

Bilingual and Split-Grade Level Databrief

A Databrief for the CPS Office of Mathematics and Science
Prepared by the PRAIRIE Group, UIC College of Education

Meghan Burke

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*For further information, contact Carol Fendt,
crfendt@hotmail.com, 312-413-3367*

The conclusions drawn in this report reflect the viewpoints of the authors. While there are many potential viewpoints, these reflect a systematic analysis of data by external evaluators. The hope is that these findings can facilitate improvement of this and related programs through open discussion and consideration of data-driven understandings.

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Since its inception, the Office of Math and Science (OMS) has aimed to improve math and science instruction in the Chicago Public Schools (CPS). To achieve its goal, the OMS created the Chicago Math and Science Initiative (CMSI), such that all CPS students attain higher levels of engagement and learning in math and science. To foster the aforementioned instruction, OMS supports *the vision that high-quality, standards-based mathematics and science experiences, as framed by national, state, and local standards, can be provided to all students* (<http://www.cmsi.cps.k12.il.us/departments.asp>). However, as a subset of students in CPS, bilingual students and students in split-level classrooms and their teachers face specific obstacles in participating in the CMSI.

Based on past evaluation data, in order for the CMSI to be successfully implemented in split-grade level classrooms, the teachers face the following obstacles: (1) receiving inadequate materials to meet the grade levels of students, (2) receiving inappropriate professional development, and (3) receiving few effective strategies to teach using CMSI curricula in these classrooms. Regarding bilingual classrooms, two obstacles impede the implementation of the CMSI: (1) the untimely reception of materials and incoherent process for the translation of materials and (2) the need to increase parental involvement for parents with limited English proficiency.

Evaluation Methods

Data for this report comes from interviews, focus groups, observations, shadowing sessions, and documents collected from spring of 2002 until fall of 2005. Data used in this report include the following:

- 7 Principal interviews over 2003-2005
- 2 Observations of professional development in 2004
- 1 interview with an Area Math and Science Coach in 2005
- 16 teacher focus groups throughout 2004-2005
- 15 school-based specialist interviews throughout 2003-2005

All of the data in this databrief was found and analyzed by searching every interview, focus group, observation, shadowing session and document that the UIC PRAIRIE Group, external evaluators of the CMSI, collected since the CMSI began in 2002. All of the data was found by running a search for the following key words in each document: *bilingual, split, ESL, ELL, English, Spanish, and transition*. Out of our thirteen case study schools, six of them reported problems with receiving and translating materials for their bilingual classrooms. Regarding parental involvement of students with limited English proficiency, three of these six schools reported problems. Three of our thirteen case study schools reported problems implementing the CMSI within their split grade level classrooms. None of the road trip data contained any mention of CMSI implementation in bilingual or split-grade level classrooms. Because bilingual and split-grade level classrooms were not specifically addressed or targeted for the research and evaluation purposes of this data, all of the data was gathered from interviews, shadowing sessions and focus groups where CMSI implementation in bilingual and split-grade level classrooms happened to be discussed by CMSI implementers.

While some split-grade level classrooms can also be bilingual classrooms, all of our data regarding split-grade level classrooms is monolingual, solely taught in English. As such, this synopsis is divided into two sections: bilingual and split-grade level classrooms.

Split-grade Level Classrooms

As revealed by data collected over the 2003-2006 school years, CMSI implementation in split-grade level classrooms faced specific obstacles (Case Study Schools, School-based Specialist observations and interviews, 2003-05). Cited by Area Math and Science Coaches, School-based Specialists, and teachers alike, CMSI implementation was especially difficult in split-grade level classes due to insufficient materials, inappropriate professional development and difficulty in using the curriculum in a multi-grade level classroom.

Insufficient Materials

Area Math and Science Coaches, School-based Specialists, and teachers commented that split-grade level classrooms did not receive enough or, in some cases any, CMSI materials for their classrooms (Case Study Schools, School-based Specialist interviews, 2004-05). In one school, the School-based Specialist stated that because the school could not afford materials for all grade levels, the school excluded the split grade levels from participating in the CMSI in stating, “we found money for all the teachers to implement the CMSI curriculum---with the exception of the [three] split grade classes (one in 1/2, one in 3/4 and one in 5/6)” (Case Study School, School-based Specialist Interview, 2004-05). Because of financial issues, the split-grade level classrooms were entirely excluded from the CMSI while the single-grade level classrooms implemented the CMSI.

While the above-mentioned school excluded split-grade level classrooms from participating in the CMSI, other schools included split-grade level classrooms in the CMSI but with insufficient materials. In such schools, School-based Specialists and teachers reported confusion about which grade level of CMSI curriculum to use in split-grade level classrooms and, consequently, how to ensure that students from both grade levels receive high-quality math instruction that covered their needs and did not repeat previously-covered math topics. As one example of this, the following exchange between a School-based specialist and our researcher is provided:

Specialist: I'm still trying to give her advice on how to teach the class [which is 6/7 split-grade level] and was really saying you just need to get good classroom management so that you can be very productive with the book...Usually in those types of situations [i.e. split-grade level classrooms] you teach up because even lower kids will definitely pick it up, but in this case because there were only eight seventh graders...She couldn't really teach out of the seventh grade book, and then all of those twenty-two other sixth graders would get seventh grade book next year. So it really didn't make sense.... And she wanted to teach from a seventh grade book. But ...

Researcher: Then, next year the other grade is seven again. Okay.

Specialist: Right, the twenty-two. They will get that same book again so I suggested; teach the whole sixth grade book to everyone, but expound to the seventh graders extra things that you need to do. And I don't know if she liked that suggestion, but that is the suggestion that we chose to go too. So that's been, like, my obstacle (Case Study School, School-based Specialist, 2004-05).

Receiving and using CMSI materials in split-grade level classrooms varied across schools. Reception of materials, determination of the grade-level of materials, and ensuring that every child received appropriate grade level CMSI instruction were some of the obstacles in terms of implementing the CMSI in split-grade level classrooms.

Inappropriate Professional Development

Aside from materials posing an obstacle in split-grade level classrooms, professional development was another obstacle to CMSI implementation. Professional development aspired to provide guidance and support to successfully use the CMSI curriculum; however, in special populations, like split-grade level classrooms, the professional development may not have provided appropriate support and guidance (Case Study Schools, School-based Specialist interview, 2004-05). A School-based Specialist described the inappropriateness of professional development when stating,

School-based Specialist: The school year is starting off kind of shaky...once school started it kind of threw, this, like monkey wrench in it because it ended up with some Splits. And there really isn't a good way to do Splits using [CMSI curriculum] or [CMSI curriculum]. So even though as we're getting into the maybe seventh week of school or something. And we had brand new teachers. And the brand new teachers are the teachers that ended up with the Spits. Even when I attended the PD, and you asked about Splits, you really don't get a good answer.

Researcher: So you mean you raised the question?

School-based Specialist: I've raised the question with the people who even wrote the book. You know, a gentleman [from the CMSI curriculum], and he really doesn't have an answer (Case Study School, School-based Specialist Interview, 2004-05).

While the professional development is meant to provide support and guidance to effectively use a CMSI curriculum in the classroom, split-grade level teachers may not have received such support due to their diverse student population. Because each CMSI curriculum is formatted by grade level, the implementation of the curriculum encountered different obstacles in split-grade level classrooms. As illustrated by the above School-based Specialist's commentary, professional development did not adequately address issues faced by split-grade level teachers using the CMSI curriculum.

Difficulty using CMSI curriculum in Multi-grade Classroom

Area Math and Science Coaches, School-based Specialists and teachers, agreed that split-grade level classrooms are not compatible environments for CMSI implementation (Case Study Schools, School-based Specialist interviews and observations and Area Math and Science Coach interviews and shadowing sessions, 2003-05). The following dialogue between an Area Math and Science Coach and a School-based Specialist demonstrates the perceived incompatibility between split-grade level classrooms and CMSI implementation:

School-based Specialist: Fortunately, this year we don't have split classrooms, but last year, whoa--my method would be no split classrooms.

Area Math and Science Coach: ...that is the ideal. That would be better.

School-based Specialist: ...but this idea that...you don't want any split classrooms...unfortunately, people usually only do it because they are forced to do it. Because if you do the sequence...okay, let us look at the prior. How do these programs connect? How can they be set up? If you are working in third grade, but are in fourth grade, this lesson relates to this third grade lesson that's fine. But at some point, you have got to go back. At some point, you are going to get caught because you are going to teach it from the fourth grade book so that you are then going to tell the third graders to follow this lesson because this corresponds to this fourth grade lesson. At some point, the fourth grade lessons are going to carry one on their own without third grade, and that is just the nature of the program... So you are going to get caught. (Area Math and Science Coach, shadowing, 2005-06).

School-based Specialists also recognized that the CMSI curricula are not intended for split-grade level classrooms. As one School-based Specialist stated,

But the issue I have with [CMSI curriculum] with doing splits is that somebody is going to miss out on something, and that's what the teacher is fighting with now. You really miss out. You really can't devote a whole hour to math twice a day and you have a full class, and that's, like, just one of the obstacles (Case Study School, School-based Specialist interview, 2004-05).

While implementing a CMSI curriculum in a split-grade level classroom carried its own challenges, School-based Specialists and teachers have created a few ways in which they tried to modify the CMSI curriculum to suit the situation at hand. For example, the teacher could (1) teach ½ hour in one grade level in the CMSI curriculum and then the remaining ½ hour for the other grade level in the CMSI curriculum, (2) speak to the split-grade level teacher from last year for advice and support, (3) combine the lessons that overlap between the two grade levels in the CMSI curriculum and (4) teach from the lower grade level book and expound on the concepts for the upper grade level students (Case Study Schools, School-based Specialist interviews and observations, 2003-05). One specialist described his advice to a split-grade 6th and 7th teacher as follows:

I said, "We'll do the sixth grade [curriculum] because next year the parents are going to say, 'Oh, we had seventh grade [curriculum]'. And the kids would be crying—because she only had maybe eight seventh graders, [so] teach out the sixth grade book and don't say anything, just start teaching. And even, and if you see different things in the seventh grade [curriculum] that we need to expound on, then do that." So that's what we agreed upon...Usually in those types of situations you teach up because even lower kids will definitely pick it up, but in this case because there were only eight seventh graders you couldn't really teach [the 7th grade curriculum]. She couldn't really teach out of the seventh grade book, and then all of those twenty-two other seventh graders would get seventh grade book next year. So it really didn't make sense. [So I said] "Teach the whole sixth grade book to everyone, but expound to the seventh graders extra things that you need to do." (Case Study School, School-based Specialist Interview, 2004-05).

While schools utilized these three modifications to support split-grade level classrooms with the CMSI curriculum, they admitted that these suggestions still left gaps in the classroom instruction by either repeating past math lessons or missing new math concepts. In one school, the School-based Specialist spent a couple of weeks in the split-grade level classroom teaching to the multi-age students and teaching the teacher to feel comfortable teaching to a multi-age group; after these weeks, the specialist felt that the CMSI implementation in this split-grade level was a success (Case Study School, School-based Specialist interview, 2004-05). This was the only method mentioned in the data as a successful attempt to implement the CMSI in a split-grade level classroom.

Bilingual Classrooms

As revealed by data collected from 2003-2006 school years, CMSI implementation in bilingual classrooms encountered its own obstacles: namely, timely reception of materials and strong parental involvement (Case Study Schools, Principal and School-based Specialist interviews and teacher focus groups, 2003-06).

Timely Reception of Materials

Principals, School-based Specialists and teachers alike stated that materials for bilingual classrooms were consistently late (Case Study Schools, Principal and School-based Specialist interviews and teacher focus groups, 2003-06). The respondents attributed the lateness of the materials due to “so many things involved in getting the materials, getting them to translate, and having to go to the printer and then so...” (Case Study School, Principal interview, 2003). One of the “many things” involved in receiving usable materials for bilingual classrooms was the translation of the materials. The process and people involved in translating CMSI materials varied across schools ranging from relying on staff from OMS to relying on teachers to do their own translations (Case Study Schools, Principal and School-based Specialist interviews and teacher focus groups, 2003-06). In teacher focus groups, teachers cited their translations of the materials as especially tedious and time-consuming. In the following teacher focus group, the school had not purchased the CMSI materials in Spanish:

Teacher A: The problem that we have is that we have nothing for our bilingual kids, and we have been asking for them. ‘Does the book come in Spanish? Does the book come in Spanish? Does the book come in Spanish?’ And ‘No. No, No!’ What do we do with these kids? The kids will do the supplemental stuff for computation and then we can partner them up with someone to do the [CMSI curriculum] with them, but then they are just losing out on so much. (Case Study School, Teacher Focus Group, 2004-05).

Principals, School-based Specialists and teachers reported that the translation of CMSI curricular materials from English to Spanish was not standard across schools and required a lengthy period of time. While waiting to receive a copy of the translated CMSI curricula, a School-based specialist described the translation process by stating the following:

Specialist A: Now, we still have the problem with the Spanish materials. The final copy won’t be available until January. So what they are doing is they are sending exacts, black and white copies of the translated version. So that’s what they have been receiving, but they only send them in units of three, like three units. I don’t know, like every six weeks or so or four weeks, but now they’re at the end of the third unit so I kept calling the company and asking, ‘When are you going to send the next three? We’re almost done.’ You know they don’t call me back, and we have our own. We have names of people that we need to contact. I would leave messages, and then I would call my facilitator. I would call the person in charge of materials at the Office of Math and Science. You know, everyone is aware of what’s going on. So finally my facilitator said, ‘You know, I’ll get a hold of a copy. I’ll make them.’ And she’s the one that gave them to me. The company hasn’t sent anything yet, and that’s, you know, that just really, it really frustrates me. Because then the teachers are asking me ‘Where are my things?’ And I don’t know what else to say to them other than this is what’s been going on. I’ve been trying, and they don’t believe me anymore, and I said if the company was based here, I would go get them for you, but they’re in [another state]. I said, I don’t think I can truck to [another state]...I don’t know where they’re at, but it’s just been a nightmare. You know with materials not being here on time, and it’s just very frustrating. Just thinking about it gets me upset again. (Case Study School, School-based Specialist Interview, 2003-04).

The above-mentioned school attempted to talk with OMS facilitators and other schools to receive the Spanish materials; in contrast, another school may reach within its own staff people to translate materials for bilingual classrooms. In the following teacher focus group, the school had not purchased CMSI curricular materials in Spanish. Below, teachers described their translation process illustrating the differences across the district in terms of translating CMSI curricula and even the diverse ways of translating materials within one school:

Teacher C: In kindergarten it [the CMSI materials] would have been in English and you know my students are bilingual and half of them could do--I have to explain everything in steps and they tell me that they don’t know even their names. They don’t know them.

Researcher: So, the kids are getting materials in kindergarten in English but then when they get to first grade the materials may be in Spanish?

Teacher C: We have the parent letters. Like if you get it and then you can send home a parent letter in Spanish but as far as the material and text, it’s all in English.

Teacher D: Nothing in Spanish. (Case Study School, Teacher Focus Group, 2005-06).

As illustrated by the above dialogues from two different schools, the ways in which to translate CMSI curricular materials from English to Spanish varied across schools. However, throughout all conversations regarding translating CMSI curricular materials, the lengthy time needed to translate materials was constant. The translation process was drawn out and seemed to follow no uniform course. This may impact the CMSI implementation in various schools for students with limited English proficiency.

Parental Involvement

Because we have not collected data from parents, the perceived obstacles hindering parental involvement in CMSI implementation are comments received from classroom teachers. As perceived and reported by classroom teachers, parents of students in bilingual classrooms faced a different set of obstacles in their efforts to support their students' involvement in the CMSI implementation. As revealed by our data, such parents may require: (1) a translator for CMSI parent nights, and (2) materials sent home in both English and Spanish.

In order to foster parental involvement and support of the CMSI, schools held CMSI parent nights to educate parents on the math and science curricula involved in the CMSI. Parents who have limited English proficiency required a bilingual translator to attend these parent nights in order for them to fully engage with the curricula and understand the CMSI. As revealed by our data, some schools have bilingual coordinators on staff available and willing to translate for Spanish-speaking parents on the CMSI parent nights (Case Study Schools, School-based Specialist Shadowing and School-based Specialist Interviews, 2003-06). Other schools do not have such resources and, as such, they may rely on OMS bilingual staff people to attend the parent nights (Case Study Schools, School-based Specialist Shadowing and School-based Specialist Interviews, 2003-06).

The language of materials sent home to Spanish-speaking parents also posed an obstacle to successful CMSI implementation. As illustrated by one school, students who have limited English proficiency and, subsequently, difficulty reading, may have little support at home if their parents also had limited English proficiency:

Teacher A: ...but the DPPs that you could send home it looks like something that you would send home for a seventh grader its not like the way it is set up I mean some of my kids don't even know how to read so how are they going to do these word problems and the parents don't speak English so they come back and they have a problem (Case Study School, Teacher Focus Group, 2005-06).

In response to materials sent home to parents of students with limited English proficiency, teachers and administrators suggested that materials should be sent home in both English and in Spanish (Case Study Schools, Teacher Focus Groups and Assistant Principal Interviews, 2003-06). As one group of teachers stated

Teacher A: I went to one session at [another CPS school] too...yeah, it was a lot of information and that didn't really bother me a lot, but what really frustrated me was that when I tried to implement the things in my classroom, because my students are in the process of learning English, so it was very difficult. Plus, on the other hand, I had parents asking me...I have the parents asking me what is happening that you are not teaching them addition, subtraction, multiplication, and division cause that is the way that I can help them. They don't know English, so that is the way they usually help their kids. And I have had families who I have had the oldest one to the youngest one, and they know the way I usually teach and so they are wondering what is happening and how can I help my child if I don't know English, and you aren't teaching anything that I can help.

Researcher: And the texts didn't have any parent stuff in Spanish?

Teacher A: No, I don't have anything in Spanish...

Teacher B: We have all English for home stuff all of our stuff is in English and our students get help in Spanish at home. I know you can order Spanish but for the first year it was tough because I let them take home their student reference book and they had to figure it out with someone who could read English. So that was a big...

Teacher C: The directions were in English and then in Spanish for the homelink.

Teacher B: Right, but they have a Spanish version of it. But the thing is that many of my kids can't read Spanish. So they have to depend on someone at home reading it to them in Spanish.

Teacher C: The directions should be in both English and Spanish. (Case Study School, Teacher Focus Group, 2005-06).

The availability of materials in both English and Spanish for Spanish-speaking parents may be helpful in ensuring that they successfully complete their homework. Similarly, the availability of materials in English and Spanish might also help the child to understand the all of the instructions and format of the math curricula. As revealed by teacher focus groups, students of limited English proficiency may speak Spanish but may not read Spanish; as such, the materials should be in

both languages so as to ensure that children of limited English proficiency have opportunities in both languages to understand the CMSI curricula. The same is true for parents of limited English proficiency who may read in Spanish but, as stated earlier, because some of the words do not directly translate to English, may find it helpful to have a side-by-side English version (Case Study Schools, Teacher Focus Groups, 2003-06). Conversations with teachers and administrators reveal that parents with limited English proficiency would like to learn more about the CMSI and understand their children's homework to better support their learning.

Conclusion

The CMSI began in 2002 to ensure that all students in the Chicago Public Schools receive high quality instruction with standards-based materials. However, for special populations, the implementation of the CMSI may prove to be more difficult. For example, as outlined by this paper, students in bilingual and split level classrooms face different sets of obstacles than students in monolingual, grade level classrooms in terms of CMSI implementation. For students in bilingual classrooms, issues such as parental involvement and timely reception of materials may impede successful implementation of the CMSI for these students. For students in split level classrooms, appropriate professional development, relevant materials and difficulty in using the curriculum in a multi-grade level classroom are obstacles to successful CMSI implementation.

Professional development, appropriate materials and parental involvement are a few of the basic tenets of the CMSI; scaffolds intended to support the CMSI implementation across the district. However, for bilingual and split grade level classrooms these prongs of support face unique and unaddressed obstacles. How can OMS address such issues to ensure that the CMSI is effectively implemented in these classrooms?