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Bilingual learning for second and third generation children

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Abstract

Throughout the English-speaking world, children from bilingual backgrounds are being educated in mainstream classrooms where they have little or no opportunity to use their mother tongue. Second and third generation children, in particular, are assumed to be learning sufficiently through English only. This study investigated how British Bangladeshi children, learning Bengali in after-school classes but mostly more fluent in English than in their mother tongue, responded when able to use their full language repertoire within the mainstream curriculum. Through action research with mainstream and community language class teachers, bilingual literacy and numeracy tasks were devised and carried out with pupils aged seven to eleven in two East London primary schools. The bilingual activities were videorecorded and analysed qualitatively to identify the strategies used. The following cognitive and cultural benefits of bilingual learning discovered by researchers in other contexts were also found to apply in this particular setting: conceptual transfer, enriched understanding through translation, metalinguistic awareness, bicultural knowledge and building bilingual learner identities. The findings suggest that second and third generation children should be enabled to learn bilingually, and appropriate strategies are put forward for use in the mainstream classroom

Keywords: England, Bengali, primary school, bilingual learning, cultural content, language and cognition

Introduction

Research on bilingual learning has demonstrated its cognitive and cultural benefits. However, studies have mostly been conducted in countries where there is mainstream bilingual education, and often with first generation children. This study set out to investigate how second and third generation British Bangladeshi children at primary schools in East London, where English is usually the only language in the classroom, would respond to using Bengali as well as English for learning. The participant children, aged from seven to eleven, were also studying Bengali at after-school community language classes, but were mostly more fluent in English than their mother tongue.

Action research was conducted with mainstream teachers and bilingual assistants from the two primary schools involved, and teachers from the children's Bengali after-school classes. The Bengali classes were visited to find out how children were learning language, literacy and numeracy in their mother tongue. Bilingual tasks were then planned in literacy and numeracy that were relevant to the primary curriculum and linked with children's community class learning. The children were videorecorded when undertaking these tasks and interviewed about the experience of learning bilingually. Qualitative analysis was carried out to explore strategies used for bilingual learning. Seminars were held for the educators involved from mainstream and community schools to review the findings and discuss how they could collaborate to facilitate bilingual strategies.

Findings showed that these second and third generation children considered their mother tongue to be a key aspect of their identities and wished to use Bengali as well as English for learning in the mainstream classroom. The children enhanced their learning by engaging with tasks bilingually. The understanding of a concept in one language aided understanding in another, for example by discussing how metaphors and similes were constructed or how a mathematical concept operated in each language. Translation required children to reformulate ideas, enriching learning. Children's bilingualism led to heightened metalinguistic awareness, consolidated through explicit discussion of differences between language structure in mother tongue and English. Bilingual activities also gave children the chance to use and extend their bicultural knowledge.

The study also revealed that children were in danger of losing these advantages unless they had sufficient support to develop their mother tongue. In addition to attending community language classes, children therefore needed to do academic work bilingually in mainstream school in order to fully develop concepts and skills in mother tongue as well as English. Bilingual strategies appropriate to second and third generation children were developed through the study, including transliteration, modelling of language structures, devising bilingual resources, and collaboration with families.

Bilingual learning: the case for further investigation

The long-term positive effects of bilingual learning have been demonstrated by research in the USA (Thomas and Collier, 2002), which compared outcomes for bilingual children in early-exit, late-exit and two-way bilingual programmes with the results obtained by children whose mother tongue was English. For two-way programmes, in which, for example, children of Spanish-speaking and Englishspeaking origin study together in both languages, performance in English outstripped that of monolingual English speakers. A study of literacy practices at dual immersion schools in Texas (Pérez, 2004) showed how learning was aided by students making connections between their languages and literacies and using knowledge of one language to solve linguistic difficulties in the other. Other US researchers have also found that dual immersion education results in above-average levels of academic proficiency and positive attitudes to the languages involved (Christian, 1996; Freeman, 1998; Lindholm-Leary, 2001; Potowski, 2007). French/English immersion education in Canada (Swain, 1998) and Welsh/English in Wales (Williams et al., 1996) have shown similarly positive results, as have programmes in Māori/English and Samoan/English in New Zealand (May et al, 2004; Tuafuti and McCaffery, 2005).

In England, small-scale research projects in the 1970s and 1980s with children from Italian-speaking and Panjabi-speaking backgrounds respectively (Tosi, 1984; Fitzpatrick 1987) showed good effects on learning. However, full bilingual education of this kind for minority language children has not been implemented since. Like many others around the English-speaking world, pupils in England have been required to learn almost entirely through the dominant language. The use of mother tongue as a resource in mainstream classrooms, to build on prior knowledge and make curriculum content accessible, has been recommended by a number of educators including Edwards (1998) and Smyth (2003). Where educators have employed such pedagogies

in action research with teachers (Sneddon, 1993; Kenner, 2000; Gravelle, 2000, amongst others), they have proved to stimulate children's learning, but despite this success, bilingual approaches have yet to be used on a wider scale in schools. At this point in time, the UK Government is showing greater interest in bilingual learning, as will be discussed later in this article, and there is a particular need to investigate its potential uses for second and third generation children.

Findings from the above studies and others mentioned below indicate particular aspects of the learning process that can be enhanced by working bilingually: conceptual transfer, translation and interpretation, increasing knowledge about how language works, linking new material to familiar worlds, and building learner identities. The question addressed by our East London study was whether and how such advantages might apply for second and third generation children, whose stronger language is usually English rather than their mother tongue. Was mainstream schooling in English sufficient for their needs, or would bilingual learning lead to additional positive effects?

Conceptual transfer involves the understanding of a concept in one language being used to help understand a similar concept encountered in another language. Lemberger (2002) gives examples from a US secondary school science class, in which some pupils had Russian as a first language and received support from a Russian/English bilingual teacher. Learning occurred rapidly as students were able to connect existing knowledge in Russian with new vocabulary in English. Cummins (1984) has used the 'dual iceberg' metaphor to suggest that transfer between languages occurs below the surface at a deep cognitive level, whilst separate use of the two languages is observable above the surface. Does such transfer still operate usefully for children who, rather than trying to make sense of an entirely new language, are working with two already-familiar languages?

Transfer does not always occur through a direct one-to-one correspondence of concepts in each language, but often requires *translation and interpretation*. Looking at children and their teacher in an Italian/French bilingual classroom, Moore (2002) shows how they moved between the idea of 'grano' in Italian and 'graine' in French. Whilst these concepts are related, they are not exact equivalents ('grano' means grains of rice or wheat, whereas 'graine' means seeds). Meanings therefore had to be negotiated through bilingual talk, with the teacher explaining that 'graine' corresponds more closely to 'seme' in Italian. Moore suggests that code-switching brings attention to semantic differences and becomes an active part in the learning experience, leading to 'enriched conceptualisation'. Our study considered whether and how children used both their languages to explore meanings that were linked but did not correspond exactly.

A theme running throughout classroom research is the enhancement of metalinguistic skills through bilingual learning. The use of more than one language to investigate the same material encourages children to compare the vocabulary and structures involved, thus *increasing knowledge about how language works*. For example, Edwards et al (2000) found that bilingual multimedia storybooks prompted pupils in South Wales to generate hypotheses about word order and pronoun use in Welsh and English. According to Vygotsky (1962), reflection on different linguistic systems can aid the development of children's thinking. John-Steiner (1985) points to the possible

benefits for children who are learning bilingually. How do such skills come into play when one language, in this case English, is stronger than the other?

Another potential advantage of learning bilingually is the opportunity to draw on cultural understandings built up in one language when working with texts or practices in another language, thus *linking new material to familiar worlds*. Martin-Jones and Saxena (2003) discuss how a bilingual assistant in a Northwest England primary school helped children understand how weighing scales worked, by explaining in Panjabi and showing how the equipment related to the practice of measuring out flour in fistfuls when making chapattis. Panjabi was also used when storyreading, to 'anchor the world of the storybook' to children's home experiences. However, second and third generation children have a considerable variety of cultural knowledge, both from mainstream culture and from their family background, due to their experience of living in 'simultaneous worlds' (Kenner, 2004). When both worlds are relatively familiar, how is bicultural learning relevant to these children?

Language is linked with cultural identity, and the increased self-esteem generated by bilingual learning can support educational achievement (Cummins, 1996, 2006). These social and emotional aspects are key to children's self-concept as learners (Matthews, 2005). Research in after-school and weekend community language schools, where teaching often happens bilingually, demonstrates that children can explore their identities through using both English and mother tongue (Creese et al, 2006). Since identities are continually renegotiated through interactions in the classroom, it is important to investigate whether and how second and third generation children's involvement in bilingual processes in mainstream school could affect the construction of their learner identities

The research setting

Tower Hamlets, an inner-city London borough, is often described as 'Banglatown' due to its high percentage of inhabitants of Bangladeshi origin, and the thriving shops, markets, mosques and community centres they have set up. The main group of settlers from Bangladesh arrived in the 1950s and 1960s, although migration and intermarriage with newcomers from Bangladesh continues, and today's children are thus mostly second and third generation descendants.

Families mainly originate from the Sylhet region, and speak Sylheti, a variety of Bengali that no longer has a written version. Children encounter Standard Bengali in books and newspapers, and on television. They are also taught Standard Bengali in after-school classes set up by the community. Some families speak varieties other than Sylheti, and the term 'Bangla' is used in the Tower Hamlets community to cover all varieties including Standard Bengali. We therefore use the term 'Bangla' for the same purpose in this paper. However, English is increasingly spoken as well as Bangla between parents and children, and English is used particularly with siblings and peers.

In most Tower Hamlets schools, Bangla is used for transitional purposes only, as bilingual assistants help children new to English to understand what is being taught. This limited role for mother tongue is similar to procedures found elsewhere in England (Bourne, 2001; Martin-Jones and Saxena, 2003). Once children seem fluent

in English, Bangla is no longer used for learning in class. Children are sometimes asked to translate if a new pupil arrives with little English. Teachers may allow children to talk in Bangla during a class activity, but tend to be concerned that such talk could go off-task, or that non-Bangla speaking children would feel excluded. As a result, classrooms are largely monolingual spaces, producing a linguistic divide in children's lives.

Policies on bilingual learning in England

There is increasing recognition at national policy level in England that there are potential benefits if children can use mother tongue alongside English in the mainstream classroom. A recent report on raising ethnic minority achievement stated that 'continuing development in one's first language can support the learning of English and wider cognitive development' (DfES, 2003a: 31) and gave examples of children using first languages to accomplish tasks through bilingual 'partner talk'. The use of bilingual learning strategies is also recommended in the National Literacy Strategy (DfES, 2002) and the Primary National Strategy (DfES, 2003b).

However, before starting our research project in Tower Hamlets, we found that teachers knew bilingualism was an asset, but were not sure what role it played in the lives of second and third generation children. They wondered whether Bangla was still necessary in the classroom or whether children were learning sufficiently through English only. They also wondered how bilingual strategies could be used in the classroom, particularly when they themselves did not speak Bangla, and some children spoke only English or languages other than Bangla. Given such uncertainties on the part of teachers, national policy guidelines on bilingual learning were not generally being put into practice in classrooms.

The study

Our research set out to provide a detailed understanding of how bilingual learning might be used by second and third generation children, and devise ways in which it could be built into classroom practice, so that both monolingual and bilingual teachers could develop the knowledge and confidence to promote such approaches. In order to link with current policy developments, the research was conducted with children and teachers participating in the Primary National Strategy Pilot for English as an Additional Language (EAL), which aimed to improve attainment for bilingual learners by 'using and developing the existing knowledge and understanding of bilingualism and EAL pedagogy' (DfES, 2004).

The research questions, which addressed issues raised by teachers in Tower Hamlets concerning bilingual learning, were as follows:

- In what ways do children draw on linguistic and conceptual knowledge from each of their languages to accomplish bilingual learning?
- How are children's identities as learners affected by using their home language as well as English in the classroom?
- How can bilingual and monolingual educators help children to develop bilingual learning strategies?

Methodology and data collection

The project required a combination of approaches: observation of how children engage in bilingual learning, and action research with children and educators to further develop learning strategies. Action research is particularly recommended by Bourne (2001) to negotiate new bilingual pedagogies. The educators we worked with included community language teachers from children's Bengali classes, primary teachers, EAL teachers and consultants, and bilingual assistants. The latter have a potentially important part to play in developing bilingual strategies, due to their linguistic expertise (Bourne, 2001) and their role in interpreting and explaining ideas (Creese, 2004).

In each of the Tower Hamlets primary schools involved in the project, two groups of children participated, together with their class teachers and bilingual assistants: in School A, four children from Year 2 (aged seven) and five children from Year 4 (aged nine), and in School B, four children from Year 2 (aged seven) and four children from Year 6 (aged eleven). These groupings were chosen in order to look at the potential for bilingual learning across the primary age range. The participant children, whose parents or grandparents were first generation arrivals from Bangladesh, were also attending community language classes in Bengali. In School A, the Bengali class was held on site, two days a week after school, taught by one of the mainstream teachers in his own classroom. Children from School B attended Bengali classes in homes or mosques.

Observation in community class

Where possible, we visited the children's community classes to find out how they were learning language, literacy and mathematics in their mother tongue. Data was collected via fieldnotes, digital video and digital audiorecording. In School A, where the Bengali class was held on site, children were learning to read and write Bengali from textbooks specially designed for the UK. They also had access to mainstream classroom resources, so speaking and listening were supported by dual-language storybook tapes and roleplays with puppets, and numeracy through activities such as shopping roleplays. Some work was explicitly linked with the mainstream curriculum, such as posters produced in Bengali during Healthy Eating Week.

In School B, we gained permission through personal contacts to videorecord a sample lesson at home in which a grandmother skilfully orchestrated activities so that children from toddlers to upper primary level were all involved in reading, writing and speaking Bengali. Books used came from Bangladesh and the children also recited poetry with the grandmother whilst they were practising their writing.

Devising bilingual tasks for the mainstream classroom

The project took place over two terms of the school year. In the first term, we met with children's mainstream teachers to plan bilingual tasks in literacy and numeracy that were relevant to the primary curriculum and linked with children's home backgrounds. Each group of children carried out one task in literacy and one in numeracy, working for approximately an hour on each task. In order to obtain clear audio and videorecordings, the tasks took place in settings such as groupwork rooms or the school library.

After each task, the children viewed extracts from the videorecording and were asked to comment on how and why they had used Bangla and English, and on the experience of learning bilingually. At the end of the first term, a seminar was held where the participating educators viewed videorecordings of children learning in community classes and in the action research tasks, and discussed how bilingual strategies could be further developed.

Primary teachers and bilingual assistants then took a stronger joint role in planning and facilitating new tasks to link children's learning in mainstream and community classes. Tasks included: children reading and listening to stories such as *Snow White* in Bengali, and writing and acting out their own bilingual versions; comparing Bengali and English poetry; a shopping roleplay where children calculated their spending using both numeral systems; and numeracy problems involving concepts of age and time in both languages. These tasks were more developed than in the first stage of the research, each involving an extended set of activities. Each group of children undertook one task in literacy and one in numeracy, with numeracy tasks typically lasting between an hour and a half and two hours, and literacy tasks around three hours.

A number of the activities were supported by collaboration with community class teachers. In School A, the Bengali class teacher helped produce resources for bilingual tasks, and the grandmother from School B read and wrote in Bengali with children for the *Snow White* activity. In both schools, tasks were taken home to involve input from parents. Another seminar at the end of the second term enabled educators to consider the implications of the new tasks for bilingual learning. Three of the mainstream teachers subsequently conducted a whole-class bilingual lesson around one hour in length, to trial bilingual strategies in a wider context.

Data analysis

Qualitative analysis was used to examine audio and videorecordings of small group tasks and whole-class lessons. Data was coded under the following categories:

Concepts

Which concepts children were familiar with in Bengali as compared to English, and how children switched between or combined concepts in each language to facilitate understanding

Translation

How children dealt with the challenges of translation, particularly when words and phrases did not have identical meanings in each language

Cultural understanding

How children drew upon shared cultural experiences and negotiated understanding of less familiar cultural references

Metalinguistic skills

How children commented on differences in linguistic structure

How children related to their peers as bilingual co-learners, and how children and teachers related to each other as they negotiated approaches to bilingual tasks *Strategies*

How children used strategies from Bengali or English class to negotiate the task

With children, triangulation was accomplished through their responses when they viewed videorecordings of the bilingual activities. For example, they commented on how their learning had been affected by using both languages and engaging in culturally-adapted tasks. With teachers, triangulation took place through the seminars held at the end of each term, when samples of data analysis were presented by the research team for discussion by participating educators. Community and mainstream teachers collaborated to identify differences in response when children were learning bilingually rather than monolingually, and to suggest how generic bilingual strategies could be developed to support learning.

In the discussion of findings below, representative examples have been chosen from the data to illustrate each point. We first discuss the issue of identities, since this proved to be a key factor affecting children's learning.

Bilingual identities, monolingual spaces

When children began to undertake bilingual tasks in primary school, we were struck by their difficulty in speaking Bangla. They seemed tongue-tied, despite being encouraged by Bangla-speaking researchers. However, teachers reported hearing children code-switch fluently between Bangla and English in the playground. To investigate this discrepancy, we set up further discussions with each group of children on the topic of using Bangla in different settings.

Children then explained that they experienced institutional constraints on speaking Bangla. For example, they stated that 'We are not used to speaking Bangla inside the school building' or 'I'm not brave enough to speak Bangla to [my teacher]'. The general lack of use of Bangla in the classroom was interpreted by children as meaning that English was the only appropriate language for learning. Official school spaces, in contrast with the unofficial space of the playground, were constructed as monolingual. The bilingual learner identities that children drew upon at Bengali class or at home were therefore unavailable to them within mainstream school. This was confirmed by a comment from a child who later became involved in the research through one of the whole-class bilingual lessons: 'when I talk Bangla my *zaan* calls me to speak English again in school and at home I just know it straight away'. His comment was made entirely in Bangla and drew laughter from his classmates in shared recognition of the specifically Bengali concept of *zaan*, which roughly translates as 'heart' or 'soul'. By using this term, he indicated the subtle depth of feeling underlying the lived experience of learner identity in school and community contexts.

Children knew why teachers felt unsure about the use of Bangla in class. They understood that non-Bangla speaking pupils could feel excluded, and discussed this issue with sensitivity. However, they were keen to use both languages for learning, based on their experiences in the research project such as bringing in family photos and writing about 'My Life', or producing designs for traditional Bangladeshi quilts and writing an explanation of their design. When asked whether they would prefer to learn only in English, only in Bangla or in both languages, every group of children responded 'Both'.

Developing bilingual identities at school

Children welcomed the possibility of using Bangla in school through the research project for several reasons. They wanted to explore aspects of their experience normally absent from school, as captured in one child's comment: 'We're going to be expressing our culture'. They also thought that bilingual strategies could enhance learning, articulating advantages such as 'You understand more' and 'You can learn in two different ways'. Finally, they perceived that the project could help them 'learn more Bangla'. They realised they lacked academic vocabulary in Bangla, commenting for example that 'We'd like to know more about Bangla numbers and operations - how to say it'. They were also keenly aware that they were at risk of losing their Bangla competence altogether, since, as one child observed, 'we speak Bengali at home but when we come to school slowly, slowly we forget Bengali and then we will be like the English people only speaking one language'. Being able to develop their bilingual skills was thus a potential aid to the process of learning, and was closely interlinked with language maintenance and with children's identities as learners.

To create a more welcoming space for Bangla in school, teachers began to devise explicit ways of encouraging children to work bilingually. One made signs saying 'Speak Bangla!' and 'Can you think about it in Bangla and explain it in English?' Teachers reminded children 'It's good to speak in....' and children completed the phrase with 'Bangla!' One group of children proudly produced a display for the school hall on the advantages of learning Bangla. As the project progressed, children gradually became more comfortable with using Bangla in the bilingual learning tasks.

Conceptual transfer

The research demonstrated that the understanding of a concept can transfer not only when learning a new language, but also for second and third generation children who are working with two already-familiar languages. For example, a group of Year 2 children were given bilingual help to translate into English the poem 'Mirror, mirror on the wall' from a *Snow White* storybook in Bengali. The Bengali poem used similes to describe Snow White as having 'lips as red as blood', 'hair as black as night' and 'a body white as snow'. Nusrat, Fahmida and Raihan translated the similes themselves and discussed how to say them in English. They agreed on 'lips red as blood', and talked about whether to say 'hair as black as night' or 'as dark as night'. Raihan provided the word 'skin' rather than 'body' for 'white as snow', showing sensitivity to the appropriate word in English.

Mathematical concepts can also be enriched by thinking in more than one language. The same group of Year 2 children were given word problems to solve, centred around the theme of Bangladeshi weddings, a celebration familiar in their lives outside school. When they were working out how many fish they needed to divide between a certain number of guests (if each fish fed ten people), they were asked to identify which mathematical operation they were using. Fahmida was unsure, but when prompted with the Bangla word 'baita' ('sharing'), she immediately pointed to the symbol for division.

Translation

We found that children were sensitive to nuances of meaning in each language. When necessary, they sought alternatives that went beyond direct translation, as Raihan did

in the example above when he re-worded 'body' as 'skin'. Such reformulations generated 'enriched conceptualisation' (Moore, 2002). Another example arose when children were discussing how to translate the word 'caught' in the story 'The Lion and the Mouse' from English to Bangla. In the phrase 'the lion caught the mouse', they knew *dorse* was the correct Bangla word. But when it came to the lion being caught in a net, they realised *dorse* was not appropriate. Whereas 'caught' covered both meanings in English, in Bangla different words were required. So instead of taking the English word 'caught' for granted, the children had to think about the particular meaning of 'caught' in this case, which in fact would be 'trapped' and is passive rather than active.

In mathematics, concepts such as age and time may be expressed differently between languages. Drawing on both systems can aid learning. Whereas children can find it difficult to link the idea of 'half past seven' with 'seven and a half years old' in English, Bengali offers the same structure to express each one, with a suffix at the end indicating age or time. A bilingual assistant working with Year 2 children helped them to clarify the idea by translating 'Mohammed is 7½ and likes watching EastEnders at half past seven' from Bengali to English.

Metalinguistic awareness

Although their English was often stronger than their Bengali, children's bilingualism still gave them a heightened knowledge of how language works. They could consolidate this knowledge through explicit discussion of differences between language structure in Bangla and English, which often took place in community class and was extended through the research to mainstream class. The Year 2 children translating 'The Lion and the Mouse' explained to their teacher why their English translation did not map directly onto the Sylheti one. They understood that the definite article 'the' is necessary in English but not used in Bangla.

Jameela: reads out 'The lion is sleeping in the cave'

Teacher: Where's the word 'the'? (noticing there are fewer words in the Bengali

transliteration)

Migdad: No 'the'!

Teacher: Why didn't you just say 'lion is sleeping'?

Amal: Because there is 'the' in there but when you say it in English you add the

'the'

Amal continued by saying:

'if a person was talking to another person and the person was saying a word, and said it without 'the', erm the other person would know because...'

She thus developed her explanation by referring to a shared communicative understanding between speakers of Bangla.

The same group of children showed their understanding of word order in Bangla and English, and differences in use of grammatical structure and prepositions, when discussing how to translate the following phrase:

Tow oondure shinghor loge mattse (transliterated Bangla)

Then mouse lion's with talking (literal translation)

Then the mouse started talking to the lion (the children's translation)

When one child suggested 'talking with', which is the direct translation from Bangla, another rephrased it as 'talking to', which sounds better in English. When their teacher asked why they had changed the order and added 'started', the children said that otherwise 'it won't make sense'.

Metalinguistic awareness was also demonstrated when children were transliterating (using English letters to write Bangla sounds). Even though most of the children had never done this before, they applied phonic strategies learned in primary school and showed acute sensitivity to the accurate recording of pronunciation. A discussion between Year 6 children on how to transliterate the Bangla word 'khene' ('why') exemplifies this:

'How do you spell khene?'

(They sound out 'khene, khene', emphasising the guttural sound at the beginning)

'Just write kene, OK'

(Two of the children settle for this, recognising that the sound cannot be represented precisely through English script, but the other two are dissatisfied and prefer 'khene')

Drawing on cultural knowledge

These second and third generation children were growing up bicultural. As well as having experiences and interests developed through English in mainstream school, they felt an emotional involvement with their Bangladeshi origins - a culture which they partly saw as their own and yet was partly unknown to them because they had grown up in London. When talking about language, the children expressed a similar sense of emotional connection without full understanding. They often referred to Bangla as 'our mother tongue' even though English was their stronger language. One child's comment was particularly poignant: 'It's our mother tongue and we don't know much about it'. Bilingual activities gave children the chance to use, but importantly also to extend, the range of their bicultural knowledge.

For example, Bangladeshi culture is rooted in complex kinship relationships, such as eight possible categories of cousin, each with a different title (eg 'sasar goror bai' means 'paternal uncle's son'). The research project made use of this as part of the bilingual word problem activities. Each child filled in a chart by placing the names of their own cousins in the various categories. These were then used to calculate how many cousins there were on their mother's side, or how many girl cousins they had in one particular category, as data for the word problems. It emerged that children were aware of these kinship relationships but were not always fluent in the titles, so the task clarified and consolidated their understanding.

Studying a Bengali lullaby enabled a Year 6 group to understand in more depth the cultural world of Bangladesh. They wrote questions about the lullaby to ask their parents, and returned with answers that helped them feel greater ownership of their cultural knowledge. For example, they did not at first comprehend why a fish head was being offered as a gift in the poem, or why the baby's forehead had to be marked

^{&#}x27;Just sound it out and...'

with a black spot. Suraiya's transliterated questions and answers, which she shared collaboratively with her classmates, were as follows:

asstha mach deona kene?
'Why don't you give the full fish?'
kene banglaintha machor muro balapayne
'Because Bengali people like the fish head'

kene tip lage?
'Why do you need to touch the forehead?'
tip lage manooshe nozordita nakon
'We need to touch the forehead so that people can't cast the evil eye'.

Children could also combine knowledge from Bangladeshi and English aspects of their worlds to generate new ideas. The Year 6 group looked for similarities and differences between the Bengali lullaby and 'Hush little baby, don't you cry', a lullaby they knew from early primary school days, and more recently through popular Anglo-American culture in a version by rapper Eminem. This led to a thought-provoking comparison between the types of gift valued in Bangladesh (food) and in Western countries (the diamond ring that the father in the song offers to his baby if she will go to sleep).

Bilingual strategies for the second and third generation

Suitable strategies for drawing on children's first languages at school have been proposed and exemplified in UK policy documents (DfES, 2003a; DfES, 2006). However, these usually assume that children's first language is relatively well-developed, and stronger than English. Our findings suggest the need for a similarly positive attitude towards valuing and using mother tongue with regard to second and third generation children, but with language support and resources adapted to their particular requirements. Strategies that emerged from the study are discussed below.

Using transliteration

Transliteration opened the door to bilingual learning. Children who spoke Bangla but were not yet confident in Bengali script could understand texts and create their own, for example by writing stories or poetry. Language varieties such as Sylheti, which do not have an official written version, could be represented in this way. Transliterated words could also be used as a bridge to Bengali script as children could study the sounds and work out how to represent them using Bengali letters. Furthermore, transliteration enabled non-Bangla speaking teachers and children to participate in bilingual learning activities, since they could read out words and phrases and discuss meanings together with Bangla speakers.

Presenting key vocabulary and language structures bilingually Good practice in the teaching of English as an Additional Language (Franson et al, 2002) recommends explicit modeling by the teacher of key vocabulary and language structures that enhance thinking skills (such as for argument, persuasion, or cause and effect: examples would be 'I wonder what will happen if we...?', 'It might happen because....'). The research demonstrated that in order to fully participate in bilingual learning, second and third generation children needed to enrich their knowledge of

vocabulary and language structures in mother tongue as well as English. Thus when introducing a bilingual poetry activity, a teacher and bilingual assistant worked collaboratively to present and rehearse typical phrases in both Bangla and English that facilitated discussion of literary meanings. In another class, Bangla words from the story 'The Hare and the Tortoise' were transliterated and presented on the interactive whiteboard. Children could drag the words across the whiteboard to match them up with their English equivalents.

Providing bilingual resources

Resources provided for second and third generation children need to adequately support literacy and numeracy in both English and mother tongue. With the help of community language teachers and bilingual assistants, teachers in our project produced resources for bilingual work such as storybooks and poems in parallel versions: English, Bengali script and transliterated Bangla. This gave children maximum support for understanding the content, and enabled them to compare how meanings were expressed in different languages. Similarly useful was a bilingual dictionary produced locally in Tower Hamlets, using the same principle (providing each word in English, Bengali script, transliterated Standard Bengali and transliterated Sylheti). Another initiative was cards containing logic problems for mathematics in English on one side, translated and transliterated into Bangla on the other side. Children were encouraged to work out what the problem was about in one language, check their understanding by reading the other side of the card, and finally use both languages to discuss the solution. Materials were also created to support numeracy, such as '100 squares' in Bengali numerals as a parallel resource to English ones.

Such resources can help children build their knowledge of language varieties; during the research, children showed awareness of differences between varieties of Bengali, and by working with audiotapes and written texts they added to their repertoire of Standard Bengali.

Collaborating with families

The linguistic and cultural knowledge of parents and other family members provides essential backing for children less confident in mother tongue. Families were therefore important contributors to the research activities. The grandmother who worked with Year 2 children on *Snow White* in Bengali helped them discuss ideas in the story and write in Bengali script. Year 6 children engaged in a dialogue with their parents via a short questionnaire in transliterated Bangla, enabling them to clarify meanings in a Bengali poem. Year 4 children interviewed their parents on why afterschool Bangla classes were considered important, whilst a Year 2 teacher devised a Story Sharing activity in which children, siblings and parents wrote their own version of 'The Lion and the Mouse'.

Adapting to linguistic diversity

Whole-class lessons planned and carried out as part of the project showed that bilingual learning could take place productively in contexts where teachers and children did not all share the same language. Monolingual children and children with languages other than Bangla were given access through transliteration and an active dialogue with their Bangla-speaking classmates. These pupils reacted well to bilingual work, discussing meanings of a story or poem and asking questions about the

language. Children proved sensitive to the linguistic needs of their classmates and would not speak Bangla if grouped with others who did not understand it. Pairings and groupings could thus be rotated in different lessons to give everyone opportunities to be with 'talk partners' or groups who shared their mother tongue.

Rather than excluding non-Bangla speakers, the bilingual sessions promoted inclusion by enabling children to engage with each other's languages and find out more about them. For example, a Somali-speaking child said:

'When I spoke a little bit of it from that Bengali writing...I felt that I need to learn more of it'

and suggested also writing in Somali. A monolingual child commented:

'When I used Bengali it made me feel different because it was other people's language - I didn't know it at first - when I started to try it, it made me feel a bit different' She confirmed this was a positive feeling.

Bilingual work can therefore build peer relationships within the whole class, giving children opportunities to explore languages they hear spoken in the playground but have little chance to learn, and stimulating cultural interchange, as when discussion of the Bengali lullaby led children to compare ideas on protecting babies from harm.

Ways forward for bilingual learning

The study demonstrated that second and third generation children can engage with tasks bilingually even though English is their stronger language. By using the full range of their linguistic and cultural knowledge they can develop deeper understanding of concepts, activate metalinguistic skills and generate new ideas that enrich learning. To fully exploit these advantages, children need additional support for mother tongue maintenance. Even for Tower Hamlets children growing up in 'Banglatown' with regular opportunities to use mother tongue, everyday social interactions (many of which are being conducted partly in English) are not sufficient to develop full knowledge of Bangla, particularly their academic repertoire. This highlights the need for bilingual learning in mainstream as well as community contexts. The crucial role of the mainstream school in supporting language maintenance has also been found in research conducted with second and third generation Spanish-speaking children in Miami (Eilers, Pearson and Cobo-Lewis, 2006). Like their Tower Hamlets counterparts, these children live in a community where their mother tongue is regularly used in the business and social infrastructure, but are losing their Spanish competence unless they are also schooled in Spanish.

The research showed that bilingual learning has the potential to foster educational achievement for a wide range of children from second and third generation backgrounds, who have differing levels of knowledge of mother tongue and English. Children with apparent learning difficulties in English may in fact be more confident in mother tongue, such as the girl who 'woke up' on hearing Bangla in a whole-class bilingual lesson, and volunteered an accurate Bangla translation of the moral of the 'Hare and Tortoise' story: 'slow and steady wins the race'. Children with surface fluency in English but unconfident in academic language understood concepts more easily when they could use both languages. Children already identified as academically successful were revealed to have a particularly strong background in Bangla as well as being highly competent in English. Teachers were not previously

aware of this additional linguistic knowledge (one had said of her best pupil 'She's so fluent in English, she's like a native speaker or better - I wonder what her Bengali is like?') but it is likely that these children had been drawing on their bilingual skills to aid learning. The project made this process visible and gave children opportunities to explicitly develop bilingual strategies. For example, a child considered by her teacher to be far ahead of the rest of the class explained how to transfer meanings from Bangla: 'If you don't understand a word in English, somebody can just say what it means and think of it in Bangla and just add that word to the sentence.'

The experience of educators participating in the study indicates that by treating children as bilingual rather than monolingual learners, mainstream teachers can engage more fully with important areas of children's cultural experience. As one teacher put it, the children 'have so much life outside of school – school is only part of their life'. Teachers gain a better understanding of their pupils' bilingual identities; another said of Bangla 'It's part of who they are'. Since children feel empowered when demonstrating their knowledge in mother tongue - 'it's their script...it's their language...when they see it they're very excited' – bilingual learning leads to 'seeing the children in a different way'. Through direct experience, educators also gain a fuller understanding of how bilingual learning operates, as encapsulated in one teacher's comment: 'Any child that has more than one language, it makes them more confident and they can apply those skills to another language'.

The project showed that it is possible to incorporate bilingual strategies relevant to second and third generation children in mainstream class teaching. Children were found to work co-operatively with peers, adapting to each other's differing bilingual strengths, and classmates who did not speak Bangla felt included in the activities. However, the opportunity to learn bilingually in the UK tends only to be available to children attending community language classes, where many teachers now switch between English and mother tongue to aid understanding. Martin et al (2004:13) highlight the 'skilful and spontaneous juxtaposition of English and Gujarati' that helps children understand concepts and develop metalinguistic skills in classes in Leicester, whilst Robertson (2002) describes five-year-olds in Watford discussing differences between Urdu and English with their Urdu teacher.

During the action research, primary teachers recognised that important areas of learning were taking place in community classes. Collaborative reflection with community language teachers and bilingual assistants at joint seminars generated ideas for bilingual activities at mainstream school, which were then put into operation. Parents and older siblings also proved a key resource. The project's findings demonstrate how, by forging closer links with community classes and families, mainstream schools can build appropriate initiatives to fully develop children's bilingual learning, thus promoting educational achievement.

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