



Language immersion classrooms: Programs are popular, diligence translates to performance

By Mercedes White , Deseret News

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Sophie Mertlich, front left, and Ariel Harp participate in Alisa Wu's third grade Chinese immersion class at Lone Peak Elementary School in Sandy, Thursday, Jan. 12, 2012. (Ravell Call, Deseret News)

Ms Alisa Wu's third grade class in Sandy looks like any other classroom in the country. The desks are lined in neat rows. Brightly colored pictures of letters and vocabulary words decorate the walls. The students read aloud a story from a primer. When they finish, they are lead in a music lesson by their teacher.

But this is no ordinary class.

The letters that cover the walls are Chinese characters. The story the class

reads, entirely in Mandarin, is about an important Chinese holiday. And the song the eight-year olds are singing is a Chinese translation of a "Party Rock Anthem," a popular American song. Ms. Wu's class is not completing a unit on China, nor is their interest in Chinese language and culture a passing phase. They are part of a Mandarin language immersion program at Lone Peak Elementary.

Wu's class is part of a growing trend of language immersion classrooms. In 1981 there were fewer than 30 immersion programs in the country, today there are 448, according to a 2011 report released by the Center for Applied Linguistics (CAL), a non-profit organization that advocates for foreign language instruction. States

like Minnesota and Utah are leading the way with 52 and 58 schools offering language immersion options. American students are being educated in Spanish, French, Mandarin, Japanese, German, Arabic, and Norwegian.

One of the most intriguing aspects of these programs, both for parents and educators, is that immersion students tend to outperform their English-only peers on standardized tests. Why this phenomena exists is not entirely clear, but several factors

unique to these programs provide some insight. Learning a new language simulates brain development in ways that enhance mental flexibility and develop problem solving skills says Ellen Bialystok, a research psychologist at York University in Toronto Canada. Parents with children in immersion programs may be more invested in their kids education, which has strong positive impact on student achievement notes Fatima Baig an education researcher at the University of Iowa. Finally, the nature of language immersion teaches students how to stick to difficult tasks. This diligence translates to better performance on exams, because students will be more likely to persist on challenging problems, according to a report released by the department of education at the University of Pennsylvania.



Alisa Wu's third grade Chinese immersion class at Lone Peak Elementary School in Sandy, Thursday, Jan. 12, 2012. (Ravell Call, Deseret News)



Ella Memmott leads the group during Alisa Wu's third grade Chinese immersion class at Lone Peak Elementary School in Sandy, Thursday, Jan. 12, 2012. (Ravell Call, Deseret News)

Superior performance

Student performance results from Canada, where language immersion has been a staple for over 30 years, are impressive. They've found that children enrolled in French-immersion programs consistently outperform their non-immersion counterparts. For example, on the 2009 Program International Student Assessment (PISA) exam, an assessment of student performance by country, Canadian students enrolled in French immersion scored about 50 points higher on the

reading examination than their non-immersion peers, according to data compiled by Statistics Canada.

To put those numbers in perspective, Canadian French-immersion students average scores are higher than the average score for China, the top performing country in the survey. Immersion students scored an average of 573 on their reading exam, while non-immersion students averaged 523 points. China's average was 554. Canada as a whole scored 524.

In the United States, where language immersion programs are a more recent development, similar results have been observed. In Utah, for example, Chinese immersion students perform 6-11 percent better than non-immersion students on state board examinations, said Sandra Talbot, program director for Utah Chinese Dual Immersion.

Socio-economic status

The superior performance of language immersion students is often explained simply as a function of socio-economic status. Immersion students, the theory goes, tend to come from more affluent families and children from more affluent families do better in school, said Doug Willms, professor at the University of New Brunswick and member of the US National Academy of Education.

And while money is a convenient explanation, in this case it misses the mark. Among French immersion students, researchers found that "when gender, socio-economic background, and parent's education are taken into account ... immersion students still out perform their counterparts in non-immersion programs," according to a 2004 report by Statistics Canada.



Olivia Springer, left, and Sophie Mertlich flank their teacher, Alisa Wu, who teaches third-grade Chinese immersion class at Lone Peak Elementary School in Sandy. Language immersion classes have been shown to help overall academic skills. (Ravell Call, Deseret News)

But those findings aren't limited to Canada where well developed social programs even out distinctions between the haves and have nots. In a study of French immersion students in the Cincinnati Public School system researchers found that children who were from socio-economically underprivileged backgrounds benefited from immersion instruction as much as their more affluent peers.



Cali Jeppson leads the group during Yu-Pei Tan's first grade Chinese immersion class at Lone Peak Elementary School in Sandy, Thursday, Jan. 12, 2012. (Ravell Call, Deseret News)

"Bilingual education helps to level the socio-economic playing field by giving students from disadvantaged backgrounds the opportunity to acquire and excel in another language ... in some cases (they) perform as well as students from more advantaged backgrounds," said Fred Genesee, researcher on the study, from his office at McGill University in Montreal, Quebec.

Brain Development:

Numerous studies show a link between learning a second language as a child and IQ. In their 1979 landmark study of language immersion, RJ Griffore of Michigan State University and DD Samuels of William Paterson University in New Jersey found that immersion students out-performed their non-immersion peers on IQ tests. They noted that immersion students are particularly good at answering questions that asked them to interpret and organize a series of seemingly unrelated objects. But they weren't sure why.

It wasn't until data imaging that this theory could be examined more systematically. Dr. Ellen Bialystok, Distinguished Research Professor of Psychology at York University in Toronto Canada, uses traditional experimentation and brain imaging to study how learning a second language impacts children's cognitive development. Bilingual children, she noticed, tend to have increased density of grey matter in the left inferior parietal cortex than their monolingual peers. This is because that section of the brain houses our "executive control"

functions. She has found that learning a new language requires the constant involvement of the "executive control system," to help the child manage attention to the new language. Bialystok believes that the experience of learning a new language enhances the executive control system making it more robust for other functions too. In addition to moderating a person's ability to focus, the executive control system manages the ability to problem solve, to suppress misleading information, and to switch between multiple frameworks, said Fred Genesee.



Ella Memmott leads the group during Alisa Wu's third grade Chinese immersion class at Lone Peak Elementary School in Sandy, Thursday, Jan. 12, 2012. (Ravell Call, Deseret News)



Third grade teacher Alisa Wu plays piano during Chinese immersion class at Lone Peak Elementary School in Sandy, Thursday, Jan. 12, 2012. (Ravell Call, Deseret News)

To see how this enhanced functioning plays out on an achievement tests consider one of Bilyastok's experiments. Bilingual and monolingual students were asked whether the sentence "Apples grow on noses." was grammatically correct. The monolingual children were confused and often unable to answer the question. The bilingual children, by contrast, were successful in identifying that the sentence, although ridiculous, was grammatically correct. In this experiment, she explains, "the ability

to ignore meaning when it is not part of the task is harder for monolingual children." In this case, children who speak a second language seem to be better able to focus on important details needed to correctly answer the question.

Parental Involvement

Sand Springs Elementary School in Layton has an award winning Spanish immersion program. Because of high demand and limited spots, the school holds a lottery for prospective students each year before the start of classes. Parents who want to have their children's names on the list are asked attend an information meeting at the school. "At the meeting they ask you to commit to the program," said Amy Mullins, whose son Daniel is part of the kindergarten Spanish immersion class there. "They ask you stay with the program, to not to take your kids out to school, and to read with them everyday for 20 minutes in English," she said.

Numerous studies show how committed, involved parents have a positive influence on student achievement. "Parental effort is consistently associated with higher levels of achievement and the magnitude of the effect of parental effort is substantial." said Karen Smith Conway, a professor of economics at the University of New Hampshire. Just how substantial? According to Conway: "Schools would have to increase per-pupil



Nathan Wilkinson is at the front of the class with first grade teacher Yu-Pei Tan during

spending by more than \$1000 in order to achieve the same results that are gained by parental involvement."

Chinese immersion class at Lone Peak Elementary School in Sandy, Thursday, Jan. 12, 2012. (Ravell Call, Deseret News)

Intriguingly, certain kinds of parental involvement have more impact than others. According to Douglas Willms things like supervising homework, volunteering in classrooms, and attending parent teacher meetings have relatively small effects on student outcomes. But here are things that do impact student achievement. "Taking a genuine interest in kids achievement," by for example, "discussing school activities and helping them plan their programs has the strongest relationship to academic achievement," he said.



Tanner Isom listens to first-grade teacher Yu-Pei Tan during Chinese immersion class at Lone Peak Elementary School. (Ravell Call, Deseret News)

Willms is skeptical that parental involvement is what accounts for the superior performance of immersion students, however, there are those whose work suggests there may be a connection. Fatima Baig, of the University of Iowa, studies the motivations of parents who choose German language immersion for their children. She found that across the board these parents said their biggest motivator for choosing immersion was that it would give their child a better education. In her research she noticed that because these parents were excited about their kids education, they often wanted to talk with their kids about what they were

learning in school. An interesting finding in the context of Willms work.

Diligence

Cathy Steel chose a language immersion program for her son Ethan because of research she did on how "learning a new language opens up the brain for other kinds of learning" she says. Her fifth grade son Ethan, who has been in in Spanish immersion at Sand Springs Elementary since kindergarten, is reaping the benefits of a mind stimulated by a bilingual education. His teacher, Ms Skousan, calls him "bright" and "engaged." But in addition to the intellectual benefits Cathy expected to see, she says Spanish Immersion is teaching Ethan some important life skills too.

When Ethan has questions about his homework, Cathy's isn't necessarily

in a position to help him because she doesn't speak enough Spanish. (Though according to Ethan's teacher Ms Skousan, her efforts to become fluent are impressive). While Cathy is there to support and encourage her son, Ethan is the one who has to find creative ways to answer his questions.

Amy Mullins notices something similar with her son Daniel. "My son is learning to be resourceful and confident because he can't run to mom and dad when he has questions," she says. He is learning to "take ownership for his education...to be independent...and to persist in difficult tasks."



Children dance and sing during Alisa Wu's third grade Chinese immersion class at Lone Peak Elementary School in Sandy, Thursday, Jan. 12, 2012. (Ravell Call, Deseret News)

This last element, persisting in difficult tasks is interesting because it is highly correlated with student achievement. Earling Bow and Robert Boruch, professors of education at the University of Pennsylvania, examined student performance on the International Mathematics and Science Study exams. The exams include two sections: the subject test questions and a student background questionnaire. They noticed that student performance on the subjects tests was highly correlated with the number of questions they answered in the background questionnaire. In their analysis of their findings they suggest that if we want to understand differences in student achievement "it is necessary to recognize the non-academic factors, such as student characteristics as majors sources of.... (performance) variability," according to their report.



Bentley Crook leads the group during Yu-Pei Tan's first grade Chinese immersion class at Lone Peak Elementary School in Sandy, Thursday, Jan. 12, 2012. (Ravell Call, Deseret News)

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