Teaching by infusing Topics: Money and Banking

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Abstract: Students' cultural identities shape their learning styles and preferred modes of expression. Rarely do economic courses paint an inclusive and exciting picture of what students would like to learn and how would they go about learning it. This thinking led the author to infuse race with Money and Banking in his class taught at Xavier University of LA in the spring of 2005. This class had two sections both of which I alone taught. The effectiveness of this teaching technique involving this infusion is tested by a direct comparison between student's ratings in the class where the infusion was used and those in the class where it was not. The findings of project suggest that the student satisfaction as measured by the over-all learning experience is significantly greater with the infusion than without.

Key Words: *Monetarism, Keynesian philosophy, marginalist revolution*

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1. Introduction

Students' cultural identities shape their learning styles and preferred modes of expression. Rarely do economic courses paint an inclusive and exciting picture of what students would like to learn and how would they go about learning it. This thinking led me to infuse race with Money and Banking, the class I taught at Xavier University of Louisiana in the spring of 2005¹. This class had two sections both of which I taught. Xavier was always committed to the increase and diffusion of knowledge. It never stopped. Certainly, the task I was involved in was a part of my commitment toward curriculum reform and effort at increasing student motivation... It was my task to give it as positive a direction as is possible. The stress on the exercise of socio-cultural factors in academic inquiries is a methodologically worthy objective to be pursued by a teacher. It has almost a cliché that we live in a multicultural society. But the fact that it is a cliché does not alter the importance of recognizing this in our undergraduate economics curriculum. Learning style is the consistent pattern of behavior and performance by which an individual approaches educational experiences. It is the composite of characteristic cognitive, affective and physiological behavior that serve as relatively stable indicators of how a learner perceives, interacts with and responds to learning environment. It is formed and molded by human development and the cultural experiences of home, school and society.

Xavier experience and the African-American reality have taught me how to be flexible in my teaching approach. I would not limit my teaching to mathematical modeling or the behavior of what a usual American economist calls a "rational economic man", because alternatives do exist. Of course, one can promote critical thinking skills from within a main stream paradigm; virtually all the perennial issues of policy involve competing sets of deeply held values and the interpretive consequences of holding those values. But we have found that an explicit use of an alternative paradigm visions of the economy and, particularly the competing perspectives on race issues they present, provide students with a well-defined opportunities to interrogate their values and commitments and thereby gain the critical thinking benefits and motivation of dealing with issues for which there are no 'right' or 'wrong' answers, only well or poorly argued, more or less compelling positions.

2. Race and Economics

I introduced the ideas of a well-known economist cum sociologist, Du Bois (1968), who studied economics in the context of their social surrounding, culture and history. Du Bois wrote: "...Out of the past is spawned the

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¹ For a similar infusion exercise see Das (2010)

present and only by a study of the past can we be wise for the future... "Du Bois was the first African-American who completed his Ph. D. in economics at Harvard University. His dissertation became the first volume of the Harvard Historical Societies. Three years later in 1986 he published *Philadelphia Negro* that many consider a brilliant piece of scholarship.² Although Du Bois' research was recognized internationally, as an African-American, he was never offered an appointment at a predominantly white university. I proposed to infuse Du Bois ideas into my Money and Banking class not to politicize the course but to make the content and teaching style more inclusive. While attempting to infuse Du Bois ideas, I tried to present a unifying theme as well as circumstances that may be less flattering to the prevailing all-pervasive neoclassical economics of today. Prepared notes along with bibliography were distributed in the class.

It has been established through research that 'relational' or 'field-sensitive' teaching approach that capitalizes on culture and human associations, corresponds more closely with the learning preferences of African-American students. It was my belief that African-American students would be more motivated to learn in a 'field-sensitive' rather than 'analytical' or 'field-independent' 'object-oriented' situation. I introduced Du Bois' ideas in the context of the discussion of the monetarist and Keynesian ideas in money and banking. The infusion of this topic with the 'core' materials might spawn some opposition from my fellow educators who might contend that the task is too big or complex. They would argue that the African perspectives and race are laudable goals but can not be undertaken because there is not enough time to teach current content. An appropriate question to those who would say this – Does the existing curriculum give an appropriate representation of the diversity found in American society?

3. Monetarist Philosophy

Friedman (1966) was best known for reviving interest in the money supply as a determinant of the nominal value of output, that is, the quantity theory of money. Monetarism is the set of views associated with modern quantity theory. Friedman and Schwartz (1971) examined the role of the money supply and economic activity in U.S. history. A striking conclusion of their research was one regarding the role of money supply fluctuations as contributing to economic fluctuations. Several studies, for example, Friedman (1984), Poole (1988) suggested the primacy of the money supply over investment and government spending in determining consumption and output. These challenged a prevailing but largely untested view on their relative importance. Friedman's *empirical* research and some theory supported the conclusion that the short-run effect of a change of the money supply was primarily on output but that the longer-run effect was primarily on the price level he famously quipped that price deflation can be fought by "dropping money out of a helicopter".

To Friedman 'Inflation is always and everywhere a monetary phenomenon'.³ Friedman rejected the use of fiscal policy as a tool of demand management; and he held that the government's role in the guidance of the economy should be restricted severely. Friedman wrote extensively on the Great Depression, *The Federal Reserve* was largely responsible for converting what might have been a garden-variety recession, although perhaps a fairly severe one, into a major catastrophe. Instead of using its powers to offset the depression, it presided over a decline in the quantity of money by one-third from 1929 to 1933. Far from the depression being a failure of the free-enterprise system it was a tragic failure of government.

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²The years from 1905 to 1910 were eventful for Du Bois. In 1905 he founded and served as the general secretary of the Niagara Movement, a group of black intellectuals, and in 1909 he helped found the National Association for the Advancement of Colored People (NAACP). Du Bois also wrote *The Souls of Black Folk* in 1903 and *John Brown* in 1909, and founded two literary magazines, one *The Moon* in 1906 and the other *Horizon* in 1907. In 1906 Du Bois penned "*A Litany of Atlanta*" in response to what he saw and felt when he witnessed the Atlanta race riots of that year. Afterward he kept a double-barreled shotgun in his home for protection against the white mobs. In 1910 Du Bois left Atlanta University to become director of publications and research of the NAACP in New York and later that year he founded its monthly magazine, *The Crisis*. He remained connected to Georgia and affiliated with the AU Studies until 1914.

³ Milton Friedman (1984)

Friedman's essay (1966) on the methodology of positive economics provided the epistemological pattern for his own subsequent research and to a degree that of the Chicago School of Economics. There he argued that economics as *science* should be free of value judgments for it to be objective. Moreover, a useful economic theory should be judged not by its descriptive realism but by its simplicity and fruitfulness as an engine of prediction. Friedman's political philosophy emphasized the advantages of free market economics and the disadvantages of government intervention and regulation strongly influencing the opinions of American conservatives.

4. Keynesian Philosophy

In his *General Theory* which he wrote during the 1930s depression years, John Keynes optimistically argues that downturns in the economy are short-lived problems that stems from a lack of demand. His solution to these problems was simple but radical: that the government should boost short-term demand through public spending. Further, he claimed that once the economy returns to buoyancy the government reclaims its budget deficit by increasing taxes and reducing public spending. In other words, the government spending should be inversely proportional to private trade. When the economy slumps public spending should go up, and when trade is booming, the government should spend little. What was radical about his proposal was the general principle that the government should intervene in the economy if only to control demand. His idea is known as "demand management policy."

Thus Keynes in the 1930s spearheaded a revolution in economic thinking, overturning , as Hicks (1937) argued long ago, the older ideas of neoclassical economics that held that free markets would automatically provide full employment as long as workers were flexible in their wage demands. Keynes instead argued that aggregate demand determined the overall level of economic activity, and that inadequate aggregate demand could lead to prolonged periods of high unemployment. Keynes's influence waned in the 1970s, partly as a result of problems that began to afflict the Anglo-American economies from the start of the decade, and partly because of critiques from Milton Friedman and other economists who were pessimistic about the ability of governments to regulate the business cycle with fiscal policy. However, the advent of the global financial crisis in 2007 has caused resurgence in Keynesian thought. Keynesian economics has provided the theoretical underpinning for the economic policies of President Barack Obama of the United States, former Prime Minister Gordon Brown of the United Kingdom, and other global leaders to ease the late 2000s economic recession.

5. Du Bois and the Historical School

A scholar like David Levering Lewis, (Lewis and Willis, 1993) suggest that Du Bois was highly influenced by the normative and reform orientation of his professors in Berlin, in particular Gustav von Schmoller and Adolph Wagner, both leading figures in the school of historical economics. Du Bois was a graduate student in Germany between 1892 and 1894. The German Historical School of economics assumed a major role for the state in the organization of a just and democratic society; this in stark contrast to the laissez-faire economics of monetarist philosophy or to the Keynesians' controlled or 'socialistic' economy? In defining the problem of the twentieth century as the color line and the struggle against it, he was anticipating both the civil rights and anti-colonial struggles, albeit in their bourgeois democratic dimensions. However, Du Bois was mindful in *Souls of the Ruin* of bourgeois democratic political and economic relationships in the US after the long period of chattel slavery, the Civil War and the overturning of Reconstruction. And thus he viewed the onslaught against democracy as rooted in the racist overturning of Reconstruction and the forcing of the former slaves back towards slavery. Du Bois does not seem to subscribe to the monetarist philosophy. To Du Bois, the market is not perfect; the workers entering the market do not enjoy equal opportunities of utilization and reward and certain factions of the labor force are not able to produce up to their capacities. Du Bois was also aware that fiscal and monetary policies were based on aggregate demand and are, therefore, not able to deal with the problems created by race, ethnicity or gender differences. In that sense Du Bois was not a Keynesian either. On the other hand, Du Bois was closer to Milton Friedman in one sense. This was in terms of the need

for an *empirical* approach to economics. As Du Bois noted “the path to economic reform lay in the empirical knowledge which, dispelling ignorance and misapprehension, would guide intelligent social policy.”⁴

Du Bois’ contribution to political economy is partly obscured by the historical method he used. Du Bois studied economic events in the context of their social surrounding and history.⁵ The Historical School withered under the assault of the Marginalist revolution⁶ and by 1910, its methods were relegated to sociologists. Accompanying its demise, the study of economics became increasingly mathematical, absurd, and more isolated from other social sciences. According to Du Bois’ economics theories continue to focus on the economics of homogeneous labor, economic rationality and perfect competition, which tend to ignore race and gender biases in economic policy and discrimination. Du Bois’ believed that the traditional tools of economics and analysis are fully capable of identifying the sources, extent and effects of economic bias and discrimination. One way to identify the problem, as Du Bois felt, is to ‘disaggregate’ the population according to the apparent differences in the ‘pattern of distribution of endowment, utilization and rewarding and ‘race, ethnicity and gender affiliation’. One can here see a direct application of disaggregation to the Keynesian concept of multiplier. Suppose the overall marginal propensity to consume (MP) is 0.75 and the multiplier is 4. Suppose further that there are three separate groups MPC’s 0.6, 0.75 and 0.9. An investment fund of \$100 spent at ransom to stimulate the economy would generate a total income of \$400. However, if this investment were disaggregated to target the groups with higher MPC’s a higher total income would be generated; for example, let \$50 be targeted toward the group with 0.6 MPC, \$20 toward the 0.75 MPC and \$30 toward the 0.9 MPC group. The total income generated by the same \$ 100 investment expenditure will be \$ 505. Monetary policy would be another important area in which macro policy could be more effective by disaggregation and targeting. One should remember that not all people use banking services equally nor do they respond equally, as Du Bois wrote, to changes in the interest rates and credit availability. The differences in response are, of course, related to race, ethnicity, or gender affiliation.

6. Faculty Development Perspective

When I taught Money and Banking, I assumed that the course was terminal. Therefore I planned the course to help the students gain command over the basic concepts money and macroeconomics, understand how fiscal and monetary policies are formulated and applied to mainstream economic stability and growth and to improve welfare in society. Up to this point the course was primarily theoretical. I then tried to expose the students to the main issues that usually face the macro economy, such as unemployment, credit availability, inflation, inequality and low productivity. I explored how these problems vary in incidence and intensity from one country to another, from one social group to another and also, between the race and ethnic groups. If someone suggests that adding new material would threaten or crowd out traditional material, it would not be right. It takes creativity and dedication on behalf of the instructor to be able to avoid any important deletions. First, I emphasized that the infusion I made in the course was another way of applying and integrating traditional concepts of economics and that no new concepts were being added to the fund of concepts already in existence and what students were supposed to master in the course. Second, I prepared examples to illustrate the relevance of each of the infused concepts in the analysis of money and banking and other macro events in the economy.

I believe teaching Money and Banking infused with a cultural imperative would expand my perspective along with the students’, placing me in a stronger position to use the tools of economic inquiry in a world that is rapidly becoming integrated. I do not believe that an economist is an economist wherever he performs and that he has certain theoretical tools which he can apply indiscriminately to any set of circumstances. Does it mean that this should reflect a change in the content and substance of the course? The answer, as I implied a while ago, is ‘no’. My course objective did not change. What changed was the course perspective so that I could make the course more relevant and ‘field-sensitive’ to the African-American

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⁴ We simply collect facts’ he once observed. ‘Others may use them as they will’ His only prediction is that African-Americans are deserving of as much scientific investigations as are all other ethnic groups.

⁵ Du Bois (1968)

⁶ For an excellent summary on the marginalist revolution see Schumpeter (1954) or Stigler (1950).

experience. All those involved with curriculum changes and assessment studies could as well view my work as a learning process grounded in the following:

- Provide 'library' of examples and interpretive tools.
- Development of 'shared' views and 'transparent' criteria for evaluating student work.
- Expand the 'community' of participants.
- Publish selected student work and recognize accomplishments.

7. Methodology

The effectiveness of this teaching technique was tested by a direct comparison between student's ratings in the class where the infusion was used and those in the class where no infusion was made. The comparison used a standard questionnaire that was distributed in the class at the end of the session. Student responses were kept anonymous. The form contained 8 questions that required the rating of the instructor on a five-point Likert-type scale. A Likert scale is widely used in a survey research. When responding to a Likert questionnaire item, a student respondent specified their level of agreement to a question. Out of 8, there were 3 questions that allowed students to write responses to the specific concern of this work which is related to infusion. Any rating improvement was measured by the 'equality of the mean test' applied to each questions on the questionnaire. The testing results are submitted by means of a table. After the questionnaire is completed, each item was tabulated separately or then item responses were summed to create a score for each item. Hence a Likert scale is often called a summative scale.

The problem is to test whether the two means are the same or different. To keep the problem simple. It is assumed that the variance of both sections is the same. But it is not known what the variance is. The normal distribution is still the parent distribution. Testing whether two means are the same is like testing whether a random variable defined by the *difference* of the two random variables has a mean of zero. Therefore, instead of trying to devise a test for the difference between two means, let a new random variable, D , be defined where $D = C_{m_1} - C_{m_2}$, are the random variables indicating the mean power usage of the two rival sections that we are trying to evaluate. First, it is necessary to identify the probability distribution function of the random variable D . because the normal distribution is still relevant for C_{m_1} and C_{m_2} and because the distribution of the difference between two normal random variables is also normal, the distribution of D is normal with mean zero under the null hypothesis of no difference between the means of C_{m_1} and C_{m_2} the only problem left is to figure out the variance of D or how to estimate it. Let the problem be considered briefly- in two stages. First, is the variance of the test outcomes in the two sections known? It is necessary to discover the variance of $D = C_{m_1} - C_{m_2}$ where C_{m_1} and C_{m_2} are mean values using n_1 and n_2 observations, respectively. The answer to the question depends on a simpler question: what is the variance of a difference between two Gaussian random variables? Recall that the variance of a difference, when the two variables are independently distributed, is the sum of the constituent variances. Thus if y_1 and y_2 are the two random variables, the variances of the difference is given by

$$\begin{aligned} E \{ (y_1 - y_2) - [E \{ y_1 \} - E \{ y_2 \}] \}^2 \\ &= E \{ [y_1 - E \{ y_1 \}] + (y_2 - E \{ y_2 \}) \}^2 \\ &= E \{ (y_1 - E \{ y_1 \})^2 + E \{ (y_2 - E \{ y_2 \})^2 - 2 E \{ (y_1 - E \{ y_1 \}) (y_2 - E \{ y_2 \}) \} \} \\ &= \sigma_1^2 + \sigma_2^2 - 0 \end{aligned}$$

The cross product is zero because the variables are independent, so we can calculate the expectation of each component separately. The variance of each mean, given that the variances of the parent distribution, are σ_1^2 and σ_2^2 and that the respective sample sizes are n_1 and n_2 are σ_1^2/n_1 and σ_2^2/n_2 . Consequently the variance of the difference is

$$\sigma_D^2 = \frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}$$

Let the pooled sample variances be defined as

$$S_p^2 = \frac{(n_1 - 1) s_1^2 + (n_2 - 1) s_2^2}{n_1 + n_2 - 2}$$

Table 1: Student Perception of Instructor/ Instruction Effectiveness

S/N	Instructor evaluation	^a Difference	^b p-value
1	The requirements of 'infusion' in the course was adequately explained	0.1102	.0006
2	The 'infusion' was very useful in clarifying difficult concept	0.1143	.0000
3	I learned a lot through 'infusion' feedback	0.6115	.0005
4	Adequate opportunities were provided by the instructor to think critically	0.1734	.0064
5	The instructor seems to care about my learning	0.2332	.0004
6	During the whole term, I looked forward to attending this class	0.404323	.0001
7	Compare this course with other courses at this level	0.3233	.0013
8	The effort I put into this course is almost twice as much as in other courses	0.3410	.0000

^a Difference between the experimental group mean and control group mean

^b P value is associated with t test for testing difference, $\mu_1 = \mu_2$

Note: Despite the fact that the sample variances s_1^2 and s_2^2 (not reported in the table) were found not to be Equal in the given situation, the assumption of equal population variances were made, although we did not make any formal test of equal population variances to verify the equality assumption.

8. Results

The findings of the paper suggest that the student satisfaction as measured by opinion rating of the instructor as well as by the over-all learning experience is significantly greater with the infusion than without. Although there is an over-all improvement in the student rating it is particularly pronounced in several areas, for example, in the areas of students' interest in the course (item 6) and their feeling about the usefulness of the course (item 2). The null hypothesis of equal means: $H_0 = \mu_1 - \mu_2 = 0$ is rejected in eight out of eight cases shown in the table. Student rating on the item 8 which bears directly on the objective of incorporating the infusion in the class shows a significant improvement. Assuming that grades in the course are reflective of all the knowledge that students gain through infusion, it must be cautioned that the gains in the test performance were modest, given the small effect size of the differences. There is a risk that aggregate changes might skew the curriculum or the course content and change the pedagogical priorities so that the faculty appears to be teaching to the test.

This should be a positive finding, not a normative recommendation. Until additional work with more questions in various categories and with more information on the exact allocation of instructional effort is conducted, these findings should be viewed exploratory. The response patterns and the analytical techniques developed here for examining the impact of race on student learning should be useful in guiding further exploration in developing data-based suggestions for enhancing student learning. With the data hand it will be possible in future to examine the possibility of difference in the response patterns of male and female sub-groups and in the response patterns of students who are at the junior or at the senior level.

Also remember that several of the observed improvements may, however, be attributable to a more positive and enthusiastic attitude of the instructor and this may have biased the results. Further an on-going survey

and testing may shed more light on various issues raised and also provide guidelines for developing infusion. The 'power' of this test performed here could not be tested without being able to increase and randomize the form of the sample selection and without being able to control the gender or the behavioral characteristics of the students. Those interested in the results and the variance of infusion assessment can be placed into one or two of general categories, external users and internal users. External users, such as state higher education officials or the Board of Regents, may use the results to make a value judgment about the quality of a particular course content or program. Internal users such as faculty and administrators can look to the results of course assessment to determine strategies for continuous improvement at their school or the school's program.

9. Conclusion and Recommendations

The relationship between culture and cognitive style, though not quantified, has been studied over the last two decades. Do minority students have a 'style of learning' that is different from mainstream students? From the results of this study one can say - the answer is 'yes'. The results in this study do indicate that infusion does matter for arousing student interest in the course and for making them think critically. Which means that the stress on historical analysis and the attention paid to the exercise of power will help explain different visions of race as necessary variables in economic analysis. Race disparities in economic status have a complex history in that they both result from and contribute to differentials in power - the 'power of property', access and influence, permitting control of the 'surplus' or 'exploitation' in Marxian term and 'powerlessness' of dispossession, in Du Bois' term. Monetarists or neo classical economics, even Keynesians rarely employ an explicit concept of power; indeed, monetarists prefer the familiar language in which the peer/ powerlessness of one's membership in certain social groups is subsumed into endowments and preferences, choice sets differing in particulars but not in form for different individuals. Yet, students know that economic asymmetries based on race are in significant part issues of power; they are willing to set that knowledge aside to confront the immediate task posed by monetarists or Keynesians who do not use the term; yet, they seem prepared to respond if presented with an analysis that explicitly constitutes power and history of its uses. It is found that students are stimulated by these contrasts: different positive visions of what the world offers fruitful opportunities for critical thinking.

Interventionist policies - monetarists' or Keynesians' - do evoke strong feelings but students cross a major barrier to critical thinking when they understand how different theories shape one's attitudes toward both 'is' and 'ought'. If theory posits a world in which social factors notwithstanding, macro events - inflation or distribution, is largely a matter of market-clearing pressures toward a necessary equilibrium, then one may be predisposed to regard interventionist policies as fraught with potentially unacceptable costs and inefficiencies. Alternatively, if theory posits a world in which market pressures notwithstanding, distribution, inflation, or unemployment is largely a matter of social customs as modified by the exercise of economic and political power, then one may be predisposed to regard inaction as acquiescence to the living consequences of past discriminatory outcomes. Moreover, critical thinking presupposes the ability to understand opposing positions well enough to argue for (or against) each and that sort of intellectual versatility is learned through exposure to alternatives.

The results of the study underscore the need for multiple measures at every level of course assessment, especially for course content at the program level. The following steps are recommended:

- Conducting an analysis of course syllabi and examinations to assess whether all relevant important topics are covered.
- Having the faculty teaching this class review the topics/course materials to better understand the content of the course.
- In the course syllabi, including the recommendation that students retain the topics/course materials for later review, in preparation for career or placement exams.
- Preparing a set of topics or review materials for this class and distributing the materials in various ways. For example, the material could be handed out at the beginning of the class or posted on the university Web site.

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