What Works Best to Motivate Students in a General Education Introductory Economics Course

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Abstract:

Considering the research gaps on student motivation of treating economics as an interesting subject matter, the learning goal of my research is to find *what works best* to engender positive learning experience for students dealing with serious motivational issues. My research design is based on the *convergent parallel mixed methods* using the quantitative pre-and-post anonymous online questionnaire surveys and the qualitative short reflection notes. Preliminary results show that there are *convergences* between the two sources of information regarding the student motivational factors. By the end of the semester, *divergences* between the two sources of information become more prominent. Regarding preferred student-learning techniques, active learning based on in-class discussion and exercises, group project, and pair-wise homework assignments are considered to be most effective in motivating students. Quizzes or exams became the most effective motivational factor at the end of the semester. This could be associated with students concern about their expected final grade, which is evident from student self-reported short reflection note.

Key Words: Student Motivation, Economics Teaching and Learning, Mixed Methods Research, Quantitative and Qualitative Analyses.

JEL Classification: A22, I21

1. Introduction

There is a general perception among undergraduate students to treat economics as a difficult subject with adverse and undesirable outcomes on their overall academic performance (Bartlett, 1995; Andreopoulos and Panayides, 2011). Contemporary literature on undergraduate economic pedagogical research reveals that the style and methods of teaching as well as the course content are mainly responsible in creating the negative perceptions on introductory level economics courses (Jensen and Owen, 2003; Bartlett, 1995).

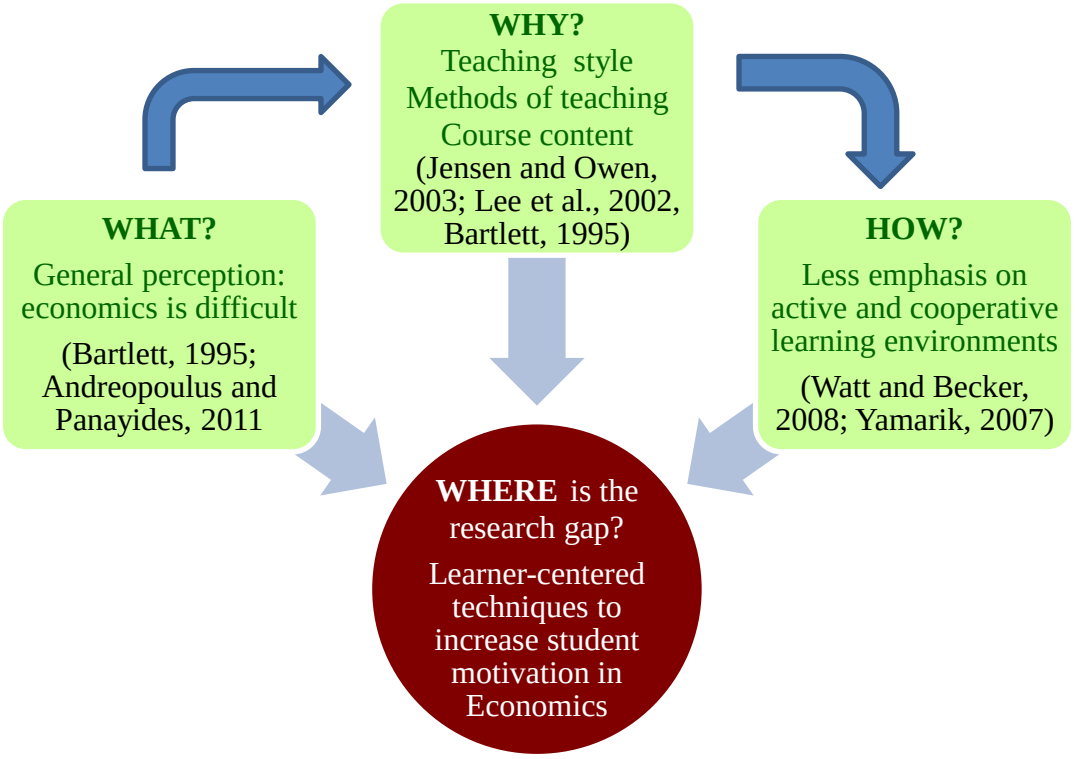
Regarding the methods of teaching of economics, there is less emphasis on active and cooperative learning environments (Watts and Becker, 2008; Yamarik, 2007; Bartlett, 2006; and Marburger, 2005). Following the results from a 2010 survey of US academic economists, Watts and Schaur (2011) found that the median respondents are involved with lecturing 83% of their class time and the median amount of time spent for writing texts and graphs on the whiteboard or chalkboard is also 83% for principles, intermediate, and upper-division economics courses. Median use of team teaching and student self-assessment techniques, such as the one-minute paper, is zero. Cooperative learning and small–group assignments are rarely used. Despite recent attention to experimental research methods, the study also revealed that a small percentage of instructors used classroom experiments in all levels of economics courses. Alternative classroom-assessment techniques, such as writing assignments, group projects, in-class discussion assignments, are occasionally used.

Given the insufficient application of cooperative and active learning methods and alternative classroom-assessment techniques in economics courses, question arise how student motivation might be affected by such trends in economics teaching and learning. Although there are studies conducted to identify the factors that help establish the link between student motivation and academic achievement in general (Meece et al. 2006; Ambrose et al. 2010), there is no research on how learner-centered techniques can influence student motivation when dealing with economics courses.

Considering the research gap, the goal of the paper is to identify what student-centered techniques might work to develop interest, increase attention, and generate motivation among

students to successfully complete a general education introductory economics course. Figure 1 briefly summarizes the motivation of the research following the sequence of *what* is the research problem, *why* the problem persists, and *how* the problem could be resolved. Using the supporting evidence on economics teaching and learning, all the components of the sequence help identify the existing research gap that acts as the motivator for this paper.

Figure 1: Motivation of the Research



For my research design, I applied *mixed methods research* to explore *what works best* to engender positive learning experience for students dealing with serious motivational issues. Using the Scholarship of Teaching and Learning (SOTL) terms, this could be categorized as a "what works" question (Hutchings, 2000; Hutchings et al. 2011; Gurung and Schwartz, 2013).

Being a recipient of the 2013-2014 SOTL Project Award following my research inquiry, I employed *convergent parallel design mixed method* with the quantitative pre-and-post anonymous online questionnaire surveys and the qualitative short reflection notes. With the

institutional review board (IRB) approval, I was able to collect data from two introductory level economics courses between fall 2013 and spring 2014.

Preliminary findings from the quantitative analysis of the pre-questionnaire survey reveal that students 'strongly agree' that they are more motivated to learn if they are intellectually challenged and exposed to new aspects of the subject as well as to new ideas. However, learning-techniques emphasized in the course become the major reason behind student motivation in the post-questionnaire survey. In both pre-and-post surveys, most students 'agree' on the considerable effort that they put in to learn the material from the course. For learning-centered techniques, active learning based on in-class activities and exercises turned out to be the most effective motivational tool for the students. Although concept map is the second-most effective tool following the pre-questionnaire survey, it became less effective in the post-survey. Rather, group project and pair-wise discussion turned out to be the next best effective techniques in the post-survey following in-class activities and exercises.

From the qualitative analysis of the survey based on the short reflection notes, majority of the students identified learning strategies such as paying attention to lectures, working on group-based and pair-wise homework projects, and reviewing uploaded lectures notes, homework solutions, and study guides available at an online platform to be the most helpful to perform satisfactorily in the course. Interestingly, reading chapters ahead of class and taking notes were the strategies most of the students thought should work for them to excel in the course at the beginning of the course. Among the strategies that did not work, prominent among them were relying on taking notes or listening to lecture only and last minute studying before the test. Regarding motivation, students initially revealed that their desire to learn about economics and how it affects society, and the practical applications of the economic concepts were the most salient motivational factors about the course. However, getting good grades became the major motivating factor for most of the students following the middle of the semester short reflection notes data. Only about a third of the class revealed themselves as self-motivated learners.

Comparing the results from the quantitative and qualitative databases, there are convergences between the two sources of information regarding the student motivational factors. By the end of

the semester, *divergences* between the two sources of information become more prominent. Regarding preferred student-learning techniques, active learning based on in-class discussion and exercises, group project, and pair-wise homework assignments are considered to be most effective in motivating students. However, quizzes or exams became the most effective motivational factor at the end-of-the-semester. This could be associated with students concern about their expected 'final grade,' which is evident from student self-reported short reflection note at the end of the semester.

The rest of the paper is organized as follows. Section 2 explains discussed the research design and the process of data collection. Section 3 reports the preliminary results. Section 4 concludes.

2. Research Design and Data Collection

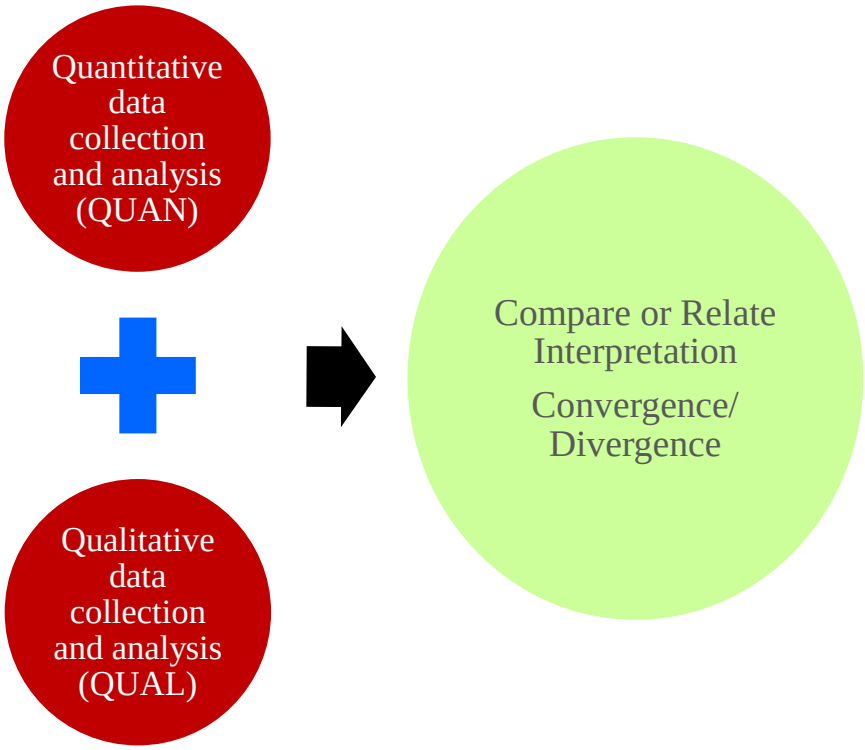
Since my research question is associated with what learner-centered techniques in economics pedagogy can motivate students to develop a strong sense of awareness towards the subject, I decided to pick the best methodology that can answer my research question regardless of what disciplines it comes from. While exploring the research designs, I liked the idea of employing *mixed methods research* by combining both qualitative and quantitative forms. With the research focus on student motivation, relying on only quantitative measures could miss out on capturing the richness of experiences, thought processes, and conceptual paths followed by the students. Hence, the conclusions drawn out from statistical significance of a change in student learning might fail to capture the reality. Incorporating qualitative evidence in the research design has the ability to fill in the gaps by making learning processes and pitfalls transparent in ways quantitative evidence cannot.

By allowing for mixed methods research, my objective would be to identify some patterns from student self-reported perceptions through qualitative data analysis that can address any unanswered questions on learner-centered techniques influence on student motivation arising from the quantitative data.

Following different mixed methods approaches, I picked *concurrent triangulation approach*, also known as *convergent parallel design* (Creswell, 2013). In a concurrent triangulation approach, the researcher collects both quantitative and qualitative data concurrently and then compares the two databases to determine if there is a convergence, divergence, or some combination. This model allows separate quantitative and qualitative methods as a mean to offset the weaknesses inherent within one method with the strengths of the other (Greene, 2007; Greene et al. 2005). The side-by-side integration of comparing the results of two databases is often materialized by first presenting the quantitative results followed by qualitative quotes that support or disconfirm the quantitative results (Creswell, 2013).

Figure 2 shows the *concurrent triangulation mixed method approach* that I have adopted for my study. Under this mixed method design, I used quantitative pre-and-post anonymous online questionnaire surveys and the qualitative short reflection notes.

Figure 2: Conceptual Framework of the Convergent Parallel Mixed Method Design



Following the research design, data is collected from two introductory economics courses that I have taught in-house at the Department of Business and Economics of the University of Wisconsin at Superior (UW-S) in fall 2013 and spring 2014. The selected courses are: (1) Economics in Society, a three-credit general education introductory economics course that highlights economic and social issues facing a society; and (2) Principles of Microeconomics, a general education introductory Microeconomics course. Economics in Society course is taken mostly by non-economics majors and business minor students, whereas, the Principles of Microeconomics course is taken mainly by Business and Economics major students. Both the classes also include some undeclared major students.

Initially, I conducted pre-and-post questionnaire surveys and short reflection notes for Economics in Society course during fall of 2013 after getting the Institutional Review Board (IRB) approval based on my 2013-2014 SOTL Project Research following my research inquiry. I added Principles of Microeconomics class in spring 2014. Out of sixty enrolled students, fifty-six (56) students participated in the survey.

In the quantitative pre-and-post anonymous online questionnaire surveys, the study gathered information on student feelings, interest, and motivation related to the course along with which learner-center techniques that the students considered to be most effective in motivating them to learn more in depth about the subject matter. Information on student learning goals, reasons behind taking the course, prior experience with economics, major and minor student status, are also collected through the anonymous questionnaire surveys. For the qualitative part of the survey, there are three (3) anonymous short reflection notes taken after the 2^{nd}, 8^{th}, and 13^{th} week of the semester. In the qualitative surveys, student reflections were gathered through open-ended questions format on self-reported type of learner, self-developed strategies to excel in the course, overall expectations from the course, students identified self-developed strategies that were helpful (and not helpful) for the course, students plan to excel in the course once they have identified the strategies that were helpful, and students plan to motivate themselves to achieve their learning goals.

Copies of the quantitative pre-and-post anonymous online questionnaire survey and qualitative short reflection notes are included at the Appendix section of the paper.

3. Results and Discussion:

3.1 Quantitative Analysis of pre-and-post questionnaire survey:

Preliminary findings from the quantitative analysis of the pre-questionnaire survey reveal that students 'strongly agree' that they are more motivated to learn if they are exposed to new aspects of the subject as well as to new ideas (32.14%) and are intellectually challenged (26.79%). Post-questionnaire survey results reveal that 45.83% and 41.67% students are in strong agreement with the importance of these two motivational factors. Learning-techniques that are emphasized in the course turned out to be the next major factor behind student motivation as revealed under both pre-and post-questionnaire survey with 21.43% and 37.50% responses respectively. In both pre-and-post surveys, most students 'agree' on the considerable effort that they put in to learn the material from the course (64.29% for pre-and 52.08% for post surveys). Figures 3 and 4 illustrate the results.

Figure 3: **Pre-Survey Response on Students feelings, interests, and motivation**

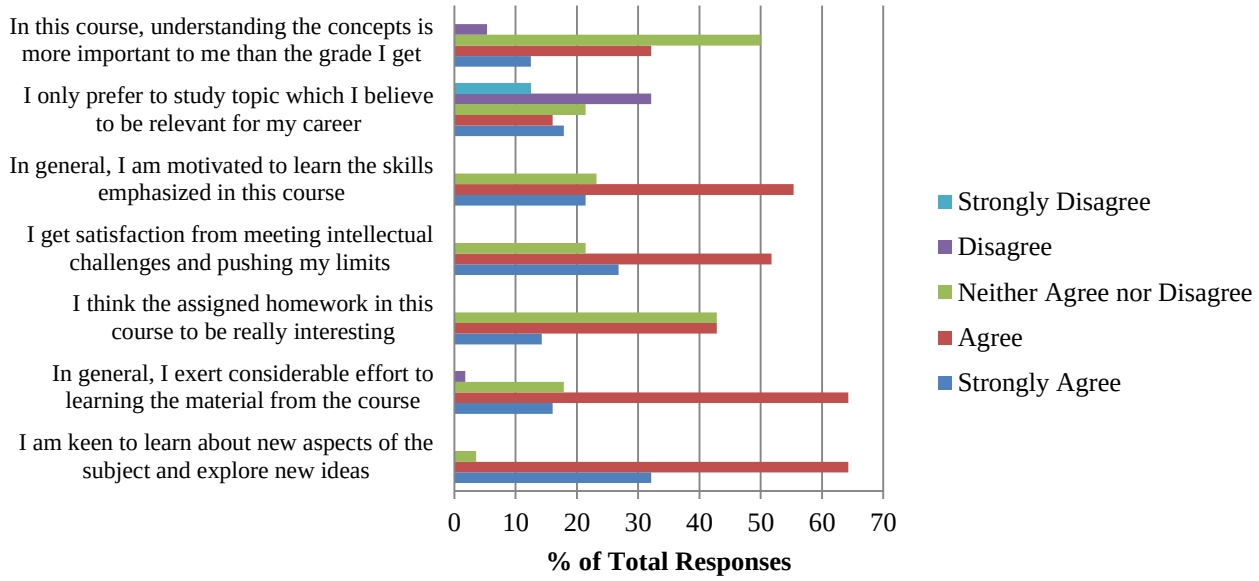
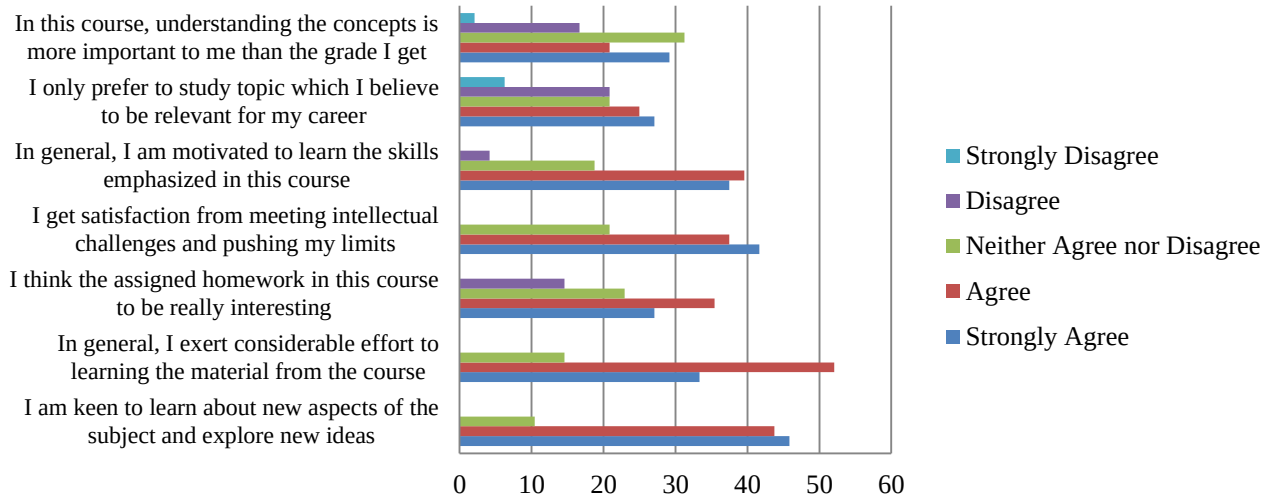


Figure 4: **Post-Survey Response on Students feelings, interests, and motivation**



For learning-centered techniques, active learning based on in-class activities and exercises turned out to be the most effective motivational tool for the students (33% for pre-and 31% for post). Although concept map (16%) is the second-most effective tool following the pre-questionnaire survey, it became less effective in the post-survey (5%). Since team teaching and one-minute paper were not introduced in the classes, descriptive statistics on these alternative cooperative and active learning methods cannot be generated.

Among the alternative class-room assessment techniques, student self-reports show group project (13% pre-and 16% for post) turns out to be the most effective in motivating them to learn more in depth about economic concepts. However, quizzes or exams (18%) turned out to be the most effective techniques in the post-survey analysis.

Figures 5 and 6 illustrate the pre-and post-survey questionnaire findings using pie charts.

Figure 5: **Students Pre-survey Response of Preferred Learner-centered Techniques**

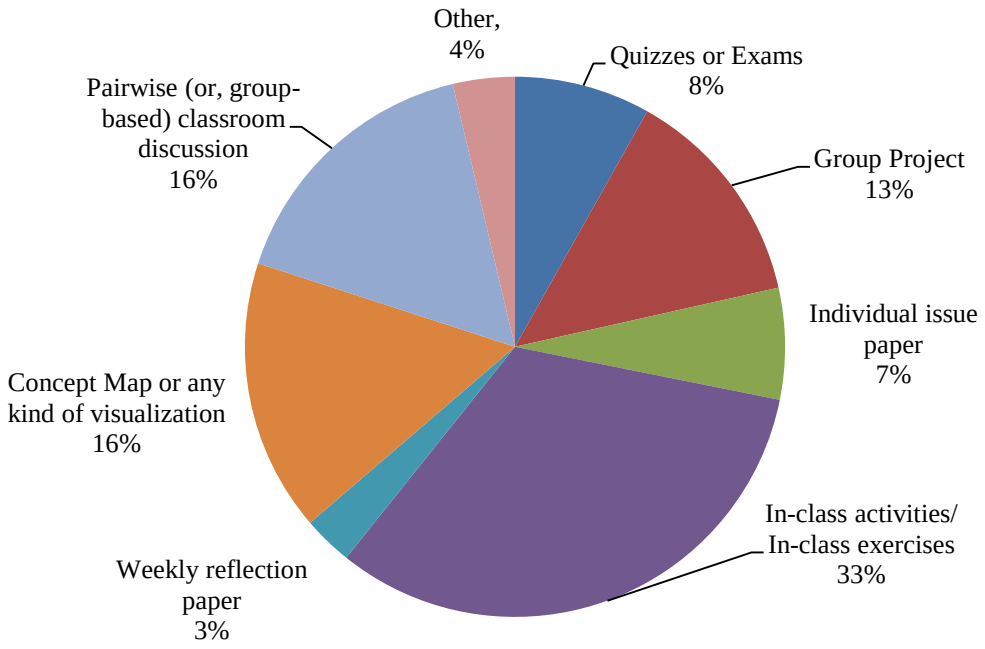
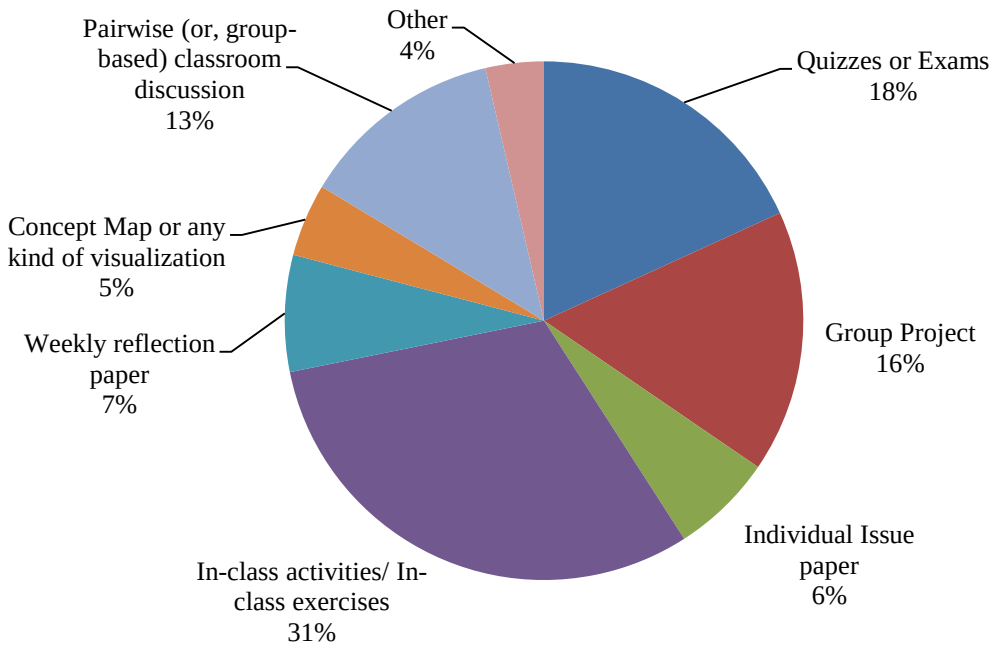


Figure 6: **Students Post Survey Response to Preferred Learner-centered Techniques**



To address the inquiry of why student preferred learner-centered techniques veered towards traditional exams and quizzes could be influenced by many factors. It cannot be explained by just relying on numerical techniques. Even if objective measures of student learning or performance are incorporated in the research design, there could still remain some unanswered questions. For example, whether active learning and alternative classroom assessment techniques positively influence student motivation and hence, student learning; or whether prior expectancies and values coupled with instructor's ability to create supportive classroom environment lead to increasing level of student motivation and learning. Rather than falling into the trap of the logical fallacy of the well-known statistical cautionary note of, 'correlation does not imply causation,' putting more emphasis on capturing student thought processes, experiences, and conceptual paths through qualitative evidence might be able to provide some answers to fill in the gaps under the quantitative analysis.

3.2 Qualitative Analysis following Short Reflection Notes

Considering the reasoning behind the importance of collecting qualitative evidence, short reflection notes are introduced at the beginning, middle, and end of the semester to concurrently gather qualitative data. Each short reflection note is structured with no more than three to four open-ended questions as prompts to ensure student reflections are directed towards their experiences and thought processes with different learner-centered techniques.

Based on the student responses to short reflection notes, patterns of qualitative themes are first identified considering the strategies associated with achievement goals and intrinsic values (intrinsic motivation). The qualitative themes are, then, transformed into counts so that descriptive statistical analysis could be performed. Preliminary analysis of the qualitative data reveals some interesting patterns though only 1st phase of the study is reported in this paper.

Regarding students self-reported learning strategies, majority considers paying attention to lectures, working on group-based and pair-wise homework projects, and reviewing lectures notes, homework solutions, and study guides uploaded on an online platform to be the most helpful to perform satisfactorily in the course. Interestingly, the beginning of the semester responses show reading chapters ahead of class (20%) and taking notes (18%) were the strategies

most of the students thought should work for them to excel in the course. However, these two strategies did not even feature for majority of the students at their end-of-the-semester short reflections responses. This might imply that how learning strategies based on prior knowledge (experience) might change when students are exposed to alternative ways the threshold or the core concepts of economics are presented. Among the strategies that did not work, prominent among them were relying on taking notes or listening to lecture only (26%) and last minute studying before the test (17%).

Regarding motivation, students initially revealed that their desire to learn about economics and how it affects society (33%) and the practical applications of the economic concepts (30%) were the most salient motivational factors about the course. However, getting good grades (41%) became the major motivating factor for most of the students following the middle of the semester short reflection notes data. Only about a third of the class revealed themselves as self-motivated learners (31%). Figures 7 and 8 demonstrate the findings following the themes identified from student short reflection notes.

Figure 7: **Beginning Semester Reflection Notes Theme Self-reported Feelings, Awareness, and Motivation**

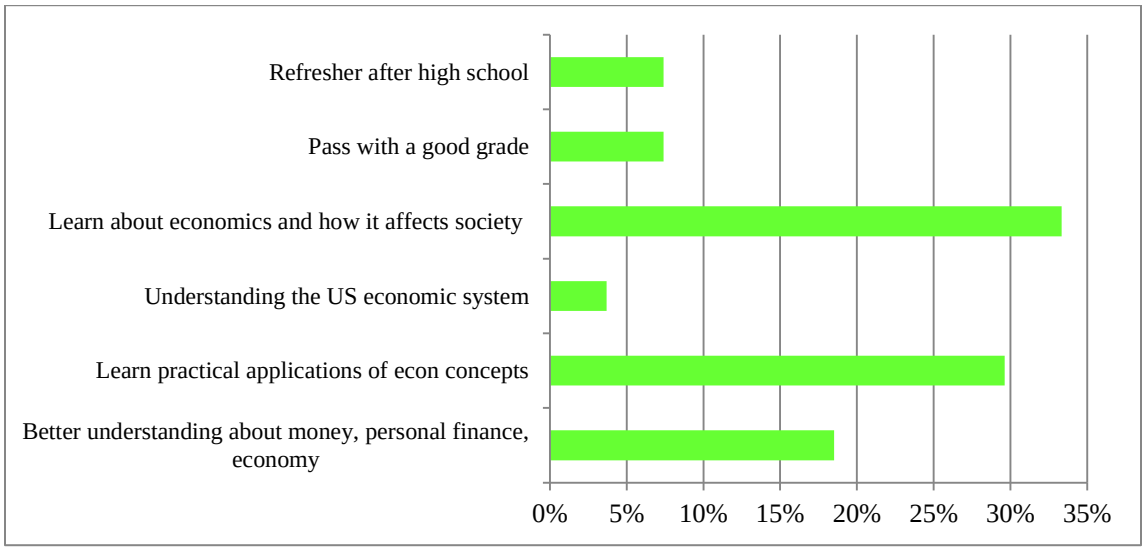
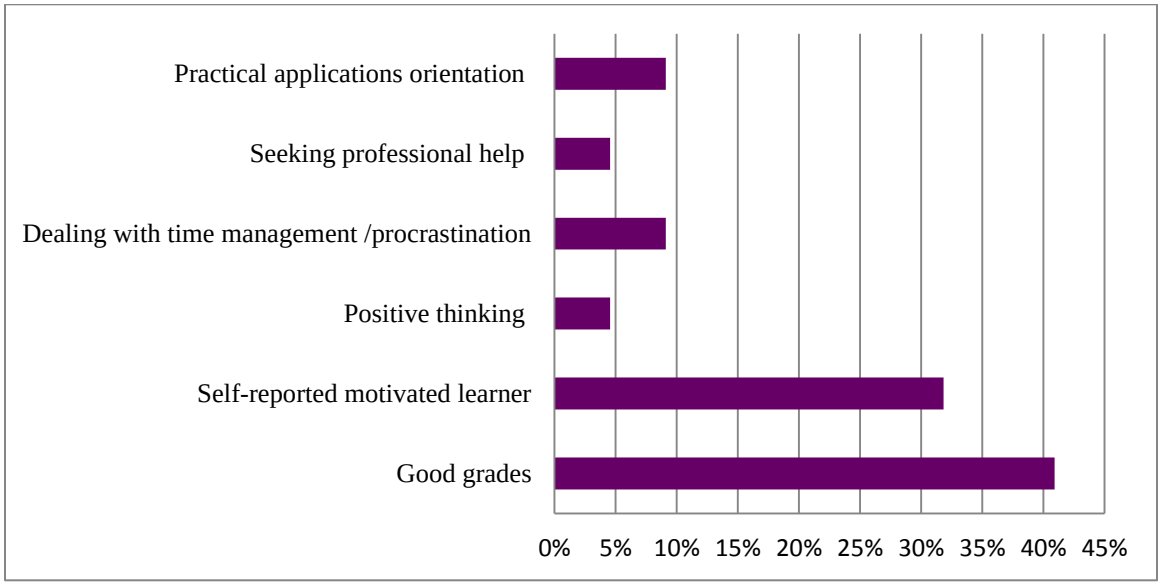


Figure 8: **Ending Semester Reflection Notes Theme Self-reported Feelings, Awareness, and Motivation**



3.3 Compare or relate and Interpretation:

Using the side-by-side integration under the *concurrent triangulation mixed method design*, results from the quantitative and qualitative databases are compared to determine if there is a convergence, divergence, or some combination.

Considering student motivational factors, there are *convergences* of student beginning-of-the-semester response to quantitative pre-questionnaire online survey and qualitative short reflection note. The quantitative evidence of finding 'strong agreement' among students of being exposed to new aspects and ideas of economics could be matched with the qualitative evidence of discovering majority of students' preference to learn economics and how it affects society. Among other qualitative themes that indicate student motivation, learning practical applications of economic concepts correspond to quantitative evidence of learning economics course specific learning skills. However, *divergences* between the two sources of information become more prominent by the end-of-the-semester.

Regarding student-learning techniques, both quantitative and qualitative evidence reveal that cooperative and active learning methods in terms of in-class discussion and exercises, group project, and pair-wise homework assignments are the most effective in motivating students.

Hence, there is a convergence between the two sources of data. By the end-of-the-semester, quantitative evidence shows that quizzes and exams became the most effective motivational factor among majority of the students. Although there is no matching qualitative evidence of students' preference for quizzes or exams at the end-of-the-semester, the unidentified reasoning behind the preference reversal is captured in concurrent student qualitative response of being worried about their 'expected final grade.'

4. Conclusion

The survey of US Academic economists in 2010 revealed little use of cooperative and active-learning methods and alternative classroom-assessment techniques in undergraduate economic courses (Watts and Schaur, 2011). Such is the scenario, despite increasing research interests in economists to introduce these alternative learner-centered methods and assessment techniques in their classroom environments (Durden, 2008, Yamaruk, 2007; Becker, 2006; Walstad, 2006; Marburger, 2005). Thus with such insufficient application of cooperative and active learning methods and alternative classroom-assessment techniques in economics courses, question now arise how student motivation might be affected by such trends in economics teaching and learning. To fill into this research gap, the paper examined what learner-centered techniques might work to increase student motivation to treat economics as an interesting subject matter.

The study applied *concurrent triangulation approach*, a mixed method research design, to address the research question. This mixed methods research design, also known as convergent parallel design (Creswell, 2013), allowed concurrent collection of quantitative and qualitative data and then, comparison of the two databases to determine if there is a convergence, divergence, or some combination. The side-by-side integration of comparing the results of two databases allows qualitative evidence of student learning experiences, thinking process, and the conceptual paths to fill in the pitfalls of quantitative data analysis. Survey data following the *concurrent triangulation approach* was conducted between fall of 2013 and spring of 2014 for two courses: (1) Economics in Society, a general introductory economics course for non-economic majors and business minors; and (2) Principles of Microeconomics, a general introductory economics course for business and economic majors.

For the quantitative pre-and-post anonymous online questionnaire surveys, the study gathered information on student feelings, interest, and motivation related to the course. The online surveys also included question on which learner-center techniques that the students considered to be most effective in motivating them to learn more in depth about the subject matter. For the qualitative part of the survey, there are three anonymous short reflection notes taken after the 2nd, 3rd, and 13th week of the semester. In the qualitative surveys, student reflections were gathered through open-ended questions format. Data is gathered on self-reported learner type, overall expectations from the course, self-developed strategies that were helpful (and not helpful) for the course, and motivational strategies to achieve their learning goals or objectives.

Preliminary results by comparing the results from the quantitative and qualitative databases show that there are *convergences* between the two sources of information regarding the student motivational factors. However, by the end-of-the-semester, *divergences* between the two sources of information become more prominent. Regarding preferred student-learning techniques, active learning based on in-class discussion and exercises, group project, and pair-wise homework assignments are considered to be most effective in motivating students. Quizzes or exams became the most effective motivational factor at the end-of-the-semester. This could be associated with students concern about their expected final grade, which is evident from student self-reported short reflection note after the 8th week of the semester.

Since the preliminary results reveal that 'expected final grade' is the main motivator behind student preference for traditional classroom-assessment tools of quizzes and exams, giving equal weightage to both traditional and alternative classroom-assessment techniques might downgrade the student fear of achievement goals failure. By introducing 'equal-weightage' grading scheme, student intrinsic motivation level might increase or remain unchanged at the end-of-the-semester as students can emphasize more on learning rather than focusing more on what might be their expected final grades. The other alternative option could be to change the grading scheme altogether by adopting an unconventional and alternative grading scheme, such as the 'loss aversion' based grading scheme. Following the loss aversion literature (Kahneman and Tversky, 1979; Kahnemna, 2013), if people dislike losses more than they enjoy gains, one can expect

higher student performance by framing grades as a point of reduction, as opposed to earning points throughout the semester.

To test the validity of the 'loss aversion' based grading scheme and its influence on student motivation and learning, I have started collecting data on the same courses with different sets of students this spring of 2014. As a 2014-2015 Wisconsin Teaching Fellow, I am expected to share my preliminary findings of the study in scholarship of teaching and learning workshops and conferences. I look forward to see which directions the research goes from there.

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Appendix

Pre-Survey and Post-Survey Motivation Scale Questionnaire Survey
For ECON 235: Economics in Society

Please respond to the following questions.

Q1. Why have you decided to take this course of *ECON 235, Economics in Society*, which is a three-credit general education course? Please, **Circle** *all* the answers that apply to you.

A) Attracted by course title
B) Interest in the subject
C) Want to get a particular type of job
D) Reputation of this course
E) Want to get a well-paid job
F) Related to my major and/or minor
G) Advice of teacher/ careers adviser
H) Advice of family/ friends
I) Other, please state _____.

Q2. Is there any one of the reasons indicated above the most important reason? (Circle one)
A) Yes
B) No

Q3. If so, which one is this? _____.

Q4. Which one of the learning goals you consider *ECON 235: Economic Way Thinking course* is expect to fulfill? (Circle one)

A) To think and make connections across academic disciplines.
B) To express oneself in multiple terms.
C) To analyze and reflect upon multiple perspectives to arrive at a perspective of one's own.
D) To think and engage as a global citizen.
E) To engage in evidence-based problem solving.

Q5. When you answer this question, please think about your feelings, interests, and motivation related to the course. (Circle the answer that most accurately describes your responses to each statement).

5.1	*I am keen to learn about new aspects of the subject and explore new ideas*	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
5.2	*In general, I exert considerable effort to learning the material from the course*	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
5.3	*I think the assigned homework in this course to be really interesting*	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
5.4	*I get satisfaction from meeting intellectual challenges and pushing my limits*	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
5.5	*In general, I am motivated to learn the skills emphasized in this course*	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
5.6	*I only prefer to study topic which I believe to be relevant for my career*	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

5.7	*In this course, understanding the concepts is more important to me than the grade I get*	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

Q6. Do you have any prior experience with Economics? (Circle one)

A) Yes
B) No

Q7. If yes, when? (Circle one)

A) Middle School
B) High School
C) College or University
D) Other(s), Please state _____.

Q8. Which learner-centered techniques you consider to be most effective in motivating you to learn more in depth about a subject matter, (Please, **Circle** *all* the answers that apply to you)

A) Quizzes and Exams
B) Group project
C) Individual end-of-the-term paper/ research paper
D) In-class activities / In-class exercises
E) Weekly reflection paper
F) Concept Map or any kind of visualization to better understand concepts and their relationships.
G) Pairwise (or, group based) classroom discussion
H) Other(s), Please state_____.

Q9. Please *circle* the statement below that best matches your understanding when an instructor uses graphs/ figures/ illustrations in the class:

A) They make sense to me immediately,
B) They don't always make sense, but I easily figure them out,
C) They don't always make sense, but after some work I figure them out,
D) There are some that are very difficult to figure out.

Q10. What is (are) your overall expectations from this course?

Q11. How do you want to relate this course with your major or your future goal (s)?

Q12. Additional comments/ suggestions related to the course _____

Q13. What was the make and model of your first family car? (If your family has more than one car, you can choose the one that is most commonly used or preferred by the family)

_____

Q14. What is your mother's middle name? _____

Q15. Are you a ……(Circle one)
A) Freshman
B) Sophomore
C) Junior
D) Senior

Q16. Are you an international student? (Circle one)
A) Yes
B) No

Q17. Have you decided on your major? (Circle one)
A) Yes
B) No

Q18. If 'yes' to Q17, then, what is your major? What is your minor?

Major: _____
Minor: _____

Q19. Did any of the following people among your family and friends go to university?

	Went to university Aged 17-24	*Went to university as a mature-age student*	*Did not go to university*
Mother			
Father			
Older brother or sister			
Younger brother or sister			
Aunt, uncle, or cousin			
Close friend from school/ college			

Q20. Do you have a part-time job? (Circle one)
A) Yes
B) No

Q21. If 'yes,' then, in a typical week, how many hours do you work in your part-time job? _____

Thank you

Pre-Survey and Post-Survey Motivation Scale Questionnaire Survey
For ECON 250: Principles of Microeconomics
Please respond to the following questions.

Q1. Why have you decided to take this course of *ECON 250, Principles of Microeconomics*, which is a three-credit general education course? Please, **Circle** *all* the answers that apply to you.

A) Attracted by course title
B) Interest in the subject
C) Want to get a particular type of job
D) Reputation of this course
E) Want to get a well-paid job
F) Related to my major and/or minor
G) Advice of teacher/ careers adviser
H) Advice of family/ friends
I) Other, please state _____.

Q2. Is there any one of the reasons indicated above the most important reason? (Circle one)
A) Yes
B) No

Q3. If so, which one is this? _____.

Q4. Which one of the learning goals you consider *ECON 250: Principles of Microeconomics* course is expect to fulfill? (Circle one)

A) To think and make connections across academic disciplines.
B) To express oneself in multiple terms.
C) To analyze and reflect upon multiple perspectives to arrive at a perspective of one's own.
D) To think and engage as a global citizen.
E) To engage in evidence-based problem solving.

Q5. When you answer this question, please think about your feelings, interests, and motivation related to the course. (Circle the answer that most accurately describes your responses to each statement).

5.1	*I am keen to learn about new aspects of the subject and explore new ideas*	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
5.2	*In general, I exert considerable effort to learning the material from the course*	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
5.3	*I think the assigned homework in this course to be really interesting*	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
5.4	*I get satisfaction from meeting intellectual challenges and pushing my limits*	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
5.5	*In general, I am motivated to learn the skills emphasized in this course*	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

5.6	*I only prefer to study topic which I believe to be relevant for my career*	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
5.7	*In this course, understanding the concepts is more important to me than the grade I get*	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

Q6. Do you have any prior experience with Economics? (Circle one)

A) Yes
B) No

Q7. If yes, when? (Circle one)

A) Middle School
B) High School
C) College or University
D) Other(s), Please state _____.

Q8. Which learner-centered techniques you consider to be most effective in motivating you to learn more in depth about a subject matter, (Please, **Circle** *all* the answers that apply to you)

A) Quizzes and Exams
B) Group project
C) Individual end-of-the-term paper/ research paper
D) In-class activities / In-class exercises
E) Weekly reflection paper
F) Concept Map or any kind of visualization to better understand concepts and their relationships.
G) Pairwise (or, group based) classroom discussion
H) Other(s), Please state_____.

Q9. Please *circle* the statement below that best matches your understanding when an instructor uses graphs/ figures/ illustrations in the class:

A) They make sense to me immediately,
B) They don't always make sense, but I easily figure them out,
C) They don't always make sense, but after some work I figure them out,
D) There are some that are very difficult to figure out.

Q10. What is (are) your overall expectations from this course?

Q11. How do you want to relate this course with your major or your future goal (s)?

Q12. Additional comments/ suggestions related to the course _____

Q13. What was the make and model of your first family car? (If your family has more than one car, you can choose the one that is most commonly used or preferred by the family)

_____

Q14. What is your mother's middle name? _____

Q15. Are you a ……(Circle one)

A) Freshman
B) Sophomore
C) Junior
D) Senior

Q16. Are you an international student? (Circle one)

C) Yes
D) No

Q17. Have you decided on your major? (Circle one)

A) Yes
B) No

Q18. If 'yes' to Q17, then, what is your major? What is your minor?

Major: _____
Minor: _____

Q19. Did any of the following people among your family and friends go to university?

	Went to university Aged 17-24	*Went to university as a mature-age student*	*Did not go to university*
Mother			
Father			
Older brother or sister			
Younger brother or sister			
Aunt, uncle, or cousin			
Close friend from school/ college			

Q20. Do you have a part-time job? (Circle one)

A) Yes
B) No

Q21. If 'yes,' then, in a typical week, how many hours do you work in your part-time job? _____

Thank you

Short Reflection Notes 1 (After Week 2)

Please respond to the following questions.

Q1. Do you consider yourself to be a motivated learner? Give an example.

Q2. What strategies do you plan to use to excel in this course? Why do you think this will work? Explain.

Q3. What is (are) your overall expectations from the course?

Q4. What was the **make and model** of your **first family car**? **(If your family has more than one car, you can choose the one that is most commonly used or preferred by the family)**

_____

Q5. What is your mother's middle name? _____

Thank you

Short Reflection Notes 2 (After Week 8)

Please respond to the following questions.

Q1. Reflect on the strategies that *worked* for you in this course?

Q2. Reflect on the strategies that *did not work* for you in this course?

Q3. How do you plan to excel in this course now?

Q4. Considering your responses to (Q1)-(Q3), how you plan to motivate yourself to achieve your learning goals or objectives?

Q5. What was the **make and model** of your **first family car**? **(If your family has more than one car, you can choose the one that is most commonly used or preferred by the family)**

Q6. What is your mother's middle name? _____

Thank you

Short Reflection Notes 3 (After Week 13-14)

Please respond to the following questions.

Q1. Reflect back on your *Week 8's plan* following your response to Q3 of 'Short Reflection Notes 2,'

Did you stick to your plan and why? Or, have you changed your plan and why?

Q2. Which learner-centered techniques you liked and why?

Q3. Which learner-centered techniques you did not like and why?

Q4. What are your views on pair-wise class room discussions for in-class exercises and pair-wise homework assignment projects? Do you think you have a positive learning experience from these methods in terms of better understandings of the concepts?

Q5. What is your expected grade from the course?

Q6. What was the **make and model** of your **first family car**? **(If your family has more than one car, you can choose the one that is most commonly used or preferred by the family)**

Q7. What is your mother's middle name? _____

Thank you