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EDUCATIONAL NOTES

Is There a Disconnect Between Teaching Styles and Learning Styles in High School Economics Classes?

Jane Lopus*
California State University, East Bay

Jody Hoff
San Francisco Federal Reserve Bank

Abstract
Teachers have preferred teaching styles, and students have preferred learning styles. Ideally but unrealistically, students would be matched with teachers whose teaching styles match their learning styles. Thirty-nine California high school economics teachers and their 1290 students were surveyed on preferred teaching and learning styles. Results indicate that teachers and students exhibit different preferences and that teachers are significantly more enthusiastic about all the methods listed than are students. Although it is recommended that teachers be aware of students' learning styles, it is also important for teachers, in the role of pedagogical experts, to expose students to different methods and materials for learning.

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I. Introduction

Different students learn best by different methods. For example, some may be auditory learners and benefit more than others from listening to lectures. Others may learn best by working in cooperative groups. Teachers also have preferences about the methods that they think are most effective. If students learn best by one method and teachers teach best by another method, there are likely to be

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problems on both sides. Ideally, students would be matched with teachers whose teaching style matches their learning style. Failure to do so may result in less learning, which conflicts with the goal for both the teacher and the student. Therefore, it is interesting that in a recent survey of 39 high school economics teachers and 1290 high school economics students in California, teachers and students revealed different teaching and learning preferences. In addition, students were significantly less enthusiastic about any of the methods listed than were teachers. After a brief review of the literature on matching teachers' teaching styles with students' learning styles, we present teacher and student responses to relevant parts of the survey and discuss the implications.

II. Background Literature

Research on teaching and learning styles exists in both the education literature and the economics and business education literature. An entire issue of *Theory into Practice* was devoted to articles on this topic in 1984 (Vol. 23, No. 1.) Historically, some advocate that teachers tailor their presentations to students' learning styles (Henson and Borthwick, 1984, p.6.) Others suggest that aligning teaching and learning styles is not always possible or adequate and that instructors must adapt to other changing factors, such as time and environment (Hyman and Rosoff, 1985, as condensed from 1984.)

An early study of introductory college economics students (Wetzel, Potter and O'Toole, 1982) classifies instructors and students as dependent, independent, or collaborative teachers and learners. Student learning improved significantly if learners and instructors were both "independent." A follow-up study (Charkins, O'Toole and Wetzel, 1985) expands on the prior study by linking teaching styles and learning styles. This study finds that the greater the divergence between teaching and learning styles, the lower the student's gain in economic knowledge. Two economics studies focus on student personality traits and different teaching methods. A study by Emerson and Taylor (2007) looks at personality types and classroom experiments, and finds that while the experimental approach is beneficial or neutral for most personality types, concrete thinkers may not perform as well in experiments as abstract thinkers. Borg and Shapiro (1996) explore the relationship between personality types and performance in introductory economics. They find that students

whose temperament matched that of the instructor performed better than those whose temperaments did not match. A study of MBA students finds evidence that students in different types of MBA programs have different preferences for types of classroom instruction. Instructors are advised to be aware of differences and to use a variety of teaching strategies to reach a cross-section of the classes (Filbeck and Webb, 2000.)

III. Survey Responses

Thirty-nine California high school economics teachers and 1290 students, mostly high school seniors, completed questionnaires during fall 2006 as part of a research project to evaluate the video curriculum program *Open and Operating: The Federal Reserve Responds to September 11* (Lopus and Hoff, 2008).[1] The survey questionnaires were modeled after the teacher and student questionnaires used in norming the *Test of Economic Literacy* (Walstad and Rebeck, 2001).

Table 1 provides some characteristics of the teachers and students in the sample. Teachers are predominantly male, whereas students are about equally divided between male and female. Teachers overwhelmingly indicate that economics is one of their favorite subjects to teach, whereas most students think their economics class will be ok, but not a favorite. The teachers are experienced teachers in general and are also experienced in teaching economics. Forty-one percent have a major, minor and/or an advanced degree in economics. Despite their lack of enthusiasm for economics, most students expect to earn high grades in the class. Most (86 percent) have not taken a prior course in economics, or are not aware that they have studied it in other classes. Students self-report an average grade point average of about 3.0.

IV. Comparison of Teaching and Learning Styles

The teacher questionnaire gave a list of teaching methods and materials and asked teachers to indicate any that they believed to be

[1] Although not central to this paper, the results of the study indicated that students who took part in the *Open and Operating* curriculum scored higher on a multiple choice test than the control group of students who did not participate in the curriculum. Scores on an essay question were mixed, with some experimental classes performing better and some control classes performing better. Gender and ethnic differences were found on three different assessment activities: multiple choice questions, an essay question, and a creative poster activity.

especially helpful in their teaching. Students were given a similar list of methods and materials and asked to identify those that they thought were especially helpful in their learning. Table 2 lists the

Table 1: Teacher and Student Characteristics

Characteristic	Percent of Teachers (N = 39)	Percent of Students (N = 1047 - 1290)
Gender		
Male	71.8	51.0
Female	28.2	49.0
Attitude toward economics		
Love it – one of favorite subjects	92.3	25.6
It's ok, but not a favorite	7.7	67.8
Don't like it – a least favorite subject	0.0	5.5
Years of experience teaching economics		
3 – 5	28.2	—
6 – 10	25.6	—
11 – 20	41.0	—
> 20	5.1	—
Have major, minor and/or MA/MS in economics		
No	59.0	—
Yes	41.0	—
Expected grade in economics class		
A	—	49.3
B	—	37.0
C	—	11.6
D or F	—	0.8
Prior economics studied in high school		
Never studied economics before	—	85.8
Have taken a prior course in economics	—	2.5
Have studied economics in other classes	—	11.7
Self-reported high school grade point average		
> 4.0 due to honors and AP credit)	—	3.5
3.6 – 4.0	—	19.6
3.0 – 3.5	—	42.3
2.0 – 2.9	—	32.0
1.1 – 1.9	—	2.6

Note: Percentages may not add to 100 due to rounding.

methods and materials, and compares teacher and student responses. The first column lists the methods and materials ranked in the order of preference by the teachers. Teacher responses are reported in the second column. Ninety-five percent of the teachers (37 out of 39) indicated that videos were especially helpful in teaching, closely followed by lectures and simulations. "Creative activities" ranked at the bottom, although 79 percent (31 of the 39) of the teachers indicated that creative activities were helpful in their teaching. Overall, teachers were enthusiastic about the different materials and methods listed, and most teachers in the sample indicated that everything on the list was helpful to them in their teaching.

Student responses are reported in Column 3. Students find videos to be the most helpful (69 percent), followed by discussions (64 percent), creative activities (63 percent), and games and simulations (59 percent). A little over half of the sample indicates that group cooperative learning activities are helpful. Less than half of the sample indicates that the Internet, lectures, newspapers and magazines, and computer software are helpful in their learning.

A comparison of the ranking of the items on both questionnaires shows that both teachers and students rank videos as being most helpful. Following videos, there are interesting differences in teacher and student rankings. Teachers rank lectures tied for second most helpful, whereas lectures are near the bottom (seventh) on the students' list. Teachers rank newspapers and magazines higher than students (fifth versus eighth). Students rank discussions second, compared to their teachers' fifth place ranking. And students rank creative activities third, compared to their teachers' ninth place ranking.

Column 4 reports the results of t tests comparing the mean responses of teachers to those of students. In each case teachers were significantly more likely to identify the method or materials as being helpful to their teaching than students were to say that it was helpful to their learning. There are several possible explanations for this. Because students are not enthusiastic about taking the economics class in general, as shown in Table 1, they may have less optimism about any of the methods and materials being helpful to them in studying economics. High school seniors may be more cynical than their teachers as a group, regardless of the subject matter. Alternatively, because the teachers in the sample are experienced economics teachers and enthusiastic about teaching economics, this

may be reflected in their confidence in being able to successfully teach with all of the methods and materials presented in Table 2.

Table 2: Comparison of Teaching and Learning Styles Means and (Standard Deviations)

Methods and Materials	**Teacher Responses: Helpful in Teaching** (N = 39)	**Student Responses: Helpful in Learning** (N = 1290)	**t**
Videos are especially helpful...	.95 (.22)	.69 (.46)	-3.48***
Lectures, including PowerPoint, are especially helpful...	.92 (.27)	41 (.49)	-6.46***
Games and simulations are especially helpful...	.92 (.27)	.59 (.49)	-4.24***
Discussions are especially helpful...	.90 (.31)	.64 (.48)	-3.36***
Newspapers and magazines are especially helpful...	.87 (.34)	.31 (.46)	-7.47***
Computer software is especially helpful...	.82 (.50)	.30 (.46)	-3.95***
Group cooperative learning activities are especially helpful...	.82 (.39)	.53 (.50)	-3.74***
The Internet is especially helpful...	.82 (.39)	.48 (.50)	-4.19***
Creative activities are especially helpful...	.79 (.41)	.63 (.48)	-2.09**

Note: 0 = no, 1 = yes; **(***) denotes significance at the 0.05 (0.01) level.

V. Implications and Recommendations

Certainly, economics teachers cannot be expected to adjust their teaching style to match the preferred learning styles of all their students. Strong arguments can be made for the position that teachers have both the right and the responsibility to encourage students to learn in different ways and from different sources. After

all, teachers have studied pedagogical methods, and as recognized experts may know better than students the best way to present materials to help students learn. Exposing students to appropriate teaching methods and to learning in different ways could result in benefits to students, even if they are initially resistant. However, knowing what their students' preferred learning styles are could help teachers understand how best to reach their students. Also, having a dialogue with students about their preferred teaching methods and their rationale for this may help students to connect with the teacher. If teachers recognize that there are a variety of preferred learning styles among students in their classes, it may be in both the teachers' and the students' interest for teachers to vary their teaching styles to reach different students. If teachers intersperse their lectures with videos, group projects, simulations, creative activities, media reports, and discussions, they are more likely to reach even the most unenthusiastic student.

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