Time, Resources, Information Overload and Classroom Management:
Issues surrounding Professional Development

Janette Bobis
University of Sydney
<j.bobis@edfac.usyd.edu.au>

This paper reports findings from the case study component of an investigation designed to evaluate the impact of the Count Me In Too early numeracy program in Years 3 and 4 classrooms. Initial anecdotal evidence indicated that the implementation of the program was more difficult than for the corresponding implementation in Kindergarten to Year 2 classrooms. Through the voices of case study teachers, issues surrounding the implementation of the program and potential barriers to professional development emerge and are explored. Interestingly, suggestions as to how some issues are dealt with and how barriers may be overcome are provided by the teachers themselves.

The study reported here is part of a larger study conducted on behalf of the NSW Department of Education and Training (DET) to evaluate the implementation phase of its numeracy program, Count Me In Too, for teachers of Stage 2 (7 to 10 year old) students. (Bobis, 2003). Investigations designed to assess the impact of Count Me In Too (CMIT) on teachers and children have been reported at previous MERGA conferences. Since many of these reports contain detailed descriptions of various aspects of the program (e.g., Bobis & Gould, 1998; Wright, 1998) they will not be repeated here. Instead, a brief introduction to the program is provided along with a rationale for the current study based on the program's main aims and findings of previous investigations.

Background to the Study

From its origins, the CMIT model of professional development melded findings from two different but related areas of research—one concerned with how children learn mathematics, and the other, concerned with how teachers learn best. Consequently, its aims have been to help teachers understand children's mathematical development and to improve children's achievement in mathematics.

CMIT has been operating in NSW government schools since 1996. Initially, it focused on number knowledge and strategies of children in the first three years of school, however, the program now encompasses the space and measurement strands and has been formally implemented in Stage 2 (Years 3 and 4) classrooms. Systematic research-based evaluations have indicated that the program has been successful in its aims (Bobis, 2001; Mitchelmore & White, 2003). As the program has moved into Year 3 and 4 classrooms, the nature of support provided by DET changed. In particular, there was a change of focus in the type of classroom-based support offered. While implementation in K-2 classes normally involved a mathematics consultant making regular visits to classrooms to conduct demonstration lessons or team teach with the classroom teacher, Year 3 and 4 teachers often relied on the implementation experiences of their Stage 1 staff and had limited direct contact with consultants. Additionally, consultants felt that resistance to the program by Stage 2 teachers was more noticeable than previously experienced with its K-2 implementation. Hence, initial anecdotal feedback about these and other aspects of the Stage 2 implementation, raised concerns about the momentum of the program. The aim of the

current study was to evaluate the program's implementation in Year 3 and 4 classrooms. This paper focuses on the issues and potential barriers to its implementation as identified by teachers as part of a case study.

Method

The study gathered data from two different sources, namely the mathematics consultants and Year 3 and 4 teachers who had been involved in the CMIT program. Information was collected via a teacher survey, interviews and informal discussions with teachers and mathematics consultants. Teacher interviews and informal discussions were conducted as a result of three schools being selected for case study. While data from the case study component of the research is the major source of data for this paper, results of the survey were used to formulate interview questions. This was done to gain more insight into teachers' responses to survey questions. Hence, some reference may necessarily be made to the survey component of the study.

Three schools from two different districts were selected for case study. Selection was based on two main criteria. First, at least three teachers from the same school agreed to be interviewed. Second, the schools were located in the districts of consultants that were also interviewed as part of the evaluation. The second condition was included to ensure that at least two different perspectives on the effectiveness of CMIT would be obtained for each school context. Twelve teachers were formally interviewed and informal discussions were held with two others. Interviews were audio-taped and transcribed to assist with analysis. Notes were taken after or during informal discussions. While the three school contexts were quite different, the major themes to emerge from the interviews were common to each school. Hence, a composite case study, similar to Connelly and Clandinin's (2000) composite narrative approach was considered the most effective medium to present the major findings from this component of the evaluation. This means that the school and individual teachers described in the case study are fictitious. However, each teacher profiled typifies the biographical background (gender, age and teaching experience) and opinions about the effectiveness of CMIT Stage 2, commonly expressed by teachers in each school.

Mander Heights Public School

Mander Heights Public School has approximately 420 students drawn mainly from a middle socio-economic background. Count Me In Too for Stage 1 has been operating in the school for almost 3 years and is well established in regard to resources. It is now an expectation at the school that Kindergarten to Year 2 teachers would implement CMIT as part of their normal mathematics program.

As part of the school's management plan to improve the numeracy levels of the Stage 2 students, the executive decided to introduce CMIT to Stage 2 with the aim to "move it up the school" over the next few years. Four teachers were involved in the training for CMIT Stage 2. They ranged from 2 to 28 years of teaching experience and reported a broad spectrum of opinion in regard to the effectiveness of CMIT Stage 2. Comments relating to their overall impression of the program, their initial training, follow-up support and the effectiveness of their implementation are presented for each teacher.

Bettina, Year 4 teacher: *Bettina is 23 years of age and in her second year of teaching. In hindsight, she thought CMIT was "really good." Bettina already used games and "hands-on activities" in her teaching so CMIT was considered to be an "extension of that*

because it is a lot more involved. You are finding out how the children learn, where they are and where they are going." She considered the SENA testing to be time consuming but extremely worthwhile. However, she lamented that her introduction to the program had been extremely stressful contributing to her struggle for survival as a beginning teacher. She felt isolated from her colleagues, all of whom *"are so much older and experienced, but I received no help from the other Year 4 teacher."*

Bettina was introduced to CMIT via "one very crammed training day. It was 9 to 3.30 and just go, go, go. Information overload, too much." She considered "the experienced teachers felt just as overwhelmed", but because of their experience seemed to cope better "when we got back to school." Bettina thought the consultant "was pretty good." She considered the use of "real students to demonstrate the SENA in front of us" extremely beneficial and was confident about her ability to test the children. However, she felt like she was "running late from the start, because I didn't get all my testing done on the day we were given and I had to use my RFF time. So it took longer to do all the testing." Bettina did not think it "fair that we all had the same time to assess our children, since I have 32 children and some have fewer."

The aspect Bettina remembered to be most "daunting" during the initial training, was the work involved to prepare the resources. She left the training day "feeling overwhelmed that so many resources needed to be made to even start the program." After the testing was complete, she again admitted to feeling "anxious about trying to translate the children's responses to put them in the correct group and match the group to the appropriate activity." Bettina considered the time immediately after the testing to have been a "huge period of stress and anxiety because of the work load" associated with the initial implementation of CMIT. She felt that the initial implementation time was when she most desperately needed "assistance in the selection and sequencing of the most appropriate activities." Communicating this need to her consultant resulted in the consultant visiting Bettina's classroom on two occasions. The demonstration lessons were considered by Bettina to be the most valuable part of her training.

> Prior to the consultant visiting my room, I didn't know what CMIT "looked like" or what I should be doing with the whole class. It was good to see how she introduced a broad topic and then let them go off to their groups. I watched how she walked around the room and when the kids would say "I'm finished" or "I'm bored with this game", the type of things she actually said. I learnt so much from those two lessons, but I think I need more, at least two more.

Bettina felt that besides more demonstration lessons, she would have benefited from "lesson plans like they have with the measurement program." It was felt that lesson plans produced by a more experienced user of CMIT would not only provide a model of how the lessons were to operate, but would assist with the selection of activities for the various groups. In addition, she felt that feedback from the consultant on her own teaching would reinforce whether she was "doing it right or if I could do something better." Being a beginning teacher, Bettina was willing to accept any advice and assistance she could get.

Bettina was now comfortable with group work in her room. She relied heavily on parent helpers and wanted to organise a "thank you morning-tea for them because they were so great." She felt that the biggest barriers to her implementation of the program related to time, resources, the textbook and other staff.

> I've spent a lot of time making and organising resources and it should be easier next year. I've spent a lot of my own money because I wanted to have everything at my fingertips and not have to rely on the games being where they *are supposed* to be when I want to use them. I can't afford too much, but at least if I leave this school I will be able to take it with me.

The textbook was a problem because "there just wasn't enough time to fit it in and do CMIT." Bettina, along with other teachers at the school, found herself struggling to get the "textbook finished by the end of the year." While she preferred not to use one, she "had to use it because the parents bought it" and the other Year 4 class had already completed it. Bettina considered that she could make "compromises" in regard to the textbook now that she was more familiar with CMIT. She still wanted assistance with her "brightest children because many of the activities were too easy for them." However, she felt the most significant barrier to the future of the program in Stage 2 classes was the "more entrenched staff, particularly the Stage 3 teachers." The Year 3 teachers had collaborated in their lesson planning, resource production and grouping of children, but the reluctance of the other Year 4 teacher to participate in CMIT meant that Bettina despite her early career status had been given little support from with in the school.

Ken, Year 4/5 teacher: *Ken, aged 51, has 28 years teaching experience. He has taught Stage 3 classes for the past 15 years and only recently started teaching Stage 2 students. He considered himself to be "a bit of a traditionalist in maths and I feel I am a reasonably good maths teacher." Ken was content with the way he had taught mathematics in the past. He referred to his style of teaching mathematics as "the normal way—chalk and talk and using the blackboard" and did not perceive any justifiable reason why he should change the way he taught mathematics. The making of resources was considered an inconvenience that increased his workload and an unnecessary burden. Ken thought "senior grades generally don't use as many concrete materials…by Stage 3 they have the basics." He questioned the rationale of the program and considered CMIT to be another "fad" that will "pass by."*

Ken was totally dissatisfied with his initial training. He felt that "25 teachers was too many to inservice at one time" and smaller groups would have given everyone the "opportunity to do more activities and ask more questions. Maybe even understand a bit more theory" behind the program and "become more confident with it." Ken expressed anger towards DET because "they don't realise that we have 1000 and one other things…If they want us to implement new programs then they have to give us further training before it gets thrown at us."

Ken was not convinced that the activities were worth the effort to make and organise, particularly for his brighter students who "just got bored with the games." He felt that Stage 2 and especially Stage 3 children needed a textbook—the games "were just extra." While Ken organised "a few parents for a couple of weeks" he found it an imposition to organise and have them in the room. There were behaviour management problems that also made him reluctant to continue with CMIT.

> Each class has their own behaviour problems and it's a great theory that you have 4 or 5 groups working beautifully but I have one particular child who is very very difficult. Sometimes you only need 2 or 3 children to make it not manageable. Perhaps these consultants come and show us with a class—show us how to do it. That would help convince me of its worth.

Ken considered CMIT to be a "completely different" approach to teaching mathematics that he "would rather not use, but if I had to I would." He felt that he "did enough" for the school and was not prepared to put the "extra effort required to make CMIT work."

Denise, Year 3 teacher: *Denise is 50 years old. She has 21 years teaching experience and is the Stage 2 supervisor. Denise's overall impression of CMIT was very positive, it was particularly "good for the slower kids." Denise intends to continue with CMIT in the future because "now that I have seen what the students can do I see value in the program." She also considers that it will be easier to implement in subsequent years because she has*

most of the resources prepared and will be familiar with what the program "looks like in the classroom." For Denise, CMIT is a different way of teaching. Previously, she had taught mathematics predominantly from a textbook. She felt that she and other staff members had to "relearn how we were teaching our maths, to be more activity-based."

As the Stage supervisor, Denise tried to support Jan, the CMIT coordinator for Stage 2. She conveyed information or requests for testing results and the like, because it was felt that it was more appropriate and staff would more readily comply if such requests came from a member of the executive.

Denise attended 2 CMIT training sessions conducted by the district consultant. The first day was designed to be a general information day for interested schools who were considering starting the program. Denise decided to attend because she knew little about the program except that the K-2 teachers were implementing it at her school. Despite her extra day of training, she still "came away feeling overwhelmed" and uncertain of what to do after the initial testing. Like Bettina, she felt confident about conducting the actual SENA testing, particularly due to the use of "real children to demonstrate the SENA." However, she gained a great deal of assistance from Jan to group the children after the testing. Jan also "came to my classroom and went through a lesson with the children and helped me work out what games to use with each group." Denise felt that if she had not had Jan's support during the initial implementation she "would have been lost." In particular she considered the period directly after the testing to be "extremely busy— making and organising the activities, finishing the testing and grouping the children."

Denise was quite "pleased with the implementation" of CMIT in her classroom towards the end of the term. She used parent helpers to assist with the organisation of group work, but considered "parents can be an advantage and a disadvantage." While parents helped keep the students on task, Denise found that some "just stay with their own children." She also indicated that she often felt "intimidated" having parents in the room. She reported that another teacher had "given-up using parents for maths groups because they could never get enough volunteers or they forgot to turn-up." She felt that some parents were worried that they could not do the mathematics, but considered the timing of mathematics lessons to be a major factor for parents not volunteering to help.

> Most teachers in Stage 2 schedule reading groups early in the morning and mathematics between morning tea and lunch. This means that parents have to drop their children at school, go home for an hour or two, come back for maths, go home again for another hour or so before coming to pick-up the kids in the afternoon. It means they have to give up their whole day. I actually schedule maths groups in the afternoon. I know it is late, but I get the parents. They just take their kids home after maths.

Despite feeling more comfortable with the implementation of CMIT, Denise still encountered difficulties. A major problem was the limited "space in the classrooms for group work." Because all available space had to be utilised for groups to "spread out, classes have to be careful not to do CMIT at the same time." She also still felt uncertain about the sequencing of activities and wanted "a book with all the resources organised into levels, and lesson plans so that teachers don't have to struggle so much at the start."

Jan, Year 3/4 teacher: *Jan, aged 45, has been teaching for 19 years. She is the CMIT coordinator for Stage 2 and has implemented CMIT for Stage 1 students for 2 years. Being familiar with the program for Stage 1 and convinced of its benefits for the children, she was initially quite happy to coordinate CMIT for Stage 2. However, she had not anticipated "staff resistance to the program" and this had made her role more difficult than she had originally thought.*

Jan considered the initial training day a "good introduction" to the SENA 2 testing and "gained some good activities" for her Stage 2 class. Her familiarity with Stage 1 of the program meant that the new Stage 2 content "was quite manageable to digest in one day." However, she was aware that other Stage 2 teachers felt "overwhelmed by the whole thing. It was a lot to take in on just one day for them." She considered the timing of the initial training to be a major reason why teachers were so daunted by the amount of work required to implement CMIT. The training took place towards the end of Term 2 and teachers were in the midst of finalising portfolios that were to be sent home in a week. Parent interviews were also being arranged to coincide with the distribution of portfolios. Jan felt that "no time is a good time to tell teachers that they have to do all this extra work on top of their normal teaching, but it is a particularly stressful time for teachers anyway." In hindsight, she thought that the staff might have been more receptive to the program from the beginning, if it had been introduced more slowly and there was less emphasis on the production of resources.

Offering assistance to all Stage 2 staff was difficult because Jan still had to "grapple with some new content and issues" herself. The other Year 3 teacher specifically requested assistance from her to group the children and Jan had "spent a lot of time helping her." She was rather "annoyed" that some staff complained so much about making resources when within the school management plan a budget had been allocated for new resources and she "had made most of the resources anyway." Jan felt more comfortable about not having the resources "perfect" after the district consultant had told her "it was okay to use it, even if it wasn't laminated—just start. So I did, and it was less stressful." She considered it was going to be "a lot easier next time because they have so much prepared and I'm more relaxed about making resources."

Staff also started "complaining" to Jan personally when she reminded them about finalising SENA results or organising parents for group work. In response, Jan arranged to make such requests via the executive.

> Denise is an executive teacher and our Stage supervisor. The other staff didn't seem to complain if she asked them to do it. I think it is because she is an executive teacher, whereas I'm just the CMIT coordinator and don't have as much authority.

Jan considered the follow-up support for Stage 2 to have been less effective than it was when she did CMIT in Stage 1.

> When it was implemented in Stage 1 here, I would watch the consultant come in and demonstrate lessons. We would have some really good discussions about what to do. We didn't have that this time. I know we were supposed to have it within the school, maybe with the Stage 1 teachers mentoring the Stage 2, but it's practically impossible to do that. I know one Stage 2 teacher who didn't think a Kinder or Stage 1 teacher could do it in a Stage 2 classroom. I think all the teachers wanted an "expert" from outside to help us in the classroom. I think it took longer for teachers to feel comfortable with it. I was probably the keenest out of everybody because I knew how beneficial it would be.

Despite her involvement in Stage 1 CMIT, Jan still considered that demonstration lessons at the Stage 2 level would have helped her "get the big picture." Understanding "why we're doing it" and where "it is leading too", was the only barrier Jan felt existed for her in the implementation of CMIT. Jan felt that the "big picture" was "much clearer after this year", but that she "still had more to go in understanding it." Jan felt that she would "probably approach it a bit differently next year" but was thoroughly convinced of the benefits of CMIT. She was hoping that the new Syllabus would be more aligned with CMIT content so that programming would be easier.

Summary and Conclusion

Overall, findings of the case study component were consistent with the results of the survey, and interviews with consultants (see Bobis, 2003). In particular, a number of factors repeatedly emerged as significant barriers to teachers' implementation of Count Me In Too. These factors predominantly related to issues of time, resources, information overload and class management. For example, teachers consistently commented on:

☐ The initial stress of feeling overwhelmed by the amount of new information, the need to modify teaching strategies and to prepare resources different to those already possessed. However, this did not seem to be an issue for teachers already familiar with Stage 1 of the program. This indicates that the initial feeling of being overwhelmed can be overcome with careful consideration to the nature and pace of which new material is introduced. Additionally, most teachers agreed that time to make resources would not be as big an issue in the future, as the bulk of what they needed was prepared early in the implementation of the program and they would now simply add to their resources when needed.

☐ The uncertainty of how to implement the program or "what it looked like in the classroom." The need for even experienced teachers to be supported in the classroom implementation was made evident by the number of teachers referring to the fact that they would have to "relearn" how to teach mathematics, or at the very least, to modify their teaching strategies.

☐ The amount of time needed to assess individual children. While "time" was a major issue with teachers, most agreed that it was worthwhile given the insight gained into children's learning.

☐ The lack of organisation and management strategies to successfully use group work, including the need for more space and to secure reliable parent volunteers to assist in the classroom. Behaviour management problems were issues even with experienced teachers who felt that group work would only exaggerate the problem.

☐ The problems created by a perceived necessity to complete the set textbook. Teachers indicated that they often had to compromise the CMIT program and their own beliefs about how to teach mathematics so as to complete the text.

☐ Staff members perceived to be opposed to the program, thus making it more difficult for those wanting to implement it. In particular, early career teachers seemed to struggle most when another staff member did not actively support the program.

☐ The need to have an executive teacher issue requests to staff related to the implementation and monitoring of CMIT. It was felt that teachers were more likely to comply to such requests when they came from someone of authority.

Despite feeling overwhelmed by the initial training and expectations of themselves in regard to resource production, time, information overload and classroom management, generally teachers recognised the potential benefits of the program in the long-term. They considered many of the issues and barriers they faced would be reduced in subsequent years due to their build-up of resources and deeper understanding of the program. However, pockets of resistance to the program from a small number of staff considered either too entrenched in their ways and unconvinced that the program's benefits outweighed the stress and additional workload associated with its implementation, continued to cause resentment amongst staff wanting to proceed with the program.

Acknowledgement

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