUecx1QzzhB2Np9HjRfim-F50Oj1UjdjghCxYaAtivEALw_wcB&gclsrc=aw.ds)

It can be hard to spot. I personally run all my writing through Grammarly as it catches a lot of these issues.

#### **4) Paragraph structure**

Try to avoid having paragraphs structured like "Paper 1 is about ... and finds ... Paper 2 is about ... and finds ...". If possible, structure the paragraphs so they are on a particular theme or are framed more on what is learned from that paper. The leading sentence of each paragraph is really crucial as a way to summarize what is in the paragraph to allow the reader to understand where that paragraph is going. Having the paragraphs organized more like a list makes it harder for the reader to get the take-away.

#### **5) Conclusion paragraph**

Some students missed this. It would be useful to have a short paragraph the summarizes the key take-away.

#### **6) Quotations from the paper**

Only quote directly from the paper if it's really necessary to state something exactly as they do it in the paper. In that case, include page numbers like:

"Quotation goes here" (Neumark, Burn, and Button, 2019, p. 123)

Most of the time you should just summarize it in your own words. Quotations often mess up the flow and can be inefficient unless, again, you really need to state it in exactly their words or it's really important to hear it in their words. There are certainly some cases where this makes the most sense but I find that usually quotations are overused.

## Online Appendix B: Student Survey Questions<sup>11</sup>

**Online Appendix Table B1: Pre-Survey and Post-Survey Sections**

<b>Pre-Survey</b>	<b>Post-Survey</b>
Introduction Self-efficacy and self-regulation Classroom experience Learning activities Completed Courses Required Reading from completed courses Further discussion Scenarios General characteristics and college performance	Introduction Self-efficacy and self-regulation Classroom experience Learning activities Activity experience Course/Activity evaluation Open-ended questions regarding the activity General characteristics and college performance

### **Pre-Survey**

<First Page: Consent>

You are invited to participate in a research study to evaluate how the use of journal article readings in economics courses relates to students' experiences and outcomes in the class. This research is being conducted by Economics professors at both Tulane University and St. Cloud State University.

Completion of the survey will take approximately 15 minutes of your time. There are no foreseeable risks associated with participation in this survey. Your information will be kept confidential and no data will be presented or released that could identify a specific individual. We will use this survey data to publish a journal article discussing student experiences with journal article readings, but the survey data we will present will only be in aggregated or anonymized form.

For more information about this study, or to receive the final research article, please contact Professor Patrick Button ([pbutton@tulane.edu](mailto:pbutton@tulane.edu)).

Your participation is voluntary and choosing to participate or not to participate will not affect your standing or grade in the course. If there are any questions you are not comfortable answering, you do not need to answer them. If you decide to participate, you are free to withdraw at any time without penalty.

<Second Page: questionnaire starts>

### **Questionnaire**

Please be as specific and constructive as possible in your comments.

Also, please remember that academic journals articles are peer-reviewed publications that are considered studies following scientific methodologies. They are not newspaper articles nor books.

**Self-Efficacy and Self-Regulated Learning\*:** Please **CHECK ONE** response that best describes you. Be honest, there are no right or wrong answers.

---

<sup>11</sup> We are happy to provide our Google Forms for both the pre- and post-survey upon request.

*Strongly disagree (1), disagree (2), neither disagree nor agree (3), agree (4), strongly agree (5)*

I will be able to achieve most of the goals that I have set for myself.  
When facing difficult tasks, I am certain that I will accomplish them.  
In general, I think that I can obtain outcomes that are important to me.  
I believe I can succeed at most any endeavor to which I set my mind.  
I will be able to successfully overcome many challenges.  
I am confident that I can perform effectively on many different tasks.  
Compared to other people, I can do most tasks very well.  
Even when things are tough, I can perform quite well.  
If I practiced every day, I could develop just about any skill.  
I can figure out anything if I try hard enough.  
When I'm struggling to accomplish something difficult, I focus on my progress instead of feeling discouraged.  
I believe hard work pays off.  
I am confident that I can meaningfully participate in class discussions.  
I believe I can work well in a group to achieve a common goal. \*\*  
I am confident that I can respectfully express my opinions when others disagree with me.\*\*

**Classroom experience\*:** Please **CHECK ONE** response that best describes you. Be honest, there are no right or wrong answers.

*Strongly disagree (1), disagree (2), neither disagree nor agree (3), agree (4), strongly agree (5)*

I like courses that require me to read academic journal articles or similar academic readings.  
I am confident I can successfully participate in class discussions.  
I actively participate in class discussions in courses that required additional readings.  
I read in advance all the material required for a class discussion.

### **Learning activities**

When responding to these questions, please only think about your college experience.

Experience: How many courses have you completed in economics?

*0, 1, 2, 3, 4, 5, 6, 7 or more*

Of your completed economic courses, how many provided **optional** academic journal articles as supplemental content?

*0, 1, 2, 3, 4, 5, 6, 7 or more*

Of your completed economic courses, how many courses **required** that you read academic journal articles?

*0, 1, 2, 3, 4, 5, 6, 7 or more*

**If #21 and/or #22 higher than 0**, then : Of the completed economic courses that had you read academic journal articles (**optional or required**), were you ever asked to compare the approaches, methodologies, conclusions or viewpoints of these papers?

*Yes, No, Does not apply*



**If #22 higher than 0,** then Of the completed economic courses that *required* reading academic journal articles, were you ever assigned to read multiple papers with the same general topic and research question (for example, two papers on *the effect of a raise in the minimum wage*)?

*Yes, No, Does not apply*

**If #22 higher than 0 then:** Of the completed economic courses that had you read **two or more papers** on the same topic, were you ever asked to compare the approaches, methodologies, conclusions or viewpoints of these papers?

*Yes, No, Does not apply*

Of the completed economic courses that required you to read academic journal articles, how many courses assigned you papers together with other students in a group or required you to work in groups on the assigned papers?

*0, 1, 2, 3, 4, 5 6, 7 or more*

**Activity experience:** Please **CHECK ONE** response that best describes you. Be honest, there are no right or wrong answers.

1 very easy, 2 somewhat easy, 3 neither challenging nor easy, 4 somewhat challenging, 5 very challenging

**Scenario 1:** Suppose you are given an academic journal article in economics to read, and you are asked to briefly summarize the general research question, approach, and results in your own words. For you, this would be:

*1 very easy, 2 somewhat easy, 3 neither challenging nor easy, 4 somewhat challenging, 5 very challenging*

**Scenario 2:** Suppose you are given an academic journal article in economics to read. Now suppose that the article is very technical, using statistical or mathematical methods with which you have no or very limited familiarity. You are asked to briefly summarize the general research question, approach, and results in your own words. For you, this would be:

*1 very easy, 2 somewhat easy, 3 neither challenging nor easy, 4 somewhat challenging, 5 very challenging*

**Activity experience:** Please **CHECK ONE** response that best describes you. Be honest, there are no right or wrong answers.

1 very easy, 2 somewhat easy, 3 neither challenging nor easy, 4 somewhat challenging, 5 very challenging

**Scenario 3:** Suppose you are an economist at a think-tank or consulting firm, and your boss needs to know what research says about an economics topic. She gives you four academic journal articles on that topic and asks you to write her a short summary memo (no longer than a page) by next week. She further instructs you to give her a summary of each individual paper **AND** also to come to an assessment of what those papers collectively say about the topic.

First, how challenging would it be for you to summarize the position that the four papers collectively take?

*1 very easy, 2 somewhat easy, 3 neither challenging nor easy, 4 somewhat challenging, 5 very challenging*

Second, suppose some of the papers come to different conclusions. In this case, how challenging would it be for you to summarize the position that the four papers collectively take?

*1 very easy, 2 somewhat easy, 3 neither challenging nor easy, 4 somewhat challenging, 5 very challenging*

### **General characteristics and college performance**

**Gender:** What is your gender?

*Male, Female, Something else (e.g., Nonbinary, genderfluid), Other: \_\_\_\_\_*

**Age:** How old are you? \_\_\_\_\_

**Student level:** I am:

*Freshman, Sophomore, Junior, Senior, Graduate student*

**Language:** My native language is:

*English, Other: \_\_\_\_\_*

**Workload:** Do you expect that the workload for this course, as compared to similar courses, will be:

*Lighter workload, Similar, Higher workload, Refused/Don't know*

**Major:** My major is/are \_\_\_\_\_

**GPA:** My GPA is \_\_\_\_\_

**Grade:** I anticipate that my grade for this course will be

*A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F*

\*Adapted from Gaumer & Noonan (2018), Zimmerman, Bandura, & Martinez-Pons (1992), and Chemers, Hu, & Garcia (2001)

\*\* Efficacy questions related to group work Adapted from:

<https://www.uky.edu/~eushe2/Bandura/BanduraGuide2006.pdf>

### **Sources**

Gaumer Erickson, A.S & Noonan, P.M (2018). Self-efficacy formative questionnaire. In *The Skills that Matter: Teaching interpersonal and intrapersonal competencies in any classroom* (pp. 175-176). Thousand Oaks, CA: Corwin.

<Last Page: Exit>

Thank you for participating in this survey!

For more information about this study, or to receive the final research article, please contact Professor Patrick Button ([pbutton@tulane.edu](mailto:pbutton@tulane.edu)).

## Post-Survey

<First Page: Consent>

You are invited to participate in a research study to evaluate how the use of journal article readings in economics courses relates to students' experiences and outcomes in the class. This research is being conducted by Economics professors at both Tulane University and St. Cloud State University.

Completion of the survey will take approximately 15 minutes of your time. There are no foreseeable risks associated with participation in this survey. Your information will be confidential and data will be presented or released that could identify a specific individual. We will use this survey data to publish a journal article discussing student experiences with journal article readings, but the survey data we will present will only be in aggregated or anonymized form.

For more information about this study, or to receive final research article, please contact Professor Patrick Button ([pbutton@tulane.edu](mailto:pbutton@tulane.edu)).

Your participation is voluntary and choosing to participate or not will not affect your standing or grade in the course. If there are any questions you are not comfortable answering, you do not need to answer them. If you decide to participate, you are free to withdraw at any time without penalty.

<Second Page: questionnaire starts>

### Questionnaire

Please be as specific and constructive as possible in your comments.

Also, please remember that academic journals articles are peer-reviewed publications that are considered studies following scientific methodologies. They are not newspaper articles nor books.

**Self-Efficacy and Self-Regulated Learning\*:** Please **CHECK ONE** response that best describes you. Be honest, there are no right or wrong answers.

*Strongly disagree (1), disagree (2), neither disagree nor agree (3), agree (4), strongly agree (5)*

I will be able to achieve most of the goals that I have set for myself.  
When facing difficult tasks, I am certain that I will accomplish them.  
In general, I think that I can obtain outcomes that are important to me.  
I believe I can succeed at most any endeavor to which I set my mind.  
I will be able to successfully overcome many challenges.  
I am confident that I can perform effectively on many different tasks.  
Compared to other people, I can do most tasks very well.  
Even when things are tough, I can perform quite well.  
If I practiced every day, I could develop just about any skill.  
I can figure out anything if I try hard enough.  
When I'm struggling to accomplish something difficult, I focus on my progress instead of feeling discouraged.  
I believe hard work pays off.  
I am confident that I can meaningfully participate in class discussions.

I believe I can work well in a group to achieve a common goal. \*\*

I am confident that I can respectfully express my opinions when others disagree with me.\*\*

**Classroom experience\*:** Please **CHECK ONE** response that best describes you. Be honest, there are no right or wrong answers.

*Strongly disagree (1), disagree (2), neither disagree nor agree (3), agree (4), strongly agree (5)*

I like courses that require me to read academic journal articles or similar academic readings.

I am confident I can successfully participate in class discussions.

I actively participate in class discussions in courses that required additional readings.

I read in advance all the material required for a class discussion.

### **Learning activities**

When responding to these questions, please only think about your college experience.

Also, please, remember that academic journals articles are peer-reviewed publications that are considered studies following scientific methodologies. They are not newspaper articles nor books.

**Activity experience:** Please **CHECK ONE** response that best describes you. Be honest, there are no right or wrong answers.

1 very easy, 2 somewhat easy, 3 neither challenging nor easy, 4 somewhat challenging, 5 very challenging

**Scenario 1:** Suppose you are given an academic journal article in economics to read, and you are asked to briefly summarize the general research question, approach, and results in your own words. For you, this would be:

*1 very easy, 2 somewhat easy, 3 neither challenging nor easy, 4 somewhat challenging, 5 very challenging*

**Scenario 2:** Suppose you are given an academic journal article in economics to read. Now suppose that the article is very technical, using statistical or mathematical methods with which you have no or very limited familiarity. You are asked to briefly summarize the general research question, approach, and results in your own words. For you, this would be:

*1 very easy, 2 somewhat easy, 3 neither challenging nor easy, 4 somewhat challenging, 5 very challenging*

**Activity experience:** Please **CHECK ONE** response that best describes you. Be honest, there are no right or wrong answers.

1 very easy, 2 somewhat easy, 3 neither challenging nor easy, 4 somewhat challenging, 5 very challenging

**Scenario 3:** Suppose you are an economist at a think-tank or consulting firm, and your boss needs to know what research says about an economics topic. She gives you four academic journal articles on that topic and asks you to write her a short summary memo (no longer

than a page) by next week. She further instructs you to give her a summary of each individual paper **AND** also to come to an assessment of what those papers collectively say about the topic.

First, how challenging would it be for you to summarize the position that the four papers collectively take?

*1 very easy, 2 somewhat easy, 3 neither challenging nor easy, 4 somewhat challenging, 5 very challenging*

Second, suppose some of the papers come to different conclusions. In this case, how challenging would it be for you to summarize the position that the four papers collectively take?

*1 very easy, 2 somewhat easy, 3 neither challenging nor easy, 4 somewhat challenging, 5 very challenging*

### **Course/Activity evaluation\*\***

Please **CHECK ONE** response that best describes you. Be honest, there are no right or wrong answers.

Answer the following questions thinking about the Jigsaw activities we did in this class this semester.

*1 strongly disagree, 2 disagree, 3 neither disagree nor agree, 4 agree, 5 strongly agree*

These activities have increased my interest in the field of Economics.

These activities gave me confidence to do more advanced work in the field of Economics.

The readings were appropriate to the goals of the course.

These activities were challenging.

I would like to see these activities practiced in other classes.

These activities improved my ability to evaluate arguments.

These activities helped me improve my intellectual and critical thinking skills.

These activities increased my confidence in engaging with my classmates to participate in class discussions.

These activities increased my understanding of the subject matter of the assigned articles.

How many hours do you think, on average, did you spend on any Jigsaw activities (including reading assigned articles, classroom activities, etc.?)

*Less than 2 hours, 2-5 hours, 5-9 hours, 10 or more hours*

### **Open-ended response**

Do you have any specific recommendations for improving the Jigsaw activity?

What parts of the activity aided your learning the most?

What parts of the activity were obstacles to your learning?

What changes to the Jigsaw activity might improve your learning?

Any additional comment?

Did you respond to the Pre-Survey?

*Yes* <move to exit page>

*No* <move to General Characteristics and college performance>

If #39 is *No* then:

### **General characteristics and college performance**

**Gender:** What is your gender?

*Male, Female, Something else (e.g., Nonbinary, genderfluid), Other:* \_\_\_\_\_

**Age:** How old are you? \_\_\_\_\_

**Student level:** I am:

*Freshman, Sophomore, Junior, Senior, Graduate student*

**Language:** My native language is:

*English, Other:* \_\_\_\_\_

**Workload:** Do you expect that the workload for this course, as compared to similar courses, will be:

*Lighter workload, Similar, Higher workload, Refused/Don't know*

**Major:** My major is/are \_\_\_\_\_

**GPA:** My GPA is \_\_\_\_\_

**Grade:** I anticipate that my grade for this course will be:

*A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F*

\*Adapted from Gaumer & Noonan (2018), Zimmerman, Bandura, & Martinez-Pons (1992), and Chemers, Hu, & Garcia (2001)

\*\*Adapted from <https://assessment.provost.wisc.edu/best-practices-and-sample-questions-for-course-evaluation-surveys/>

<Last Page: Exit>

Thank you for participating in this survey!

For more information about this study, or to receive the final research article, please contact Professor Patrick Button ([pbutton@tulane.edu](mailto:pbutton@tulane.edu)).

### **Sources**

Gaumer Erickson, A.S & Noonan, P.M (2018). Self-efficacy formative questionnaire. In *The Skills that Matter: Teaching interpersonal and intrapersonal competencies in any classroom* (pp. 175-176). Thousand Oaks, CA: Corwin.