

Access to Science: Home Visits that Connect Students' Science Lives at Home with their Science Lives at School

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VEXATION

I have always been interested in science education outside the formal classroom. After all, that's where I gained my interest in science and the natural world---playing as a kid in Virginia, exploring the wooded area surrounding my house, catching frogs and other critters, and observing the behaviors of the large turtles around the pond in my backyard. I never really understood or cared much for science at school though. Science at school and science at home seemed worlds apart.

My vexation, therefore, involves ways in which we can promote and encourage more connections between science in students' lives at home and science in their lives at school. One way to do this is for teachers to learn more about their students, their families, and home lives while participating in home visits. I have been fortunate to work with a number of teachers during the past four years who have conducted home visits as part of course assignments and Master's degree projects. Teachers conducted home visits with families to encourage more family involvement, better communication, and to develop an understanding of students' culture and life outside of school. My positive experiences with these teachers led me to consider home visits as a way to promote better access to science for all children, particularly those from traditionally underrepresented groups. I wonder if teachers inquire more into the lives of their students and science experiences outside of school, if this would translate into better connections and access to science at school.

Home visits bring greater awareness, understanding, and respect for the student and his or her family. For almost 20 years, Luis Moll and his colleagues have been advocating the need for teachers to conduct what they call field studies, particularly as it relates to students from non-English language backgrounds (e.g., Moll, Valez-Ibanez, Greenberg, & Rivera, 1990; Moll & Gonzalez, 1997). During home visits, teachers are learners. They are learning about their students, their students' families, and the life that students live outside of school. In return, families are learning more about their child's teacher. Once teachers learn more about the family and their culture, communication between the family and school can be more meaningful and connections between learning and school can be optimized. Moll and Gonzalez (1997) claim that teachers who visit students' homes can identify their knowledge and strengths. By identifying funds of knowledge, the educational potential of students shifts from a deficit model to one that holds possibility, meaning, and educational understanding.

Lave and Wenger (1991) view learning and community as a social activity that develops from experiences and participation. We all partake in activities based on our home, community, and school and have varying roles; at times we are at the core of activity, and at other times we are on the periphery. Some children and their families may always stay as part of the periphery instead of actively engaging within the center. Home visits can undercut some families' hesitations to get more involved in their children's schooling because they show teachers care, are interested, and willing to take the time and energy needed to get to know the family. In addition, culturally relevant pedagogy and inclusive practices can be enhanced when teachers visit students' homes and interact with them and their families in informal ways.

According to Lane and Dorfman (1997), the role of this type of collaborative family-school inquiry is process oriented (building social capital) and task oriented (using social capital to achieve outcomes that benefit people). Unfortunately, differences in the cultural capital of families may reduce their ability to obtain social capital from the school even though they attend school regularly. Therefore, teachers and schools can work together with students and their families to embrace cultural capital in order to build social capital and use it to provide access to science for more students.

VENTURE

Multiple contexts including students' homes can contribute to informal learning experiences, particularly for teachers. Home visits with students and families have not been thoroughly examined as a learning tool or a context to connect science at home with science at school. Therefore, I would like to secure external funding to support research that relates to home visits and science teaching and learning. As a part of this, I would like to propose a multi-dimensional research study that would involve teachers, families, and students.

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Because this topic is not usually “science” related, I would like to gain valuable insight from my colleagues about how I might organize an in-depth research study to gain knowledge about the impact on teachers, students, and families when inquiring into their students’ lives at home and translate that to more effective science instruction and access to science at school. In addition, I would like to know if I should couple this study with knowledge transfer and how students’ experiences at home transfer (or do not transfer) to school.

While working with different teachers in diverse areas of southern California, several themes were determined based on their written descriptions and reactions to home visits. These include:

- Teachers expressed professional growth in the area of cultural awareness and appreciation for diverse family beliefs and structures.
- Teachers gained confidence in their ability to connect with families outside the school.
- Teachers reported that families were open and expressed their appreciation of the visit.
- Teachers reported that the parents they visited communicated more frequently after the home visits.
- Teachers faced barriers initially from the school district and their administrators when they discussed visiting students homes.
- Teachers reported that their districts and schools have few policies and experiences related to home visits.
- Multiple families from different cultural backgrounds demonstrated a willingness to open their homes and meet with teachers.
- Families demonstrated a strong work ethic and wanted to assist in their child’s educational endeavors.

One first grade teacher wrote:

I have always been aware of the poverty in certain areas of my district and how this affects my school. Having awareness of the situation and actually witnessing it are two very different things. I was moved to tears at one point during one of the home visits. Upon completion of my final visit I drove home and just cried. It was a very emotional experience and although some tears were shed in sadness, most were released out of pride and hope and appreciation for these families and the connection we made. . . I have gained insight, respect, and a deeper level of compassion for my students and their families. Frustration with certain parents and their children has been replaced with a more understanding perspective. This is true for my entire class, not just the particular families I visited (Lana, Kindergarten Teacher).

These are some specific questions that I have related to this project:

1. I have access to rich data related to teachers and home visits with their students and families. What are some methods of inquiry to study teachers who are studying students and families, and science outside of school?
2. Would this type of study be valued by the science education community or should I focus within a more general education audience?
3. What external funding opportunities might be available to support such a project?

When teachers inquire into the cultural backgrounds from which their students live, it creates positive and real connections between their students and their families (Eberly, Hoshi, & Konzal, 2005). The scope of home visits enable more personal contact between teachers and students’ families outside the school, creates greater insight for teaching students, and supports parent involvement in educational activities. I look forward to discussing the potential of home visits and the implications for promoting greater access to science.