

**USING AN ACADEMIC TRADING ROOM  
TO ENHANCE ECONOMICS LITERACY TRAINING**

**Kristin Bristol**

*Associate Director, Center of Financial Studies  
Southern New Hampshire University*

**David Fehr\***

*Director, Center for Financial Studies  
Assistant Professor of Finance  
Southern New Hampshire University*

**Gary Tripp**

*Associate Professor of Economics/Finance  
Chair – Department of Economics/Finance  
Southern New Hampshire University*

Working Paper No. 2003-06

© 2003 Kristin Bristol, David Fehr, Gary Tripp

---

*\* Please direct all inquiries and correspondence to David Fehr at [d.fehr@snhu.edu](mailto:d.fehr@snhu.edu) or 603-644-3197. We would like to thank the School of Business, Southern New Hampshire University for support. We take credit for all errors that remain. Working Papers are a series of manuscripts in their draft form, and reflect the view of the author(s), not Southern New Hampshire University or the Center for Financial Studies.*

## ABSTRACT

The focus of this paper is to assess the current status of basic economics literacy primarily, though not exclusively, among high-school age students. Although the primary focus of the authors was directed to the secondary-level student population within the State of New Hampshire, considerable evidence indicates that similar proficiency levels exist on a nationwide basis. Indeed, student performance on the economics component of standardized social studies examinations in New Hampshire tend to parallel the results reported in nationwide studies. In general, a majority of students lack an understanding of basic economic concepts. The authors intend to demonstrate that a number of factors, many of which are systemic in nature, conspire to limit satisfactory student performance on such assessments. In the end, and on a practical level, we will discuss the attributes which a state-of-the-art, technology-based venue can offer to both students and teachers with respect to improving basic economics literacy among high school students. The paper will be developed as follows: Part I will frame the nature of the problem; Part II contains a survey of literature germane to this topic; Part III summarizes current national legislative trends; Part IV addresses curriculum frameworks, standards and assessments currently in force in New Hampshire; and Part V outlines the opportunities to use the assets of The Center for Financial Studies at Southern New Hampshire University (SNHU) to enhance economics literacy.

## I. INTRODUCTION

Educators and public school administrators have been aware of economics literacy deficiencies in the school age population for some time. Within many public school districts, economics curriculum initiatives as well as associated standards and assessments began to appear in the 1980s on a fairly widespread basis.

Prior to addressing the problem of basic economics literacy, it is necessary to ask what are basic economic concepts and what qualifies one as possessing basic economic literacy. Of course, this is precisely what the curriculum standards purport to address. The passage of “Goals 2000: Educate America” in 1994 deemed economics a core subject, which led to the establishment in 1997 of the National Standards in Economics for grades K-12 by the National Council on Economic Education.

Efforts to assess both adult and student understanding of fundamental economic concepts were undertaken by Louis Harris & Associates, Inc. in early 1999 (published by the National Council on Economic Education, NCEE). The survey population included approximately 1,000 adults (aged 18 and above) and slightly less than 1,100 students (enrolled in grades 9 through 12). Although this broad-based survey contained many interesting statistics, the reader is left with one inescapable conclusion: both survey groups demonstrate a poor understanding of basic economic concepts. Some of the more salient points of the survey were:

- Only three percent of students receive a letter grade of A, and just seven percent receive a letter grade of B for their basic understanding of economics.
- Two out of five (39%) twelfth graders receive a C or better. Furthermore, no more than one in four students in the lower grades do the same (14% grade 9, 12% grade 10, and 24% grade 11).

- On average, seniors receive the same score as adults (58% vs. 57%), but are more likely than adults to receive at least a C or better (39% versus 30%).
- Students who typically receive A's in their courses are more likely than other students to receive at least a C for their understanding of basic economics.
- Students who have been taught economics in school are more likely than those who have not to earn a grade of C or better for their understanding of the Standards in Economics (i.e., 26% versus 14%).
- Students who have at least one parent with a college education are more likely than students who do not have a parent with a college education to receive a C or better for their understanding of the Standards of Economics (e.g., 30% versus 15%).

On net, one would necessarily conclude that the overall grasp of basic, fundamental economic concepts by secondary-level students is quite poor. The good news is that, not surprisingly, economics training correlates positively with enhanced economics literacy (Lynch, 1990). As such, we will discuss below how our Center for Financial Studies, a full-featured, high-technology academic trading room, can be used to augment the economics training that takes place in our middle/high schools.

## II. SURVEY OF LITERATURE

Jacob DeRooy (1995) defines economic literacy as “a sound understanding of how our market economy works and a familiarity with its current condition”. In his book *Economic Literacy: What Everyone Needs to Know about Money & Markets*, DeRooy explains that familiarity with buzzwords is not sufficient, that a deeper understanding of economic principles is necessary. Alan Greenspan, chairman of the Federal Reserve Board, agrees that a firm grasp of economic concepts is vital and has asserted that the most efficient allocation of capital requires informed judgments by consumers (Greenspan, 2003). Americans are regularly confronted with economic issues such as capital or resource allocation, unemployment and inflation, economic growth and recession, government spending, taxes, the valuation of the dollar and others. However, a survey conducted by the National Center for Research in Economic Education and the Gallup Organization in 1992 (Walsted & Larsen, 1992) found that 75 percent of the respondents relied on the popular news media for economic information. It's unlikely that a thorough understanding of economics is gained from brief television and/or radio news sound bites and newspaper articles. Indeed, DeRooy alleges that the shallow knowledge gained from these brief exposures to economics abet Americans in disguising their economic illiteracy.

The costs to society of a national lack of economic literacy are potentially substantial. In a 1992 NCEE/Gallup survey, over 80 percent of each group (general public, high school seniors and college seniors) rated their understanding of economics and economic issues as fair or poor, rather than good or excellent. However, despite recognition of a poor grasp of economic principles, all respondents held strong opinions about economic issues. For example, 40 percent of the general public respondents suggested that the Federal government should take steps to reduce the Federal deficit and 78 percent thought legislation should be passed requiring a balanced Federal budget. However, only 51 percent of the respondents correctly defined a budget deficit and only 19 percent knew the expected size of the budget deficit for the current year. Hence, potential voters who lack an understanding of basic

economic principles may shape public opinion on economic policy, leading to policies that may have adverse effects on the U.S. economy and economic institutions (Walstad, 1997).

Williams, Haldeman, and Cramer (1996) have applied economics and sociology concepts to study personal financial decision-making, the general public's most intimate link to economics. One aspect of this work allows for the subsequent realization that a decision was not rational. Williams, et al, propose that an irrational decision can be the result of overestimation of the anticipated reward or lack of perception of the costs associated with a choice. The emerging field of behavioral economics explores the theoretical and empirical dimensions of similar issues; see Thaler (1981) for the seminal work. The important point here is the realization that this lack of information and/or knowledge regarding allocation of personal financial resources can easily propagate into the wider economy. Several researchers (Williams, et al, 1996; Garman, Leech, & Grable, 1996) have found that personal financial difficulties result in higher stress levels and lower productivity in the workplace, and that between 10 and 50 percent of an employer's workforce may be experiencing personal financial problems, depending on factors such as age, life cycle stage, income levels, and cost-of-living of a typical employee. Garman, Leech, & Grable conservatively estimates the cost to the employer of productivity lost due to employees' personal financial difficulties to be one to five percent of the employer's wage expense.

There is little data regarding the effect of increased economic knowledge on a person's earnings, particularly as it relates to primary and secondary schools. However, in the 1990 census, it was shown that the median earnings of men 25 to 34 years old with bachelor's degrees in economics was three percent more than the average for that age group; the difference was 13 percent for women. More commonly, the value of economic literacy is presented as a public good, i.e., that a society on the whole will benefit from the economic literacy of its populace. (Watts, 1998)

On a positive note, Americans have improved their understanding of economic principles over the past ten years. In the 1992 NCEE/Gallup survey cited earlier, the general public correctly answered only 39 percent of the economic knowledge questions; high school seniors and college seniors correctly answered 35 percent and 51 percent of the questions, respectively. Compare these results to the 1999 survey also cited earlier which found that the general public correctly answered 57 percent of the economic knowledge questions; high school seniors correctly answered 58 percent of the questions while the average score for high school students (seniors included) was 48 percent. The 1999 survey also found that college-educated adults scored higher on average than did adults lacking a college education. Nevertheless, 57 percent is not a passing score by most grading schemes.

Inclusion of economics in elementary and secondary school curricula has slowly but steadily increased over the past decade. In the 1992 survey, only 30 percent of the general public respondents reported having taken an economics course in high school; however, ninety-six percent of the adult respondents believed that schools should teach more about economics. Forty percent of the high school seniors reported taking such a course. By the completion of the 1999 survey, the percentage of high school seniors who reported having been taught economics increased to 82 percent. While 82 percent coverage is more adequate, we will want to explore the depth and breadth of the economics course work. (NCEE, 2003)

Often the teaching of economics is integrated into general social studies lessons. However, in 1998, 16 states required that high schools offer an economics course and 13 of those states required that students complete an economics course in order to graduate. By 2002, the number of states requiring that high schools offer an economics course had increased to 17 and the number of states with a graduation requirement of completion of an economics course increased to 14. The number of states that require testing of students' economics knowledge increased marginally between 1998 and 2002 from 25 to 27, with four additional states developing tests. (NCEE, 2003)

From 1998 to 2000, the number of states having economic curriculum standards increased from 38 states to 48 states plus the District of Columbia, remaining at this level in 2002. In 1998, of those states having economic standards, 28 required that the economic standards be implemented. In 2000, 36 of the 48 states having economic standards required implementation. In 2002, this number dropped to 34 of the 48 states having economic standards. These figures do not differentiate between states that integrate economics into the social studies standards and those that have independent economics standards. (NCEE, 2003)

As will be explained in section IV, New Hampshire is one of the states for which the economics standards are embedded in the social studies standards. New Hampshire requires assessment of student knowledge of economics; however, the New Hampshire assessment is for informational purposes only, i.e., nothing is at stake.

### **III. CURRENT LEGISLATIVE TRENDS**

Currently there are two forces potentially working at odds that may affect the trajectory of economic training: the No Child Left Behind Act of 2001 (Public Law 107-110) signed into law in January 2002, and the anticipated initial National Assessment of Educational Progress (NAEP) Economics Assessment in 2006, the development of which was announced concurrently with the announcement of the No Child Left Behind Act (NCLB Act). The NCLB Act emphasizes teaching and testing of mathematics and reading, which has led to concern that the teaching of other academic subjects could be pushed to the background. However, the NAEP Economics Assessment, commissioned by the National Assessment Governing Board which is in turn appointed by the Secretary of Education but is independent of the Department, will be administered for the first time to high school seniors in 2006 (American Institutes for Research, National Council on Economic Education, and Council of Chief State School Officers, 2002). More states may offer and/or require courses in economics in anticipation of the national assessment of economic knowledge.

The relative impacts of the NCLB Act and the impending Economics Assessment may depend largely on what school districts stand to lose by not meeting the requirements of each factor. The NCLB Act requires that schools make adequate yearly progress (AYP) toward statewide proficiency goals. Schools that do not meet AYP goals as measured by "challenging State standards in reading and mathematics" will be "subject to improvement, corrective action, and restructuring measures". Such measures include public notice and notices sent directly to parents of students of the school's failure to meet the requirements and an outline of plans for improvement. Parents may be given the option of transferring their child to another local school. If a school continues to fail to meet AYP goals, school

administration must take at least one of several proscribed corrective actions which include (but are not limited to):

1. Replacing school staff who are relevant to the school's failure to make AYP
2. Significantly reducing management authority at the school level
3. Appointing an outside expert to advise the school on its progress toward making AYP
4. Restructuring the school's internal organization.

If, after one year, a school has still not attained AYP, the school faces an overhaul of its governance. Note that these measures mean that inadequate scores on reading and math assessments could jeopardize teachers' and school administrators' jobs!

In contrast, NAEP assessments in 11 subject areas, including civics, reading, and mathematics, are administered to representative samples of students. NAEP assessments provide statistical information used to measure and track change in student achievement and to identify trends in education. NAEP assessment results may serve as points of reference or benchmarks for other assessments in a given subject area that may be considered 'high stakes', e.g., a graduation requirement. However, there is nothing uniformly directly at stake when a school or district administers a NAEP. As stated above, the first NAEP assessment in economics is expected to be administered in 2006.

Where does economics fit into the "No Child Left Behind" constellation? One school of thought is that 'low stakes' science assessments will come into existence in several years, and that eventually social studies will follow suit. The NCLB Act provides for civic and economic education through its subpart 3, Education for Democracy Act. The Education for Democracy Act provides for the funding of activities overseen by the Center for Civic Education, the National Council on Economic Education, and organizations experienced in the development of non-U.S. primary and secondary school curricula and programs in civics, government education and economic education. In 2002, \$4.5 million was allocated to the National Council on Economic Education, representing a 42% increase over the 2001 level of government grants received (NCEE, 2002). Appropriations for subsequent years will be determined on an annual basis, and it should be noted that 2003 funding remained at the 2002 level. Nevertheless, it is unlikely that mere financial support, while helpful, will be as effective in improving economics literacy as are the "high stakes" sanctions implicit in the NCLB Act when adequate yearly progress in math and reading are not achieved.

It has been shown that student knowledge of economics is positively correlated with to several factors: expenditure on teachers possessing advanced degrees, smaller class sizes, and the provision of economic education consultants for teachers (Lopus, 1990). It has also been shown that economics is better learned by students enrolled in an economics course as opposed to the inclusion of economics content in other courses (Lynch, 1990). By and large, most primary and many secondary schools as yet do not require a dedicated economics course, and most also tend to include economics curriculum standards in their general social studies standards. Furthermore, the U. S. Department of the Treasury Office of Financial Education (2002) and others have proposed that the teaching of economics be incorporated into other subject areas, e.g., math and reading. Lynch's findings suggest that such strategies are unlikely to enjoy much success. Unfortunately, in part due to the typical approach of embedding economics as a component of social studies and in part due to the pressure brought to bear by the NCLB Act to emphasize math and reading in school curriculum, the very real potential exists for the teaching of economics to be emphasized even less.

#### **IV. THE NEW HAMPSHIRE EXPERIENCE: CURRICULUM FRAMEWORKS, STANDARDS AND ASSESSMENTS**

As of the late 1980s, the Department of Education in the State of New Hampshire required a one-semester (or 1/2 credit) economics course for high school graduation. Individual school districts were required to develop the course, and the student was required to take and pass the course as a prerequisite for graduation. Although the imposition of this graduation requirement may seem somewhat modest, in reality this change in curriculum standards was substantially different when compared to previous approaches. Specifically, it represented the beginning of a structure in which educational outputs (e.g., successful completion of a specialized course or program of study) were emphasized over inputs. Prior to this change, administrators and education departments tended to fixate on the inputs in the educational process (e.g., the number of volumes in the library, square footage of school premises used for various activities, and so forth). While we would strongly argue that a one-semester economics course is only minimally adequate to address basic economic principles, most educators would nonetheless agree that the emphasis of outputs over inputs is a more sound approach in the design of education policy. (Relihan, 2002)

Eventually, by the early 1990s, most school districts within the State of New Hampshire had settled upon an outputs assessments approach. Arguably, it was this very same shift in emphasis that led to the development of minimum standards and related testing programs across multiple subject areas. In New Hampshire, the Department of Education outlined very comprehensive approaches that could be used by academic administrators to both identify minimum standards (State Board and Department of Education, 1996) and establish curriculum frameworks (New Hampshire Department of Education, 1995) within their school districts. The end result of this effort, eventually known as the K-12 Social Studies Curriculum Framework of 1995, detailed a curriculum framework structure in which four key subject areas were identified: mathematics, language arts (English), science, and social studies. Within the latter category, economics constituted one of four (4) equally weighted components (the other social studies areas being history, geography, and civics). Of particular interest to the authors of this study are the proficiency standards in economics expected of grade 10 students across the State of New Hampshire. Presented below, in abbreviated fashion, are the five standards outlined in the D.O.E. framework. See Appendix I for greater detail as to the breadth and depth of knowledge expected within each of these standards.

- Standard 5: Fundamental microeconomic principles including demand and supply analysis as well as the role and function of markets and prices.
- Standard 6: Fundamental macroeconomic principles including the circular flow of income, division of labor, money and financial markets.
- Standard 7: An introduction to comparative economic systems including planned economies and socialist economic systems.
- Standard 8: International trade, specialization and comparative advantage, exchange rates and international financial systems.
- Standard 9: Practical application of basic economic principles in the solution of economic problems faced in everyday life.

It is unlikely that a one-semester course in economics would provide adequate contact hours for the teaching of all five standards.

Against this backdrop, it is safe to say that a constellation of factors (both administrative and instructional in nature) operate to prevent students from attaining the learning objectives outlined in the K-12 standards for economics literacy. First, the economics course requirement has remained at the 1980s level within many New Hampshire school districts. For most districts the course requirement amounts to a one-semester course, equivalent to one-half academic credit (this amounts to a total of about 65 to 70 contact hours). Additionally, it is not uncommon on a national level to find social studies teachers whose formal academic training is rooted in academic disciplines other than economics (Allgood & Walstad, 1999); the authors have no reason to believe the situation is any different in New Hampshire. On a statewide basis, less than 20 percent of social studies teachers have completed but a single college-level economics course—yet are nonetheless deemed to be qualified instructors in economics!

Most professional economists and educators would agree that economics literacy training deserves much greater emphasis than is currently required under the existing curriculum frameworks now in place in the State. However, as limited as the present system may be with respect to economics training in New Hampshire, in many other states, social studies instruction is limited entirely to history. In many of these instances economics training becomes an elective activity often subject to funding considerations and human resource constraints. In such an environment it becomes understandable when school districts tend to concentrate on the more prominent subject areas (e.g., mathematics and English) at the expense of other topics, economics included. Somewhat ironically, this tendency has been further promulgated as standards frameworks and statewide assessments have come into prominence. In their defense, it would be hard to find fault with the school district which applies its limited resources to the subject areas that will be emphasized on the standardized assessments. This type of resource allocation is further encouraged when there are potential sanctions for substandard performance in the prioritized disciplines. Indeed, in so-called ‘high stakes’ jurisdictions, formal sanctions may be introduced. Within these ‘high stakes’ regimes, widespread failures or substandard student performance on assessments may trigger any number of sanctions: students may not be promoted to the next grade level; pay raises for teachers might be affected; school districts may receive reduced funding from the state. Within the State of New Hampshire, all testing is currently ‘low stakes’ and is done primarily for the purpose of information gathering. Nonetheless, the dynamics of budgetary constraints, subject discipline priorities and the possibility of state-imposed sanctions essentially bestow ‘second class citizenship’ to economics education in many school districts within the State.

By 2002 the federal government had inserted itself into the standards/assessments landscape through the passage of the NCLB Act. As previously discussed, the Act essentially made mathematics and language arts ‘high stakes’ subjects for schools, school districts, teachers, and school administrators nationwide. However, the assessment that measures adequate yearly progress and the sanctions imposed at the student level vary by state, or even by jurisdiction. By way of example, the 10<sup>th</sup> grade MCAS (Massachusetts Comprehensive Assessment System) exam provides a means for measuring adequate yearly progress for the purposes of the NCLB Act and satisfactory student performance is a precondition for graduation in all Massachusetts school districts. In New Hampshire, the Educational



Improvement and Assessment Program (NHEIAP) tests measure adequate yearly progress and an unacceptable passing rate leads to sanctions to the school district as proscribed by the NCLB Act. There are no ‘high stakes’ sanctions for students in New Hampshire.

A conclusion that we draw from this chronology is that it is unreasonable to assume that the assessment movement will be a driver for expanded economics literacy training. In fact, it may well make the economics situation worse. Whether or not the social studies curriculum includes economics, many school districts may decide to de-emphasize social studies so as to apply their limited resources to the identified ‘high stakes’ subjects. It is conceivable that, in some jurisdictions, school districts may even drop social studies testing simply because it is ‘low stakes’ and because so much other testing is required. Possibly as a result of this precise dilemma, the State of New Jersey opted to drop its social studies assessment and may also discontinue its social studies course requirement as a prerequisite for high school graduation (New Jersey Department of Education, 2001, 2002). This, of course, is a very slippery slope. For such districts, it would not be surprising to see less concern with economics literacy training.

The challenge, therefore, is to remind educators of the progress made in improving levels of economic literacy over the last decade and of the importance of economic literacy in the development of effective citizens. The challenges before educators also include piquing and maintaining the interest of their students. In his discussion about efficient allocation of capital resulting from informed judgments by consumers, Chairman Greenspan (2003) proposed that technological advances provide opportunities for achieving efficiency; however, end-users must know how to obtain relevant information and how to make use of the available information. Studies (Agarwal and Day, 1998; Daniel, 1999) have indeed found that use of technology results in greater learning of economic concepts. In a similar spirit, we will argue that our Center for Financial Studies venue can provide end-users, students and teachers alike, with a stimulating and exciting environment to acquire these important skills and to integrate practical applications into the learning process, thereby enhancing student understanding of basic economic concepts.

## **V. USING THE CFS ACADEMIC TRADING ROOM TO PROMOTE ECONOMIC LITERACY**

The Center for Financial Studies (CFS) has adopted as its mission the establishment of a fundamental literacy in matters of finance and economics among the SNHU constituency. The Center also works with several area not-for-profit agencies that promote financial and economic literacy among high school students and with area schools.

The Center’s academic trading room consists of an instructor’s station and thirty workstations, each equipped with a standard software package including Internet access and Microsoft Office, as well as more specialized application software. A full suite of audio-visual equipment is installed in the room, as well as two electronic wallboards and a ticker with streaming market data. An adjacent conference room with six workstations provides space for small group meetings or individual work when the main room is occupied by a class meeting. Historically such rooms, including the CFS at SNHU, have been used to facilitate the teaching of finance topics, including personal finance topics (Bristol, Fehr, and

Johnson, 2003). However, given the close relationship between finance and economics, such a facility also lends itself to use for the teaching of economic topics.

Our Center's approach to economics literacy training is to focus on both the student and the teacher. To facilitate interaction with these clients, we have developed specialized economics curriculum materials designed to take advantage of the particular assets in our Center. The curriculum was built to be modular, so that each lesson is self-contained, allowing it to be used for virtually any audience. Curriculum topics that have been developed include:

- Understanding the Banking System (including a tutorial on personal bank accounts)
- Workings of the Federal Reserve System
- The US Tax Environment

Each module is geared to allow the presenter to emphasize either macroeconomic issues and/or microeconomic issues. Note that we have taken the same curriculum approach for financial literacy training with considerable success (Bristol, Fehr and Johnson, 2003).

As we begin to promote the CFS as a site for economics literacy training, it would appear that several factors will be mutually reinforcing:

- The minimal coverage of economics topics in our public schools coupled with the potential (see Part IV above) for a further reduction in economics emphasis could make a non-school based opportunity for training more desirable
- A high-technology venue with specialized equipment that can stimulate both students and teachers by enhancing learning with a multimedia approach
- Specially designed curriculum that allows participants a more hands-on and interactive approach to learning than in the conventional classroom (see below)

It has been shown that students gain a deeper understanding of material by building connections between visual and verbal presentation of material. It has further been shown that students enjoy a greater rate of retention of material when material is presented via animation and narration (Mayer, 2001). Agarwal and Day (1998) found that use of the Internet promoted use of economic data and real-world applications that enhanced the teaching of economic theory. Economic education is affected by use of the Internet in at least three crucial areas: learning and retention of economic concepts, student attitudes towards economics, and student perceptions of instructor effectiveness (Boldt, Gustafson, Johnson, 1994; Kearsley, Lynch, Wizer, 1995; Monahan, Dharm, 1995). At the CFS, all of our curriculum modules are designed to use multiple presentation avenues.

Manning (1996), Chizmar and Walbert (1999), and Stone (1999) found that use of the Internet allowed for more interactive problem-solving, quicker feedback, and greater intercommunication between students. As described by Joseph Daniel (1999), Web-based teaching integrates text, graphics, animation, video, and sound, and can be interactive.

Animation of models and graphs allows students to see the effects of changing parameters. Interactive Web-based teaching materials allow students to perform comparative static experiments. Furthermore, projects may require that students access, download, and make use of economic data obtained from the World Wide Web, thus applying economic theory to real-life data. Virtually every lesson offered in the CFS has the participant interacting with the Web and/or proprietary data and systems within the first fifteen minutes.

Becker, Greene, and Rosen (1990) report that a teacher's knowledge of economics and attitude toward economics are likely to influence student learning and attitude toward economics. They also report that high school teachers prefer in-service programs that present teaching materials over in-service programs that focus on economic content. Thornton and Vredevelde (1977) propose that teachers may be able to learn economic content through the curriculum materials used in their high school classrooms. The Center for Financial Studies provides free workshops for area teachers, addressing content from curriculum materials that are provided to the teachers, thereby providing an alternative to the more costly hiring of economic education consultants and/or economics-specific continuing education courses.

The Center for Financial Studies at Southern New Hampshire University believes that it can provide significant value in assisting with economics literacy training for high school students and teachers. With the support of the University's senior management, the CFS has actively undertaken economics-based program development and outreach to the New Hampshire student/teacher population.

## REFERENCES

- Agarwal, R., and A.E. Day. (1998). The impact of the internet on economic education. *Journal of Economic Education* 29 (Spring): 99-110.
- Allgood, S., and W.B. Walstad. (1999). The longitudinal effects of economic education on teachers and their students. *Journal of Economic Education* 30 (Spring): 99-111.
- American Institutes for Research, National Council on Economic Education, and Council of Chief State School Officers. (2002, May). *Economics framework for 2006: National assessment of educational progress*. Draft for national review.
- Becker, W., W. Greene, and S. Rosen. (1990). Research on high school economics education. *Journal of Economic Education* 21 (Summer): 231-245.
- Boldt, D.J., L.V. Gustafson, and J.E. Johnson. (1994). A resource in the teaching of economics and beyond: The internet. *Business Education Forum* 48 (October): 23-26.
- Bristol, K., D. Fehr, and R.L. Johnson. (2003). Financial literacy training in an academic trading room: expanding practical education in finance. Working paper, Southern New Hampshire University. Available online: [http://www.snhu.edu/cfs/Working\\_Paper\\_Series.html](http://www.snhu.edu/cfs/Working_Paper_Series.html).
- Brown, R.C. (1999). Financially-troubled employees and threats of violence impact the workplace. *Personal Finance and Worker Productivity*: 38-47.
- Buckles, S., and M. Watts. (1998). National standards in economics, history, social studies, civics, and geography: complementarities, competition, or peaceful coexistence? *Journal of Economic Education* 29 (Spring): 157-166.
- Chizmar, J.F., and M. S. Walbert. (1999). Web-based learning environments guided by principles in good teaching practice. *Journal of Economic Education* 30 (Summer): 248-264.
- Daniel, J.I. (1999). Using the web to improve computer-aided instruction in economics. *Journal of Economic Education* 30 (Summer): 225-243.
- DeRooy, J. (1995). *Economic literacy: what everyone needs to know about money and markets*. New York: Random House.
- Garman, E.T., I.E. Leech, and J.E. Grable. (1996). The negative impact of employee poor personal financial behaviors on employers. *Financial Counseling and Planning Education* 7: 157-168.
- Greenspan, A. (2003, April 3). *Remarks by Chairman Alan Greenspan at the JumpStart Coalition's Annual Meeting, Washington, D.C.*. Available online: <http://www.federalreserve.gov/boarddocs/speeches/2003/20030403/default.htm>.

- Kearsley, G., W. Lynch, and D. Wizer. (1995). The effectiveness and impact of online learning in graduate education. *Educational Technology* 35 (November-December): 37-42.
- Lopus, J. (1990). Using Do additional expenditures increase achievement in high school economics class? *Journal of Economic Education* 21 (Summer): 277-286.
- Lynch, G. (1990). The effect of teacher coursework on student learning: evidence from the TEL. *Journal of Economic Education* 21 (Summer): 287-296.
- Manning, L.M. (1996). Economics on the internet: electronic mail in the classroom. *Journal of Economic Education* 27 (Summer): 201-204.
- Mayer, R.E. (2001). *Multimedia learning*. New York: Cambridge University Press.
- Monahan, B.D., and M. Dharm. (1995, January-February). The internet for educators: A user's guide. *Educational Technology* 35: 44-48.
- National Council on Economic Education. (2003). Survey of the states: economic and personal finance education in our nation's schools in 2002. New York:National Council on Economic Education.
- National Council on Economic Education. (2002). NCEE 2001 Annual Report. Available online: <http://ncee.net/about/2001/NCEE2001AnnualReport.pdf>.
- National Council on Economic Education. (1999). Literacy survey: results from *The standards in economics survey*. New York:National Council on Economic Education.
- National Council on Economic Education. (1997). Voluntary national content standards in economics. New York:National Council on Economic Education.
- New Hampshire Department of Education (1995, August). K-12 social studies curriculum framework. Concord, NH.
- New Jersey Department of Education. (2002, November 15). Testing reform—creating a new vision for assessment. Press release available online: <http://www.state.nj.us/njded/news/2002/1115create.htm>.
- New Jersey Department of Education. (2001, October 11). Students prepare for social studies section of elementary school proficiency assessment. Press release available online: <http://www.state.nj.us/njded/news/2001/1011espa.htm>.
- Public Law 107-110, *The No Child Left Behind Act of 2001*.
- Relihan, K. (2002, December 5). Transcript of telephone conversation with Kenneth Relihan, Social Studies Coordinator, State of New Hampshire.

- State Board and Department of Education. (1996). Minimum standards for public school approval. Concord, NH.
- Stone, L.L. (1999). Multimedia instruction methods. *Journal of Economic Education* 30 (Summer): 265-277.
- Thaler, R.H., and H.M. Shefrin. (1981). An economic theory of self-control. *Journal of Political Economy* 89 (April): 392-406.
- Thornton, D., and G. Vredeveld. (1977). In-service education and its effect on secondary students: a new approach. *Journal of Economic Education* 8 (Spring): 93-99.
- U. S. Department of the Treasury. Office of Financial Education. (2002, October). *Integrating financial education into school curricula: Giving America's youth the educational foundation for making effective financial decisions throughout their lives by teaching financial concepts as part of math and reading curricula in elementary, middle, and high schools*. Washington, DC: U. S. Government Printing Office.
- Walstad, W.B., and K. Rebeck. (2000). The status of economics in the high school curriculum. *Journal of Economic Education* 31 (Winter): 95-101.
- Walstad, W.B. (1997). The effect of economic knowledge on public opinion of economic issues. *Journal of Economic Education* 28 (Summer): 195-205.
- Walstad, W.B., and M. Larsen. (1992). A national survey of American economic literacy. Lincoln, NE: The Gallup Organization.
- Watts, M. (1998). Who values economic literacy? The Region, December 1998. Federal Reserve Bank of Minneapolis. Available online: <http://minneapolisfed.org/pubs/region/98-12/watts.cfm>.
- Williams, F.L., V. Haldeman, and S. Cramer. (1996). Financial concerns and productivity. *Financial Counseling and Planning Education* 7: 147-156.

## APPENDIX I: ECONOMICS COMPONENTS OF MINIMUM SOCIAL STUDIES STANDARDS IN NEW HAMPSHIRE

The highlights of the curriculum standards presented below were drawn from the *K-12 Social Studies Curriculum Framework* produced by the New Hampshire Department of Education in August, 1995. The social studies framework itself was an outgrowth of the New Hampshire Educational Improvement and Assessment Program. The basic aim of the framework was to serve as a guide for local school districts with respect to preparing their students for statewide assessments administered at the end of grades six and ten, and as well to provide guidelines for local school districts when constructing curriculum. Standards 5 through 9 deal specifically with the economics component of the social studies framework. Please Note that has recently begun the process of revising and rewriting the framework and standards.

Curriculum Standard 5. This standard addresses the most basic economic fact—scarcity. A considerable portion of microeconomics is concerned with the behavior of the household and how individual units acquire the goods and services that will satisfy their wants and needs. In advanced, industrial economies material items are seemingly unlimited; however, the means which individual households have to satisfy these wants is most typically limited. For most individuals the existence of scarcity requires decision-making, the ultimate results of which are tradeoffs and sacrifice. In the U.S. economic system household units interact with producers and suppliers and the individual agents (consumers and producers) are free to make their own decisions and act in a way which satisfies their own self-interest. A basic knowledge of market principles is essential if individuals are to make rational, informed choices. Curriculum structure to meet Standard 5 would center on a discussion of consumer choice and demand, the properties of demand curves, producer behavior and market supply, and the interaction of demand and supply, and market equilibrium. Next, an analysis of demand and supply, price behavior, and how individual consumers and producers react to price adjustments would provide the foundational knowledge to successfully attain the goals outlined in Standard 5. (Reference: *K-12 Social Studies Curriculum Framework*, page 14).

Curriculum Standard 6. An understanding of the basic interactions between the macroeconomic sectors of the economy is very important if students are to firmly grasp and fully appreciate the factors which affect the decisions they make in individual markets. A practical and very useful tool which provides an overview of these sectoral interactions is the circular flow model of the economy. Mastery of the goals of Standard 6, which stresses the importance of specialization and the division of labor, the distinction between the goods versus resources market, the process through which income is earned and distributed within the circular flow model, is an important learning outcome for all students. An equally important component of this standard concerns the role and importance of money within the macroeconomy, an understanding of financial markets and institutions, and the banking sector in general. (Ref.: pg. 15).

Curriculum Standard 7. Basic economic literacy should prepare students for the world in which they live and work. To this end, the K-12 Social Studies Curriculum Framework standards should be, and are, focused on U.S. capitalism. However, an understanding of alternative economic systems is very important as well. An economic system is directly related to the social system of a nation. Freedom of choice, individual decision-making, ownership of the means of production and the protection of property rights are the tenets upon which capitalist systems are based. At the other extreme, centralized decision-making and authoritarian control over resource ownership and the means of production result in a very different economic system. A discussion of planned economies (as was true of the former Soviet Union), the mixed economic systems of European socialism, and the slow but steady movement of communist China towards a market-based economy provide an important contrast to the social and economic fabric of U.S. capitalism. Also, the contrasting role which prices play as incentives, relative standards of living, and the economic opportunities afforded to the citizens of alternative economic systems is an important learning outcome Standard 7. (Ref.: pg. 16).

Curriculum Standard 8. The rationale for trade between nations is not unlike that between households and firms—exchange occurs when the outcomes are mutually beneficial to the participants. As within the U.S. the distribution of global resources is highly capricious, and, because of this, cost advantages lead to specialization and trade between nations. However, international trade involves substantially more risks and results in higher transactions costs when compared to intra-nation trade. Some of these risks surround two or more governments with varying legal systems, two or more monetary systems and financial networks, and, of course, foreign trade necessarily brings together people of very different cultures, beliefs and backgrounds. In the face of these differences the economics of free trade versus protectionism are important and should be understood by all students. The financing of international trade, the role of different currencies and exchange rates (as well as how these affect the flow of goods and services) is the important theme to be mastered in Curriculum Standard 7. (Ref.: pg.17).

Curriculum Standard 9. Against the backdrop of the standards listed above, curriculum development and instructional methodologies tend to focus on content mastery. Outcomes assessments, typically through standardized examinations, are often used to measure and rank competency and understanding as the end result of the learning process. Of equal if not greater importance however is the ability to comprehend, synthesize, and apply learned knowledge towards the solution of complex economic problems faced in everyday life. At the core of Standard 9 is the practical application of the knowledge base acquired in the K-12 Social Studies Curriculum Framework as it relates to basic economics literacy. (Ref.: pg.18).