

# Swedish year one teachers' perspectives on homework in children's learning of number: an ongoing controversy

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This paper draws on semi-structured interviews undertaken with twenty teachers of year one children in Sweden. Interviews focused on teachers' construal of their own and their pupils' parents' roles in supporting year one children's learning of early number. Data, which were analysed by means of a constant comparison process, yielded homework as a theme that dichotomised teachers between those who set homework for learning number and those who do not. Of those who set homework, the majority construed it as a means of facilitating number-related fluency, particularly for children in danger of falling behind their peers. Of those who do not, the majority argued that differences in family backgrounds would compromise societal principles of equality of opportunity.

Much research effort in for example USA, England, China, Spain and Portugal has been expended on trying to understand the relationship between mathematics homework and student achievement (Cooper, Robinson & Patall, 2006; Farrow, Tymms & Henderson, 1999; Hong, Mason, Peng & Lee, 2015; Kitsantas, Cheema & Ware, 2011; Núñez et al., 2015; Rosário et al., 2015). Still the extent to which homework influences achievement remains unclear. Indeed, the results of such studies highlight continuous uncertainty about the efficacy of homework. This uncertainty, controversy even, underpins the narrative of this paper, which reports on an interview study of Swedish year one teachers' perceptions of the role of homework in their pupils' learning of number.

## The controversy of homework

Homework is broadly construed as any task set by a teacher for students to undertake outside school or during, say, an after-school club (Corno & Xu, 2004; Muhlenbruck, Cooper, Nye & Lindsay, 1999). Its purposes have been categorised as being practice, preparation, participation, personal development, parent-child relations, parent-teacher communications, peer interactions, policy, public relations, and punishment (Epstein & Van Voorhis, 2001). With

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this follows equity aspects on homework design (Epstein, Foley & Polloway, 1995; Strandberg, 2013) where parents may have a crucial role in mathematics homework (Bryan & Burstein, 2004; Van Voorhis, 2004). Another example of the importance of homework design is Rosário et al. (2015), who in a pretest-posttest study compared the three homework designs extension (i.e. problem solving), practice and preparation and found only extension homework to improve students' mathematics achievement. Key in the definition and purposes is the role of the teacher in initiating the activity, the focus of this paper. However, while homework is ubiquitous in many countries, its use is often based more on rhetoric than warrant (Farrow et al., 1999). Indeed, with respect to the United States,

[n]o item on the nation's educational reform agenda seems more solidly grounded than the belief that students at all grade levels will benefit from more homework; indeed, the more the better.

(Gill & Schlossman, 1996, p. 28)

In this respect, drawing on earlier research in the field, Corno (1996) writes of five myths that underpin the use of homework. These state that the best teachers give homework regularly, more homework is better than less, parents want their children to have homework, homework supports what children learn in school and, finally, homework fosters self-discipline and responsibility.

Such rhetorical assertions, particularly when assumed true by politicians, create dilemmas for teachers and researchers. For example, the rhetoric of the government at the time, prompted the British Minister for Education, David Blunkett, to assert to a public meeting of British industrialists that some researchers are

so out of touch with reality that they churn out findings which no-one with the slightest common sense could take seriously [...] a report [...] recently suggested that daily homework is bad for you. If that is so, why is it such a firm part of provision in independent schools [...] ?

(Blunkett in Tymms, 1999, p. 22)

While it may be argued that the Minister's response fails to understand the class structure of the English independent schools and the disproportionate advantages they have afforded over decades (Croxford & Raffe, 2014), it seems clear that the mention of homework has the propensity to provoke heated debate between the holders of different viewpoints, some of which have empirical warrants and some not. For example, Farrow et al. (1999) explored the relationship between homework and achievement in mathematics, English and science of nearly 20,000 year six pupils in 492 English primary schools. Their analyses demonstrated unambiguously that learning gains in primary school were more closely related to less rather than more homework. Indeed, at the turn of the

twentieth century, to "most educational experts [...] the benefits of homework were anything but self-evident" (Gill & Schlossman, 1996, p. 29).

## Homework in Sweden

The historical narrative of homework in Sweden has, in many ways, reflected the international. Thus, while the Swedish discourse on parental involvement in children's education has been strong, the perception of homework within that involvement has varied considerably (Wingard & Forsberg, 2009). For example, there are currently no legal expectations that teachers should set homework, with recent curriculum guidelines indicating that the responsibility for such decisions lie with individual schools and teachers (Skolverket, 2014). However, over the previous decades the official narrative has vacillated between homework being an essential element of the school experience to its being, effectively, forbidden before being rehabilitated into the mainstream of educational thinking (Hellsten, 1997). Today, official ambivalence has been highlighted by legislation allowing parents to receive tax deductions on tuition service they buy to support their children's home-based learning (Prop. 2012/13:14). That being said, earlier expectations that homework should not be set underpin current teacher perceptions, particularly with younger children, that homework is problematic. A not uncommon argument is that school is children's work and that extending it to the home creates

a stressed worker: homework blurs the boundaries between home life and school life, stealing time from children's leisure time, and puts unhealthy pressure on the ambitious students. (Forsberg, 2007, p. 213)

Consequently, homework remains a rarity for young Swedish children, as highlighted in every iteration of TIMSS in which Sweden has participated; Swedish year eight students consistently claim to receive less mathematics homework than their peers in other countries (c.f. Mullis, Martin, Foy & Arora, 2012). This leads to the following research question: What arguments do Swedish grade one teachers give for setting and not setting homework on learning number?

## Methods

This paper reports on a particular set of results from an interview study of English and Swedish teachers' perspectives on number-related learning of year one pupils. Funded by the Swedish Research Council (Vetenskapsrådet), the Foundational Number Sense (FoNS) project is a comparative study of the role of parents and teachers in the support of year one children's acquisition of the number-related competences necessary for later mathematical success (Andrews & Sayers, 2015). The semi-structured interviews had two broad aims. Firstly, to yield constructs appropriate for inclusion in a later survey and, secondly,

to uncover in-depth the views of a representative selection of teachers on the teaching and learning of number to year one children.

Participants were contacted in various ways, including teacher electronic bulletin boards, emails and calls to randomly selected schools across the two countries. As a result, teachers were drawn from a range of geographical locations and represented different genders, ages, professional education and teaching experience. In each country, twenty interviews were arranged because it represents a number sufficient to ensure categorical saturation (c.f. Guest, Bunce & Johnson, 2006), whilst avoiding the ethical embarrassment of interviewing people whose data will never be used.

Interviews were conducted in teachers' schools and video-recorded directly onto laptops. Transcripts were made by the interviewers and analysed by the project team. In accordance with the aim of identifying constructs for inclusion in a later survey, a constant comparison analytical process was adopted (Strauss & Corbin, 1998). Thus, a transcript would be read and codes of response identified. When a new code was identified, previously read transcripts would be re-read to determine whether the new codes applied to them also or whether it could be refined against earlier evidence. To ensure consistency, the data for each country were analysed independently by two members of the project team before being compared. This process resulted in robust categorisations for each country. Homework emerged as an important theme from both sets of interviews and it is the results for the Swedish data that we report here.

## Results

All teachers, irrespective of whether they actually set homework, were aware of at least three potential benefits homework can bring. Firstly, homework can act as a way of communicating with parents, so that, as Julia remarked "parents see what we are doing in school". Secondly, homework can provide children with opportunities to spend time with parents, as emphasised by Lena, who said, "that's why I think homework is important ... they (children) get a chance to sit down with their parents". Thirdly, homework develops good study habits, as seen in Pauline's comment that "I think homework is good because they (children) still think it's great fun. And they will have more of it when they grow older, so it's good to introduce it now". Such comments fit comfortably within the official discourse that parents have an obligation to involve themselves in the learning of their children (Wingard & Forsberg, 2009). However, acknowledging such generic benefits, teachers' views polarised between those who did set formal homework on number and those who did not. It is on these that we report.

### Teachers who do not set homework

Ten teachers, exactly half the sample, spoke of not setting homework, either because they work in homework-free schools or because they have principled

objections to it. With respect to the former, teachers' responses were interestingly varied. For Jenny, her school's argument for not setting mathematics homework was pragmatic rather than principled. Having commented that her school sets reading homework, she said that "I don't know why, but somehow it feels, well, easier to involve [...] parents in reading and writing than in mathematics", before adding that during her regular development meetings, many parents "think it (mathematics) may be difficult to explain [...] that's probably what I hear, it's hard to explain". In other words, Jenny's views were that if parents were as consistent in their mathematical competence as in their reading competence, mathematics homework would be set.

For Irene, there was a different problem concerning over-enthusiastic parents trying to encourage their children to move beyond what the school is currently teaching. She commented that parents frequently ask

"Well, what can we do at home, ... what can we do?" And then I usually say, "No, you should not do anything" ... (and they ask) "Well, can we move on, can they work with multiplication, we have practiced multiplication at home?" It is so forced the belief that the more they practice at home the better they will be.

Finally, Marianne's comment indicated that while her school did not set homework (with exception for reading), it was a decision that left her uncomfortable. She asserted that "this is a homework-free school, which I do not support 100 percent", before adding that "I think that the home has a large role. Not to send home challenges, more to consolidate things like multiplication tables a bit ... homework should not be difficult".

From the perspective of the latter, teachers who opposed the setting of homework typically argued that differences in children's home environments influence learning in ways that make it difficult for schools to compensate. In this respect, Ellinor's comment was typical. She said, "It should not matter what you do at home, but it does. And we can never, within the school's context, weigh up for what children get at home". For the same reason Wilma's school decided to only set homework to be done during the leisure time activities organised by the school and Wilma motivated this as follows; "We do not send home things that need to be explained at home, it's we who teach – not the parents".

In other words, as noted by Julia, education "is supposed to be equal, we should all be given the same opportunities, and therefore we cannot put the learning responsibility on homes". Interestingly, as seen above with Jenny's comments, some teachers applied such principles of equality only when parental competence in pedagogically explaining mathematics was in doubt.

Two other teachers mentioned different but principled reasons for their rejection of homework. Firstly, Hanna, sets homework only for children with specific needs of individual support, explaining,

instead of having a lot of homework for all, I (attend) only to this girl (who struggles), and these parents, and ask them to do something at home. And focus on it. If they had more homework beyond that, then it would be very difficult.

Secondly, in contrast to the strongly-made arguments of Marianne, who regretted her school's decision not to set homework, Kerstin said, quite simply, that she knew of no convincing research showing that homework is beneficial to students' learning, commenting that "there is nothing that shows that you do better at home than you do at school". Consequently, she avoids setting homework to her students.

### Teachers who set homework

Of those teachers who set homework, three reasons dominated. The first concerned homework as the consolidation of routine competences, as discussed above by Marianne. Here, homework is explicitly an opportunity to reinforce learning which has already taken place in school. Indeed, as Anders pointed out, "homework (should only) be a repetition of a lesson". In similar vein, Isabelle commented that mathematics homework should be "more practice at home only" and "nothing new", while Lena saw it as focused on practising "something that should be automated" and something that students are already confident in and can complete without parental support. In other words, while there was a reasonably strong group of teachers who set homework, their enthusiasms were underpinned by the same principles by which other teachers rejected homework; namely that it should not involve parents whose actions may compromise equality of opportunity.

The second reason, despite differences of opinion with respect to the general desirability of homework, all teachers seemed to agree that homework is an important strategy for supporting those children who are falling behind or struggling academically. In such situations, as highlighted by Lena, "when you have a student who has difficulty with something, then you have to contact the parents and give them things ... they can practise at home ... like number bonds". Hanna used the same argument to set homework only to those with special needs.

Teachers' third reason for setting homework concerned the ways in which it contributed to the communication between school and home, particularly from the perspective of parents learning about what their children are currently doing in class. In this respect, Erika's comments were not dissimilar to those of others. She said that,

they have a maths homework each week and have had it since they started in year one. And they have from Friday to Friday ... so that the parents get a little insight into what we are doing right now. [...] And I as a parent myself think it's great and fun to see what my child is working with, and I think most parents like that too.

In similar vein, Lovisa commented that "we have mathematics homework ... something we have done in school (and) they go home and show their parents and ... think it through again".

## Results summary

All teachers acknowledged that differences in the home environment could compromise principles of educational equality, which influenced how they perceived the place of homework. Some teachers and schools rejected homework altogether, while others seemed to adopt a compromise position whereby homework would be a simple consolidation of number routine skills that required no parental involvement. That being said, the majority conceded that children who struggle with their learning of number should be given homework to be undertaken with their parents.

Finally, there was limited evidence that some teachers, irrespective of their articulated position with respect to the role of formal homework, believed that parental engagement in informal activities at home would help their children's learning of number. Ellinor, for example, continuing to express her concerns about the variable impact of the home environment, described how she and her colleagues advise parents to follow-up some school-based activities. She said,

Although we can never even up what children get from home, in the meantime, we usually write tips such as: ... today we worked with volume, you are very welcome to go bake at home ... please play cards, please play dice games.

Such views, although not frequently mentioned, indicated a belief that informal activities can not only support learning but also facilitate the development of both good study habits and contact between parents and school.

## Discussion

In this paper, drawing on interview data from 20 Swedish year one teachers, we set out to examine colleagues' perspectives on the role of homework in children's learning of number. The analyses found a profession divided between those who do set mathematics homework and those who do not, although this simple dichotomy, as exemplified in the comments of Marianne who is compelled by her school's policy not to set homework when in principle she would prefer to do so, belies a more complex narrative. In this respect, there was much commonality of belief about homework's potential benefits and desirable practice.

From the perspective of the former, teachers were aware of at least three potential benefits homework can bring. Firstly, homework can act as a way of communicating with parents (Van Voorhis, 2004), so that, as Julia remarked "parents see what we are doing in school". Secondly, homework can provide

children with opportunities to spend time with parents (Epstein & Van Voorhis, 2001), as emphasised by Lena, who said, "that's why I think homework is important... they (children) get a chance to sit down with their parents". Thirdly, a view that Corno (1996) regards as a myth, teachers believe homework encourages the development good study habits (Epstein & Van Voorhis, 2001), as seen in Pauline's comment that "I think homework is good because they (children) still think it's great fun. And they will have more of it when they grow older, so it's good to introduce it now". Such beliefs about homework's potential benefits fit comfortably within an official discourse in which parents have an obligation to involve themselves in the learning of their children (Wingard & Forsberg, 2009).

From the perspective of the latter, and resonant with the findings of the studies reviewed by Bryan and Burstein (2004), teachers were unanimous that homework is appropriate for those children who struggle with their learning of number. However, with the single exception of Hanna, teachers, whether they valued homework or not, believed that there was no role for parents in its completion. Arguing from an equity perspective, the completion of homework, which should be designed to be achievable without additional support, should be the sole responsibility of the child (Strandberg, 2013).

Despite such commonality of belief, actual practice polarised colleagues, with half setting homework, believing it to be both desirable and necessary, and half not, believing it to be counter-productive and divisive. Of the teachers that did set homework, the dominant argument was that it serves as a consolidation of number routine skills, practices exploited by teachers internationally (Cooper, Robinson & Patall, 2006). What is, perhaps, interesting, is that internationally, researchers have reported on a form of homework, which draws on a tacit awareness that the school day offers insufficient time for teachers to cover all curricular material and is frequently found in exploratory tasks designed to prepare pupils for forthcoming learning (Epstein & Van Voorhis, 2001). In this respect, not only was there no evidence of Swedish teachers using such tasks but some, as in Ellinor's assertion that she does "not send home things that need to be explained at home", who see such material as promoting inequality, in that not all children can get the same support from their home (Forsberg, 2007). And while absence of evidence is not evidence of absence, the fact that twenty teachers failed to discuss such homework seems to pose fairly strong evidence that it is not commonly found in Swedish year one classrooms. This principled argument takes us to those teachers who do not set homework.

For these teachers, with the exception of Marianne, homework undermines a deeply-held principle that their role was to prevent differences in family background undermining equality of learning opportunity (Epstein, Foley & Pollo-way, 1995). This sense of equity, which was strong among all teachers and not just those who did not set homework, is further reflected in official statistical

evidence showing that parental involvement in Swedish children's homework is typically limited to no more than five minutes a day (Forsberg, 2007). Interestingly, this dominant issue of equity, which has deep-seated historical roots (Hellsten, 1997), appears to be completely missing from the international literature and identifies Sweden as unique in its principled resistance, to homework. In other words, for many Swedish teachers, unlike their colleagues internationally, homework is not the job of childhood (Corno & Xu, 2004).

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