


# Using Course Currency As A Didactic Tool

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## ABSTRACT

*Classroom participation is an important and frequently used pedagogical strategy. This paper examines how awarding students with course currency, bills that are redeemable for bonus points at the end of the term, affects class participation and students' understanding of the material. The research uses surveys and data analysis to examine the effectiveness of using course currency. It finds that course currency increases students' participation, improves students' grades and is generally liked by students. Course currency can also be effectively used in simulations of socioeconomic institutions.*

## INTRODUCTION

lassroom participation is an important and frequently used pedagogical strategy (Dallimore, Hertenstein and Platt, 2004; Litz, 2003; Cohen, 1991 and elsewhere). Class participation can help enhance students' understanding of the material and make the course more interesting. When students participate, they have to verbalize their thoughts and they learn what they still do not understand about the material. Class discussion also enhances the students' perception of social support (Natvig, Albrekssen and Qvarnstrom, 2003). A survey conducted by Dallimore, Hertenstein and Platt (2004) finds that many students believe that requiring and grading participation enhances the quality of participation and class experience. This paper examines how awarding students with course currency, bills that are redeemable for bonus points at the end of the term, affects class participation and students' understanding of the material.

Instructors typically have difficulties encouraging classroom participation. Students often do not adequately prepare for class and may feel a lack of integration into class experience (Litz, 2003). Some students are not inclined to participate or completely fail to participate (Dallimore, Hertenstein and Platt, 2004; Dixie, 1998). Others self-censor their participation because they are shy or unprepared (Hyde and Ruth, 2002).

Students are generally reluctant to participate because they perceive a cost in participating (having to make effort and being embarrassed) with little perceived benefit (students do not receive any credit for participating). Consequently, some instructors grade students on their participation, but doing so can prove to be a challenge. Giving students a participation grade based on the instructor's general impression of each of the student's participation may prove too difficult in large classes. Even in small classes grading students' participation based on the instructor's impression can be highly subjective. On the other hand, recording every instance in which students participate can be quite cumbersome, since the instructor must frequently stop the lesson to record participation. Furthermore, the instructor may end up giving some students too many participation points.

Using course currency provides a way to motivate students to participate and to give them an impartial grade for their participation. Course currency are bills that the instructor gives students every time they participate, which may include answering a question, asking a question or participating in an extracurricular activity. At the end of the term, or at some predetermined time, the instructor counts the number of bill that the students collect and awards bonus point or points for each bill collected based on some predetermined exchange rate. Horng et al (2005), who interviewed and observed three famously creative teachers, find that the willingness to motivate students is one of the most important characteristics of a creative teacher.

Since the students receive bills every time they participate, the course currency provides an objective and impartial way to grade students on their participation. Using course currency also has several advantages over recording participation. First, handing out bills to students is less time consuming and far less distributive to the

lesson than recording every instance in which students participate. Additionally, instructors can control the number of bonus points that the students receive simply by announcing the maximum number of bills that students can redeem for bonus points. Furthermore, distributing course currency bills makes it easy for both the instructor and the students to track their participation in the class.

The instructor can set up a participation goal for the students, such as to collect 15 bills over the course of the term. This usually motivates students to participate in order to accomplish the goal. Fassinger (1997) finds that when participation is a goal and is a part of the class culture students are much more likely to participate and learn. Fassinger (1995) also finds that professors' interpersonal style has little effect on classroom participation, but the way that the class environment is set up has a significant effect. This implies that any instructor can benefit from utilizing course currency regardless of his or her teaching style.

In business and economics courses, the course currency can also be used as a didactic tool to teach students about the various economic and business institutions. The instructor may treat the course currency as money and allow students to invest the currency in a simulated stock market or trade it for prizes in a simulated trading market. Class simulations give students a higher level of insight, encourage attentiveness and help students retain information of longer periods of time (Smith and Boyer, 1996). Simulations not only help students learn how various institutions work, but they also provide extra motivation for students to participate and collect as many bills as they can.

The course currency can also be used as a way to award students for their participation in various educational games. Games are useful pedagogical tools in business classes and elsewhere. Games provide a more informal classroom setting and an enjoyable method to present material (Cook and Hazelwood, 2002). Many economists, for instance, use in-class games to teach students about strategic interactions (Brauer and Delemeester, 2001). Games can also be used in business courses to teach such concepts as business ethics (Haywood, McMullen, and Wygal, 2004; Litz, 2003).

This research investigates the effectiveness of using course currency in four introductory Macroeconomics courses. The paper examines how the course currency affects students' participation, grades and attitudes toward the class. The paper also reports the effectiveness of using course currency to teach students about trading markets. At the end of the term, students in each course were able to trade surplus bills for raffle tickets that had some probability of getting them a prize.

## **METHODOLOGY**

The experiment took place in four introductory Macroeconomics courses over the fall semester of 2004 and the spring semester of 2005. All four classes were taught by the same instructor, utilized the same textbook and covered the same material using the same pedagogical methods. The courses took place in the E. Craig Wall, Sr., College of Business Administration at Coastal Carolina University in Conway, South Carolina.

At the beginning of the semester, the instructor printed unique bills that he called the course currency. The bills were duplicated and stamped on the back to assure authenticity. Students in each course were informed at the beginning of the semester that they would be awarded a bill every time they answered a question or a series of questions correctly, asked an intelligent question or participated in certain extracurricular activities.

Students were informed that they could redeem up to 15 bills for bonus points. Each bill was worth two bonus points or .4% of the class grade (the course grade was out of 500 points). During the last week of class, each student was given a raffle ticket. Students who collected less than 15 bills were given the opportunity to sell their raffle ticket to students with more than 15 bills in exchange for surplus bills. Students traded with one another in a double-auction market where the offers and bids were posted on the whiteboard. All trades were voluntary and those who had exactly 15 bills did not participate in the market. After the market closed, students wrote their name on the raffle tickets. The tickets were collected and placed in a box and then the instructor randomly selected a winning ticket. The winner received a prize.

Simulating a trading market accomplished two goals. First, it helped students learn how markets, arguably the most important economic institutions, operate. Secondly, it gave students an incentive to retain their excess bills in order to trade them for raffle tickets instead of just giving them to their colleagues, which was prohibited.

At the end of the semester, the instructor counted the number of bills that each student turned in. Students were also asked to complete a short survey. The survey asked students about their opinion on class participation and the effectiveness of using the course currency as well as some personal information. The survey and a summary of the results appear in Appendix A.

## **RESULTS**

The effectiveness of using the course currency was evaluated via a survey and by comparing the average course grade of courses that used the course currency and courses that did not use course currency. The survey was conducted in four introductory Macroeconomic courses that used the course currency. 142 out of the 182 students (78.0%) who completed the course responded to the survey.

32.4% of the respondents were females and 62.0% were males. 2.8% were Freshmen, 66.2% were Sophomores, 22.5% were Juniors and 4.2 % were Seniors. Most of the students were business majors. 47.9% were majoring in Business Management, 16.9% were majoring in Marketing, 8.5% were majoring in Finance, 7.0% were majoring in Accounting, 1.4% were majoring in Economics and 18.3% of the respondents were either undeclared or were not business majors.

On average, respondents collected 14.62 bills with a median of 15 bills, which implies that roughly half of the class accomplished the goal of collecting 15 or more course currency bills. Those respondents who expected an “A” in the class collected an average of 18.5 bills, those who expected a “B” collected 14.3 bills on average, those who expected a “C” collected 11.8 bills and those who expected a “D” collected 12.5 bills on average. An ANOVA analysis rejects the hypothesis that the expected grade (a proxy for the students’ performance in the class) had no effect on the number of bills that the students collected, with a p-value that is significantly smaller than .001. Thus, as expected, better students participated more.

Most students had a favorable opinion regarding the use of course currency. 78.9% of all the respondents thought the course currency helped them obtain a better grade, while only 16.9% of the respondents thought that it did not. Most of the respondents thought that the course currency made the class much more fun (28.2% of respondents) or somewhat more fun (50.7%). Only 2.8% of the respondents thought that it made the class less fun. The students view on Macroeconomics seemed to affect their view on whether the course currency was fun. Only 5.1% of those who either liked or strongly liked Macroeconomics did not think that using the course currency was fun. By contrast, 30.7% of those who disliked or strongly disliked Macroeconomics did not think that using the course currency was fun.

90.1% of the students thought that the course currency bills were distributed fairly, while 8.5% of the students thought that they were not distributed fairly. The most commonly cited reason was that the instructor sometimes did not award students who deserved a bill. There was no difference in the percent of males and percent of females that considered the distribution of the course currency bills to be unfair.

Almost all of the students thought that simulating a market using the course currency either substantially helped them (32.4% of respondents) or somewhat helped them (54.9%) understand how markets work. Most students also stated that using the course currency either substantially increased (66.2%) or slightly increased (32.4%) class participation. Most students recognized the importance of class participation. The majority of respondents claimed that class participation was either very important (70.4%) or somewhat important (25.4%) for learning. Respondents also tended to think that class participation is either very enjoyable (31.0%) or somewhat enjoyable (35.2%). Although, 11.3% of the respondent thought it was somewhat stressful.

Most respondents thought that the course currency increased their own participation. 42.4% claimed that the course currency substantially increased their participation and 46.5% stated that it slightly increased their participation. Only a few of the respondents thought that the course currency did not affect their participation (8.5%) or slightly decreased it (2.8%). Moreover, 62.0% of the students claimed that they participated in their Macroeconomics class more than other classes, while only 4.2% stated that they participate more in other classes.

The students' expected grade seemed to affect how they responded to the course currency. All of those who expected an "A" claimed that the course currency either substantially increased their participation or slightly increased it. On the other hand, 16.3% of those who expected a "B" or a "C" thought that it had no effect on their participation. The few students who expected a D thought it actually slightly decreased their participation. The students' expected grade also had some effect on whether they thought that the course currency made the class fun. 93.8% of those who expected an "A" thought that the course currency made the class at least somewhat more fun, compared to 80.4% of respondents who expected a lower letter grade (a B, C or D).

Comparing the average grades of the four Macroeconomics courses where the course currency was utilized to four Macroeconomics courses where the course currency was not used (two took place in the spring semester of 2004 and two took place in the fall of 2003) provides some evidence as to the effectiveness of the course currency. The courses that utilized the course currency had average course grades of 81.0%, 78.2%, 77.4% and 73.7%. On the other hand, the courses that did not use a course currency had average grades of 75.9%, 73.5%, 72.0% and 68.8%.

A Wilcoxon-Mann-Whitney rank-sum test shows that there is a .0143 probability that the courses that used the course currency received a higher average grade than those that did not by some random coincidence. Although this result is significant at the .05 level, the test is not exactly scientific, since it was not conducted in a fully controlled environment. There were probably other factors that led students in the courses that used the course currency to do better than students in the earlier courses that did not use it. Specifically, the average Scholastic Aptitude Test score of students at Coastal Carolina University has been steadily increasing over the last two years. Therefore, the higher average scores of the courses with course currency may be due partly to a rise in students' ability, since the courses with the course currency were taught after the courses without course currency.

### **MAKING THE COURSE CURRENCY WORK**

Like most other pedagogical methods, a good deal of thought should be invested in how to administer the course currency in order to maximize students' learning. Taking the following steps will help assure that the students get the most out of having a course currency. First, the instructor should make sure that the students can not duplicate the course currency bills. The instructor can sign or stamp each bill to assure authenticity. It also makes sense to limit the number of bills that each student can collect. Otherwise, some students in the class may receive an excessive number of bonus points. The instructor should also advise students to keep the bills in a safe place.

Ideally, the instructor should try to get everyone to participate. The instructor, for instance, may allow only students who did not receive a bill that day to answer questions. It is constructive to make students earn each bill. For example, the instructor can ask students follow up questions and only give a bill to students who answer them.

Using the course currency also allows the instructors to track the students' participation in class. The instructor can periodically ask students how many bills they collected. The instructor may also set mid-term goal for the students. For example, if students are expected to collect 15 bills by the end of the term, the instructor could encourage students to collect at least 7 bills by the middle of the term. The instructor can also use course currency to encourage students to participate in extracurricular activities, by awarding students who participate in such activities a predetermined number of bills.

The course currency can also be used as a didactic tool by using it in various simulations and instructive games. For instance, the instructor can give students the opportunity to invest bills in a simulated stock market, to trade bills for raffle tickets in a simulated trading market or to invest the bills in a fictitious company. The instructor

can also use the course currency to play various games. For example, the instructor can have group competitions and award the winning group bills.

Regardless of how the instructor uses the course currency, it is imperative that the instructor distributes the course currency in a consistent manner. Consistency implies that all of the students have to do the same thing in order to earn a bill. Students might rightfully complain if the bills are not distributed fairly.

## CONCLUSIONS

Using course currency is an excellent way to motivate students and to enhance their learning. Most of the students who participated in an economics course where the course currency was used thought that it increased overall class participation, increased their own participation and helped them obtain a better grade. Using course currency provides an objective method to track the students' participation. It takes little time to administer and provides a strong motivation for students to participate because they can immediately see their reward from participating. There is also some evidence that the course currency improves the overall grade in the class.

This paper shows that the course currency is a very effective didactic tool and, therefore, instructors should seriously consider using it in their courses. The course currency can be utilized in any course, but it is a particularly useful didactic tool for business courses. The course currency can be used to motivate students to participate in class, to award students for participating in extracurricular activities, to track students' participation and to teach students about various socioeconomic or business institutions.

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**Appendix A**

Table 1 provides the mean and media for questions 1 through 5, which ask about quantitative variables. Table 2 provides the percentage of students who selected each option for questions 6 through 19, which asked about a qualitative variables.

**Table 1: Mean and Median**

	Question				
	1	2	3	4	5
<b>Mean</b>	14.62	2.45	0.77	3.40	3.00
<b>Median</b>	15.00	1.00	0.00	0.00	2.93

**Table 2: Percent who gave each answer**

Answer	Question													
	6	7	8	9	10	11	12	13	14	15	16	17	18	19
<b>A</b>	32.4	66.2	42.3	62.0	90.1	70.4	28.2	78.9	31.0	32.4	2.8	7.0	22.5	8.5
<b>B</b>	54.9	32.4	46.5	4.2	8.5	25.4	50.7	16.9	35.2	62.0	66.2	47.9	43.7	46.5
<b>C</b>	5.6	1.4	8.5	33.8		2.8	14.1		18.3		22.5	1.4	25.4	22.5
<b>D</b>		0.0	2.8				1.4		11.3		4.2	8.5	2.8	14.1
<b>E</b>		0.0	0.0				1.4		0.0			16.9	0.0	4.2
<b>None</b>	7.0	0.0	0.0	0.0	1.4	1.4	4.2	4.2	4.2	5.6	4.2	18.3	5.6	4.2

**SURVEY ON THE COURSE CURRENCY**

Please answer the following questions. Circle the correct answer (or answers) on the multiple-choice questions.

1. How many course currency bills did you collect in total until now? \_\_\_\_\_
2. Sellers: How many course currency bills did you gain through trading? \_\_\_\_\_
3. Buyers: How many bonus points cards did you purchase \_\_\_\_\_
4. Buyers: How many course currency bills did you exchange through trading? \_\_\_\_\_
5. What approximately is your Grade Point Average? \_\_\_\_\_
6. Did simulating a trading market with the course currency bills help you understand how markets work?
  - (a) It helped a lot
  - (b) It helped somewhat
  - (c) It did not help
7. How do you think the course currency affected class participation?
  - (a) It substantially increased it
  - (b) It slightly increased it
  - (c) It did not affect it
  - (d) It slightly decreased it
  - (e) It substantially decreased it

8. How did having the course currency affect your own participation in class?  
(a) It substantially increased it  
(b) It slightly increased it  
(c) It did not affect it  
(d) It slightly decreased it  
(e) It substantially decreased it
9. How is your participation in this class compared to you other classes?  
(a) I participate more in this class  
(b) I participate more (on average) in my other classes  
(c) My participation is about the same in this class as in my other classes
10. Do you think the course currency bills are distributed fairly?  
(a) Yes, they are distributed fairly  
(b) No, they are not distributed fairly

*If you answered (b) to question 5 please explain what makes their distribution unfair.*

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11. Is class participation important for learning?  
(a) It is very important  
(b) It is somewhat important  
(c) It is unimportant
12. Did the course currency make class more fun for you?  
(a) It made the class much more fun  
(b) It made the class somewhat more fun  
(c) It did not make the class more or less fun  
(d) It made the class somewhat less fun  
(e) It made the class much less fun
13. Do you think that having the course currency helped you obtain a better grade?  
(a) Yes            (b) No
14. Do you find participating in class enjoyable or stressful?  
(a) I find it very enjoyable  
(b) I find it somewhat enjoyable  
(c) I find it neither enjoyable or stressful  
(d) I find it somewhat stressful  
(e) I find it very stressful
15. What is your gender?  
(a) Female            (b) Male
16. What is you class ranking (not counting the credits from this semester)?  
(a) Freshmen            (b) Sophomore  
(c) Junior            (d) Senior

17. What is your major? Circle ALL that apply.
- (a) Accounting
  - (b) Business Management (including PGM and RTM)
  - (c) Economics
  - (d) Finance
  - (e) Marketing
  - (f) Others Specify \_\_\_\_\_
18. What grade do you expect to get in this class? (Not including this semester)
- (a) An "A"            (b) A "B"            (c) A "C"
  - (d) A "D"            (e) An "F"
19. How do you like Macroeconomics?
- (a) I strongly like it
  - (b) I somewhat like it
  - (c) I neither like it or dislike it
  - (d) I somewhat dislike it
  - (e) I strongly dislike it

**NOTES**