

## Best Practices: Parental involvement in reading and mathematics

### Reading Achievement

Fluent reading is defined in terms of speed and accuracy (Chard, Vaughn & Tyler, 2002). Intervention that assist in reading fluency are:

- repeated reading with and without a model,
- sustained reading,
- number of repetitions,
- text difficulty, and
- corrective feedback with the teacher providing feedback.

Research done by Rieth, Bryant, Kinzer, Colburn, Hur-Hartman and Choi (2003) support that anchored instruction is a promising intervention for high school students with high incidence disabilities in teaching language arts classes. Anchored instruction involves teachers increasing the level and length of questions with students reciprocated by providing higher levels and longer responses.

To achieve fluency in reading, family literacy is critical. It all begins by parents reading aloud to their children. Reading achievement is best attained when parents are involved in the education and literacy of their children. Great school success is attributed to home literacy according to Morrow (as cited in Beatson, 2000). Families need to provide positive reading habits, and stimulating cultural and language experiences. Research indicates that home literacy practices of family members seem to establish the most significant relation to the student's reading attitude as noted by Beatson (2000).

Authentic literacy activities that are done at the family level are things like reading to grandmothers, writing letters to cousins and parents, discussing current events, helping with homework, providing home libraries, establishing a controlled TV time, and having informal family book talks.

There are distinct differences in the frequency of parental involvement between lower and upper socio-economic families. Upper socio-economic families demonstrate more confidence about their relationship with the child's teacher, have more competence in dealing with home work, have networks with other families and parents within the school. Income and material resources plays a crucial role in determining positive family school relationships, Beatson (2000); Coots (1998); and Ramirez (2001).

Effective parental involvement is enhanced if parents and families see the overlap between school and family. Coots (1998) indicates that informational resources, beliefs about schooling, and composite measures of resources related to participation at school and home are aspects of overlap. It is also important for parents to recognize that their daily routines, resources, beliefs, and competencies overlap their children's experience in school.

Lopez, Scriber and Mahitivanichcha (2001) redefined parental involvement in high performing migrant-impacted schools. They alluded to the fact that hardships surrounding the migrant lifestyle can have a negative impact on the education of their children. They view parental involvement as the key to enhanced academic achievement in children of migrant families, as postulated Lopez et al. (2001). However, parent-school relationships in such schools are often superficial, when parents and teachers meet when there is a problem. Positive parental involvement in the school is best when limited to nurturing, instilling cultural values, talking with children, and home discussions on a variety of other nontraditional activities, Lopez et al. (2001). A new definition of parental involvement would include:

- formal and informal programs,
- establishing relational bonds with parents that are mutual and profound,

- high levels of commitment to families in the school,
- investment in migrant families in the form of school personal time, money, missed meals, wear and tear of vehicles, etc., to meet the multiple needs of low-income families.

Lopez, et al. (2001) also identifies certain factors that make parental involvement meaningful.

1. Empower parents to get involved by making them feel that they are not alone when they face economic hardships.
2. Make use of phone calls, radio and television to solicit parental involvement and give incentives to migrant parents such as food items, door prizes and gifts that meet the economic needs of parents.
3. Provide a welcoming environment by treating parents with dignity and respect. Both physical and attitudinal factors are important for welcoming parents.
4. Provide educational services that address migrant family needs by increasing awareness and self improvement e.g., courses in ESL, GED, sewing, cake decorating, home maintenance, classes approved by the Environmental Agency on the dangers and proper handling of pesticides.
5. Mobilizing resources to enhance the lifestyles of migrant families by networking with other social service and community organizations.
6. Collaboration within the school system among the migrant labor personnel, district and school personnel, social services, community organizations, and federal programs, etc.
7. Collaboration with outside agencies to meet the economic and social needs of migrant families' physical, educational, and health related needs.

The bottom line is that school personnel should be deeply concerned about meeting the psychological and economic needs of families to enable families to better focus on the education of their children.

The new definition should be home involvement on the part of the school, not necessarily parental involvement at school (Lopez et al., 2001). Schools should assist, along with other agencies, in meeting the needs of migrant families to reap fruitful results in educating migrant students. Schools in migrant neighborhoods should teach the parents necessary skills to provide a positive home environment that is conducive to learning. Okpala, Okpala and Smith (2001) suggest that when children from low socio-economic families are exposed to an emotionally supportive home environment in which academic success is affirmed, their academic scores improve tremendously.

The definition of parental involvement is multifaceted. Fan (2001) indicates that while some research finds a positive correlation between academic achievement and parental involvement, other research has found little or no correlation between parental involvement and academic achievement. The conclusion of Fan (2001) is that ethnic group samples report comparable degrees of parental involvement. It is the parents' aspirations about their children's education attainment that has a consistent and positive effect on students' academic growth. This effect of parental involvement is consistent across ethnic group samples.

Contrary to Fan's study, Ramirez (2000) and Ramirez (2001) revealed that teachers are suspicious of parents who want to become too involved within their classrooms. Teachers in the study felt that the school and home are separate entities. Parental involvement programs within the classroom environment would be difficult to implement due to limited time. Smrekar and Cohen-Vogel's (2000) research indicates that school personnel view most parents as lazy, incompetent, and too preoccupied to get involved in school activities. Parents and teachers should assume equal responsibilities to maximize the learning of students according to Garriot, Wandry and Snyder (2000).

### Mathematics achievement

The study done by Okpala, Okpala and Smith (2001) also supports the position that students from high socio-economic families

tended to perform better than students from low socio-economic families. This higher student achievement also extends into mathematics. Their research did not establish a direct correlation between parental involvement and mathematics achievement. Gonzalez (2001) points to the fact that when parents are involved in the education of their children, the children performed better academically all subjects such as mathematics, english, social studies and science. Gonzalez-Pienda, Nunez, Gonzalez-Pumariega, Alvarez, Roces and Garcia (2002) found that “parental involvement accounted for much of children’s academic self concept” (p. 276). However other variables such as the child’s self concept and causal contributions, and aptitude also account for academic success.

Fleischer and Manheimer (1997) allege that 6% of students are affected with math learning disabilities. The learning associated with primary math functions, non-verbal communication, and due to reading disorders. Students with learning disabilities and other at risk students need varied instructional strategies such as manipulatives, pictorial representation, symbolic operations, problem solving, cooperative learning and other methods. Calhoon and Fuchs (2003) revealed that peer assisted teaching strategies (PALS) increased mathematical skills while curriculum based measurement (CBM) graphs increased motivation in mathematics. Among elementary students, Kroesbergen and Van Luit (2003) found direct instruction and self-instruction were more effective than the use of computer assisted instruction and peer tutoring. Johnson (2001) gave five common sense strategies that assist student learning. These are:

- intensifying learning by giving more challenging assignments,
- providing professional development to ensure skilled teachers,
- expanding learning options - not all children learn at the same pace or in the same time,
- carry out periodic assessment to inform teaching, and
- intervene early and often.

Screiber (2002) indicates that resources such as school size and parent education were significantly associated with school mean achievement in mathematics. Student of parents with less formal education scored lower on the advanced mathematics test. Student factors such as attitude and gender also help explain differences in mathematics achievement.

Teaching successfully to migrant students, involves giving culturally relevant mathematics instruction. Reyes and Fletcher (2003) suggested using an approach based on a culture’s contribution to mathematics allows students to develop a sense of pride in their heritage, for example, the Mayan contribution to mathematics and astronomy. Mathematic culturally relevant pedagogy is referred to as ethnomathematics by Reyes and Fletcher (2003).

In schools, with migrant students, an organizational culture focused on instructional improvement, respect for students, student centered instruction, and a spiraling curriculum is significant in improving academic results across all subject areas. Cooperative learning and collaborative methods also assist in such schools in improving mathematics scores.

Gutierrez (2002) found strategies used by elementary and middle-school teachers in instructing English learners are also applicable in teaching high school Latinos. These methods include:

- working in small groups,
- allowing students to work in their first or primary language,
- supplementing reading material, and building on students’ previous knowledge.

However understanding of students’ linguistic backgrounds and mathematical needs also proved crucial in effective mathematics teaching. Creating informal conducive environments was noted as having a contributive factor in teaching minority students. Collaborative approaches to teaching were also emphasized by Gutierrez (2002) where students interacted more with each other and shared information and skills.

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