The Demand for Social Capital in America –Its Implications for Science Educators

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According to author Gary Marx, social and intellectual capital will become the primary economic value in society (Marx 200). Employers will seek out those who possess a wealth of knowledge and strong social skills. In the article *Ten Trends: Educating Children for a Profoundly Different Future,* Marx goes on to say that schools and educators need to help students learn to collaborate with others and work in teams, engage in both critical and creative thinking, use a vast array of technological tools, and possess high levels of perseverance and curiosity, as well as other qualities and/or skills linked to the establishment and preservation of social capital (Marx 2000).

There are currently a number of different definitions for and uses of the term social capital. To be sure, in his article *Social Capital: Its Origins and Applications in Modern Sociology*, Alejandro Portes states: . . . the point is approaching at which social capital comes to be applied to so many events and in so many different contexts as to lose any distinct meaning (Portes 1998). However, he goes on to relate the term to the fact that involvement and participation in groups can have positive consequences for the individual and the community. Thus, social capital can most commonly be defined as a connection to people or entities that results in economic gain. According to author James S. Coleman, "An important form of social capital is the potential for information that inheres in social relations (Coleman 1988)." Included among the benefits of social capital is expediting upward mobility within one's company. Researchers Joel M. Podolny and James N. Baron found that ties, which convey resources and information, result in upward mobility within companies and provide socioemotional benefits (Podolny and Baron 1997). Thus, the possession of social capital lends to a number of positive results.

However, there are those that feel the negative aspects of social capital are of grave importance as well. According to Portes, "the same mechanisms appropriable by individuals and groups as social capital can have other, less desirable consequences (Portes 1998)." It is his belief that the social ties that enhance a groups economic exchange also excludes outsiders and bars others from access. Those outside of the network and mutual knowledge linking the group are unfairly inhibited from access. He also claims that social ties may lead to gains for those who do not deserve them and may place undue demands on more successful and deserving members of the group as they attempt to assist their less ambitious group members. Moreover, he alleges that group participation may lead to conformity. Lastly, he asserts that the group solidarity seen among social networks may lead to the blocking of mobility of a particular group by outside discrimination (Portes 1998).

Nonetheless, social capital is and will continue to be a powerful tool for success. Despite the alleged negative consequences of social capital, the technologically advanced and information-driven society in which we now live requires that social capital be used as a means for attaining knowledge and success. Thus, the acquisition of the ability/skills necessary to create, sustain, and strengthen social capital is a must. This leads to two very important questions for science instructors/educators: What role must science educators play in the creation and strengthening of social skills among students? What tools are available to assist educators in fulfilling this role? As was mentioned at the outset, all educators now have the responsibility of encouraging and assisting students in

learning to collaborate with others, thinking critically and creatively, maintaining curiosity and perseverance, and utilizing available technological tools.

The two questions presented can be answered simultaneously. Science educators must requisition and encourage group work. Group work or collaborative learning is an instructional method instructors can use to assist students in creating and strengthening social skills. This is to the benefit of each student individually, the classroom as a whole, and society. Group work helps each student to gain a deeper more robust understanding of the material. It fosters learning for all students in the classroom despite differentiated abilities and understanding of concepts. Finally, it helps students to gain skills necessary to creating social capital—which will greatly serve the students in their future careers and/or endeavors. It will also benefit society when these students begin to capitalize on their social wealth by building relationships that span a variety of professions, institutions, and fields. Research has shown that group work or collaborative learning is an effective method of instruction. In general, this method fosters learning at a deeper level for all students in the classroom. In particular, studies have shown the benefit of this kind of instruction with exceptional learners. Anderson and Roit conducted a study with multiethnic inner-city delayed readers in grades 6-10. They found that collaborative, small-group instruction provided advantages, including student gains in reading comprehension (Anderson and Roit 1993).

Group work has also been proved to be an effective tool in helping students to build skills necessary for attaining social capital. Within group settings students are encouraged to think critically, challenge each other's ideas, and construct new knowledge on the basis of group discussion. These skills transfer outside of the classroom.

According to authors Vellom and Anderson, "When they [students] feel free to propose, elaborate, modify, and sometimes withdraw these ideas [ideas they have created within the classroom], then they are better equipped to do the same in other situations outside of classroom contexts (Vellom and Anderson 1999)." This is similar to what is done within the scientific community. Authors Vellom and Anderson explain

> Unlike, for example, political democracies, scientific communities do not resolve issues involving the acceptability of data and theories by majority vote. Rather, these issues are treated as unresolved until there is a broad consensus among those scientists who are judged by the community to be knowledgeable about an issue (Vellom and Anderson 1999).

Collaborative learning activities and activity-based group work attempt to emulate the scientific community in this regard.

However, this is not something that comes natural to students. Educators must advocate this method of instruction. They must model effective group activity and encourage the appreciating and valuing of input and ideas from all members of the group. The educator's role in group work/collaborative learning is crucial. According to Vellom and Anderson, "Left to their own devices, groups of students only rarely collaborate unless the tasks given them are carefully structured to reward such collaboration (Vellom and Anderson 1999)." Using collaborative learning as a means of instruction can be very challenging. As noted by Vellom and Anderson in their study of middle school students,

science by collective inquiry can be time-consuming and requires careful construction. Nonetheless, the results are well worth the effort.

Another aspect of group work that will help build students' social capital that merits attention is community language. Group work teaches students to use a language appropriate to their group or environment. Harlow and Otero state

> According to linguists, individuals acquire patterns of talking that correspond to different communities they participate in. Thus, in science classes, students not only gain new understandings about how the world works from a science perspective, they also learn to *talk science* (Harlow and Otero 2005).

The ability to speak the language of a variety of communities or groups will help students in establishing and maintaining social capital. The ability to transfer from one language to another will service the future employees as they learn to collaborate with people from differing communities, institutions, and professions.

That being said, collaborative learning or group work will be efficient for serving the needs of students as they prepare to build the social capital they will need to be productive in today's society. But what of tomorrow? What do the experts say concerning social capital demands in the future? According to Putnam, social capital will be important to improving America in the future. He mentions that social capital enhances physical and human capital and the effectiveness of government (Putnam 1993). As Americans continue to search for changes and improvement in government, they will need to acquire and utilize social capital for a better America.

Schools serve the two-fold purpose of imparting knowledge and preparing students to be productive citizens. Therefore, as the demand for social capital increases, adaptations in education will need to be made. Implications for future research are numerous. In particular, education researchers will need to determine which instructional methods best foster a robust understanding of material while serving the needs of the students in regard to social, entrepreneurial, and technological advancement. There will also be a need to identify how best to assess the effectiveness of group interactions within science classrooms. Research-based, activity-intensive curricula will need to be developed, assessed, and modified to meet the needs of students.

In conclusion, the influx of intellectual and social capital as primary economic values in our society will have a major impact on education. Students will need to develop the social skills necessary to sustain a vast and strong social capital. As a result, educators will be required to impart social skills—in addition to knowledge—to their students. Instructors will have to encourage and assist students in appreciating and valuing the ideas of classmates as they attempt to create/discover "new" knowledge and use data and available knowledge to create new ideas. Students will also need to learn to speak the language of the community in which they are a part. Collaborative learning and group work will aide students in developing these essential social skills and serve as an efficient means of instructing students.

Works Cited

Anderson, V., & Roit, M. (1993). Planning and implementing collaborative strategy instruction for delayed readers in grades 6-10. *Elementary School Journal, 94*(2), 121. http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=9403310186&site=ehost-live

Coleman, J. S. (1988). Social capital in the creation of human capital. *The American Journal of Sociology, 94*, S95. http://proquest.umi.com/pqdweb?did=8730459&Fmt=7&clientId=65345&RQT=309&VName=PQD

Harlow, D., & Otero, V. K. (2005). Collaboration physics. *Science and Children, 42*(5), 35. http://www.nsta.org/elementaryschool; http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ721537&site=ehost-live

Marx, G. (2001). 10 trends for tomorrow's kids. *Education Digest, 66*(9), 4-10.

Podolny, J. M., & Baron, J. N. (1997). Resources and relationships: Social networks and mobility in the workplace. *American Sociological Review, 62*(5), 673-693. http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=9711071628&site=ehost-live

Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology, 24*, 1-24.

Putnam, R. D. (1993). The prosperous community. *Current,* (356), 4. http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=9311087655&site=ehost-live

Vellom, R. P., & Anderson, C. W. (1999). Reasoning about data in middle school science. *Journal of Research in Science Teaching, 36*(2), 179. http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ582615&site=ehost-live