It isn't child's play: Conducting research with children as participants

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Introduction

In this chapter we explore some of the main issues and challenges that arise from carrying out research with children. Working with children generally, and researching the nature of language learning in children in particular, is an exceedingly important and fascinating endeavour. Not only does such work help us understand key issues in language development (i.e., it helps us to move closer to answering the question 'how are languages learned') but it is increasingly timely given more children around the world are either growing up bilingually, or being taught foreign languages (FL) from ever younger ages (Murphy, 2014). Indeed, a recent review of early childhood education in English for speakers of other languages has identified that increasingly, children in the pre primary years are taught a foreign language (usually English), often as young as 3 years old (Murphy & Evangelou, 2016).

Despite the fact that children have been learning second or foreign languages for a long time, surprisingly little is actually known about the nature of L2 and FL learning in children at different ages, resulting in a plethora of questions about child L2 learning that have yet to be fully answered. These questions include: What is the best age to start learning a FL? How many hours a week should children spend in a FL classroom? What is the most effective way of teaching a FL to young children? What is the most appropriate way to assess FL knowledge in young children?

It is not the focus of our chapter to attempt to delve into these questions in any detail. However, to illustrate some of the general methodological issues we raise in this chapter, we have centred our discussion around a specific project that we carried out. In our study, we aimed to identify what impact learning a foreign language (FL) might have on a developing child's first language (L1) literacy skills (Murphy, Macaro, Cipolla & Alba, 2015). The motivation for this study was the observation, noted above, that increasingly, governments around the world are lowering the age at which children are required to learn a taught FL as part of the primary curriculum (Murphy, 2014). One of the consequences of such policy decisions is that skills in the child's L1 may not be fully developed at the time when they begin the task of learning a foreign language.

In the Murphy et al. (2015) paper we were interested in examining whether L1 (in this case, English) literacy skills might be one of those L1 features that were likely to be influenced by learning a FL. We will first briefly outline what this study was all about and what the main findings were. Then we will go on to identify specific methodological challenges and considerations that were not only relevant to this particular project, but which we feel are worth considering as a whole in carrying out research with children. Finally, we identify some implications and make some general suggestions about conducting research with children[1].

The Study

In 2003, Cook published what we believe to be the first volume focused exclusively on whether and to what extent L2 learning/knowledge impacts on L1 knowledge. Whereas much research in applied linguistics generally has focussed on whether and to what extent particular L1s will influence (positively or negatively) L2 development (e.g., Lado's Contrastive Analysis (Lado, 1957)), comparatively little research has examined crosslinguistic influence (see De Angelis, this volume) from the other direction; whether an L2 (or FL) can influence an L1. We hypothesized that one area where L2/ FL learning in children might influence the L1 is in the area of literacy skills, because (as mentioned above), literacy skills are still in development in the early to mid primary school years, the period of time in which many children are introduced to FL learning. We therefore designed a UK study where we recruited children in Year 3 who were aged 7/8 years from schools that were not offering any FL instruction. We randomly assigned some of these children to an L2 Italian group, some to an L2 French group and the remaining children participated in a waiting control group.[2] The L2 Italian and French groups were taught Italian and French respectively for 15 weeks, for approximately 1 hour per week in small groups. Italian and French were chosen as the FLs to be taught in our study for two particular reasons, one pragmatic, one theoretical. The theoretically motivated reason stems from research that has suggested there are particular benefits to learning a FL that has a more transparent set of grapheme-phoneme correspondence rules (where the sounds map more directly on the orthographic patterns of the language) relative to the L1. The pragmatic reason is that members of the research team had knowledge of both Italian

[1] It is perhaps worth noting that for this context 'children' refers to primary school-aged students aged between 5 – 11 years old. However, similar issues also are generally relevant in research with pre-primary and secondary students.

[2] A waiting control group is one where the intervention is withheld during the study, but given to the control group at the end of the study. This procedure is predicated on the belief that the intervention will be beneficial, and the desire to ensure the control group participants do not lose out on an opportunity to benefit from the intervention.

and French. Consequently, our research questions were aimed at identifying whether we could find any evidence for L2 learning influencing L1 literacy skills, and whether there might be a differential effect depending on which L2 was being learned. It is generally accepted that Italian is a transparent language, whereas French, although not as 'opaque' as English, is nevertheless much less transparent. So, the additional theoretical motivation was to explore whether learning a transparent language (Italian) or a similarly opaque language (French) had an impact on an opaque (English) L1.

The participants in our study were administered a range of pre-tests which examined their English (L1) reading and spelling skills, as well as their nonverbal IQ, which we used to ensure the groups were matched on general cognitive processing skills. Those groups who received L2 instruction were taught parallel forms of the same teaching programme which focussed primarily on vocabulary. Following the 15 week FL teaching, we then post-tested all participating children on the same tests as at pre-test, as well as testing them on a measure we created ourselves aimed at identifying whether and to what extent the children learned their respective FLs. Our results showed that first, the children were able to learn aspects of both Italian and French (depending on which group they were in) after only 15 hours of instruction in the FL. Most interestingly, however, those groups who participated in the FL learning showed advantages over the control group in some aspects of English reading, and importantly, that the L2 Italian group outperformed both the L2 French group and control groups on non-word reading in English and aspects of English phonological processing, a key variable in reading skill. We interpreted these findings as confirming the benefits of learning a FL at primary school and that we should explore further the relative effects of learning FLs/L2s with different grapheme-phoneme correspondence systems.

Challenges and how to overcome them

Having briefly outlined the study that serves as the backdrop for our methodological discussion, in this section we identify some key issues that we encountered in this research project with young children, but that are certainly not unique to this project. We also identify how we tried to overcome these challenges in our own research and how these strategies might be helpful in carrying out research with children more widely.

Finding appropriate research assistants

In our study, our research assistants (RAs) taught the children either Italian or French. As the critical issue was whether there would be changes as a consequence of learning a FL, and we wanted to compare the influence of specific FLs on the L1, we needed to ensure that the teaching itself was matched as closely as possible. To that end, we needed RAs who could work closely together in implementing their teaching practice, who had the same levels of expertise in the subject (i.e., both were native speakers of Italian and French, respectively) but who also knew the language they were not teaching. Crucially, they also needed to have a teaching qualification and appropriate levels of experience teaching and working with young children. This last point is particularly important in carrying out research with children. Children can often be quite shy in general, and in research projects in particular. If a child does not feel comfortable around the researcher (who is likely to be a 'stranger') then the child is not likely to behave as they would in typical situations, and hence, the data collected will not accurately reflect the child's abilities. This problem raises a serious threat to the reliability and validity of the data. Hence, it is vital that in carrying out research with children, researchers create an environment where children feel comfortable and at ease for both methodological and ethical reasons.

We tackled this problem in a number of different ways. First, to find the right people to work with us as research assistants, we recruited widely in the hopes that we would be able to find a competitive set of applicants with the right set of qualifications. Through our wide recruitment, as well as through our own professional networks, we were able to find research assistants who met the key criteria for our post. To combat against the problem that one RA might deliver the intervention (L2 teaching) differently from the other, we ensured that both RAs were involved at all stages of materials development so they both knew precisely what the rationale was for different aspects of the materials. They worked closely in preparing not just the materials themselves, but importantly, how these teaching materials would be implemented in their respective groups of children. As the study was unfolding, the two RAs also kept in very close contact with each other, having regular (i.e., weekly) de-briefing meetings to discuss any issues that arose while the teaching was being offered. This procedure allowed all of us involved in the project to feel more confident that there was parity between the two experimental groups' experiences with the L2.

Establishing a suitable sampling frame

In order for a sample to be truly representative of the population, every individual member of the population has to have an equal and non-zero probability of being recruited into the sample. Clearly in our study when the population constitutes millions of children, and with our limited resources, this was not possible. However, if we can replicate our studies with other (equally non representative) samples drawn from the same population then we can feel increasingly confident that our samples are representative. Unfortunately, replications themselves (particularly in social sciences research) are relatively rare and quite expensive. This means that researchers have to be keenly aware of the limitations of their own research and the strength of the conclusions that can be drawn.

Practical considerations play a key part in carrying out any research study. Bearing in mind that we were interested in working with children who were not already learning a FL as part of their primary education, of 200 available schools in our commutable research site area, we were then left with only 28 schools who met this criterion[3]. Of these 28 schools, only 9 agreed to participate in our study. From these 9 schools we recruited a total of 120 children who were randomly assigned into one of our three groups. We can see then that starting from our population of native-speaking English primary school children in English speaking countries – to native-speaking English primary school children in England - to those in one county of England - to those in a school within a 10 mile radius of one city - to those who were in a school which did not offer Modern FL instruction, and to those who agreed to participate – the sampling frame is narrowed significantly which seriously undermines how well the sample matches the population. However, when this situation occurs, it is important to at least ask, what factors could be undermining the match and in relation to the research questions and methodology being employed. For example would children in different geographical regions of the country react differently to the intervention? Would children in urban areas have been exposed, perhaps outside schools, to writing systems different from English? Asking these questions helps us to assess the magnitude of the limitations of our study.

Finding appropriate research sites

In much research with children, as in our study, the site for research is the school. Schools are very busy environments, where teachers and other school staff have huge demands on their time. As researchers, it is important to be aware of this, and ideally to

[3] Note that the data collection for this project took place *prior* to the introduction of Modern Foreign Languages (MFL) teaching in the primary curriculum at Year 3 – implemented in September, 2014. This meant there were schools who did not offer any MFL instruction.

be able to work *with* the school instead of simply using the school as a research site. To that end, we believe it is important to establish good *collaborative* relationships with the school. Schools should be able to benefit from participating in the research as much as the researcher benefits from working with the school. There are various ways in which this can be achieved. As many teachers are time-pressed, and in primary schools they typically need and can benefit from volunteers, we often spend some time in the classrooms from which our participants will be drawn, as a kind of unpaid teaching assistant volunteer. For example, a major focus of the beginning of a primary school education is to learn to read. To that end, teachers need to spend time both reading to children and listening to children read. One of the ways we try to help with teachers' practice is to offer to sit and read with individual children (listening to them read as well as reading to them), particularly with any children who might need some extra attention. Additionally, we offered to present our research findings to staff at the school and organise workshops in our department at the end the school day to enable those schools who have kindly agreed to participate in our research to get together and discuss the main findings and possible future directions of the research project. This more collaborative model therefore values a number of important knowledge exchange activities which are beneficial to both schools and researchers working within and with schools.

Recruiting children and obtaining informed consent

Even once a school has agreed to participate in a research study, research ethics often require that the parents or legal guardians of the children provide signed informed consent to have their children participate in the study. The level of consent depends on the nature of the study. Our study involved activities outside of class time (randomisation meant that the different teaching groups were 're-created' rather than using 'intact classes'). It also involved individualised testing—both these aspects creating some disruption to the normal everyday experience of the children. We therefore needed to obtain 'opt-in' consent from parents rather than asking them to only let us know if they wished to 'opt-out' from the research. To that end, we prepared a letter to the parents carefully outlining the key details of the study, what we were trying to find out and why, what we were going to do with the children, how we are going to behave with the children and importantly, what we were going to do with the data (including issues such as keeping children's identity anonymous). Furthermore, sometimes children themselves might not want to participate in the study even if their parents have granted permission. It is not ethical to 'force' a child

to participate just because their parents have agreed. Therefore, it is important to also obtain the children's assent to participate in the study.

A further challenge for recruitment in school settings is a lack of face-to-face opportunities to communicate with parents directly to answer questions and send reminders about the study. The main route of communication to the child is through the child's book bag which they bring with them to school each day and take home. Schools often insert letters alerting the parents to various events and issues in the book bag. The participating schools in our study allowed us to send letters home to potential participating children in their book bags. A certain level of polite persistence is required to remind and encourage parents to read through the letter carefully, ask any questions they may have and then sign and return the consent forms. In some of our studies, we have visited the school at drop off and/or pick up times in order to make ourselves available to parents to answer any questions and to, again, politely remind them to return their signed consent forms. Polite persistence and perseverance is sometimes required and is often effective. Once we obtained signed informed consent from a parent or legal guardian, and after having obtained verbal assent from the participating children themselves, we were able to begin!

Many professional bodies within the domains of social science offer very clear guidance on the specific ethical issues relevant to working with young children. In our case, we followed the guidance of the British Educational Research Association (BERA), which can be found on the association's website [https://www.bera.ac.uk/researchers-resources/publications/ethical-guidelines-for-educational-research-2011]. Additional professional guidelines which we have found to be helpful are from the British Psychological Society (BPS) [http://www.bps.org.uk/] and the American Psychological Association (APA)[http://www.apa.org/index.aspx]. In carrying out research with any human participant, but young children in particular as they constitute vulnerable participants, it is critical that researchers familiarise themselves with appropriate ethical research guidelines and follow these procedures carefully[4] (Farrell, 2013).

Finding a space to conduct the research

Once the school, parent and child have all agreed to participate, the next hurdle is to find a space in which to actually carry out the work. This can sometimes be quite tricky as

[4] It should be noted that in England, to carry out work with children it is often necessary to complete a DBS (Disclosure and Barring Service) check but this may not be required in all countries. It is important, therefore, to check the requirements of the context in which the research is being carried out.

primary schools in particular do not often have the luxury of having empty rooms available for research projects. The key is to strike the right balance between ensuring the child can engage with the researcher in an environment where they are relatively free from distraction but also recognise that researchers are guests in schools and consequently always have to be respectful of the pressing demands on their resources and to try as much as possible to cause the least amount of disruption as possible. In other projects we have been involved with, we have sometimes carried out research in the cupboard where the school keeps the sports equipment as it was the only place where there was relative quiet! If there is no space in the school which is suitable on a given day when the research is meant to be conducted that is relatively quiet and free from distraction, it is best to re-schedule the data collection to another time of mutual convenience. We have to be flexible, but at the same time, we cannot compromise the reliability of the data itself. This is sometimes a delicate balancing act.

Participant attrition

Occasionally, in studies such as ours which required repeated visits to schools and consequently repeated sessions with the same student, we might arrive at the school to find that the pupils we need to work with are not there, perhaps due to illness. If this happens, it really just requires a re-visit. However, in some research it is common to find that participants might drop out entirely for one reason or another (see Seals, this volume). We were fortunate in our study that this did not happen and we were able to follow through every child from the beginning of our study (at pre-test) until the end (post-test). However, for studies with a longitudinal component, it is important to factor in the very real possibility that sometimes events happen which mean that individual children who began the study might not be able to finish it. Two things need to be considered here. The first is whether the participant has left the study because of the study itself. This is a problem because then it means there is a problem with the study design and most likely adjustments need to be made to enable participation to be more accommodating for the families involved. The second issue needing consideration is how many participants are needed in the first place in order to adequately address the research questions. In studies that are largely quantitative such as ours, we can do this by carrying out a power analysis (see, Tabachnik & Fidell, 2013) which identifies the required sample size in order to reach appropriate effect sizes (should there be a statistical effect). Having identified the sample size, it is advisable to over-recruit in studies with a longitudinal component to ensure that even with

a few cases of attrition the sample size is robust enough to detect relevant effects (see Phakiti, this volume).

Feedback to teachers and parents

Another variable that we often encounter in carrying out research in schools with children is the notion of feedback. We have already mentioned that we regularly offer to present the results of our studies to participating schools, teachers and parents, including inviting them to workshops where we can better engage in in-depth discussions. However, it is quite common that parents or teachers might ask for individual feedback relating to the performance of a specific child on a given measure. For example, in our study, we administered a range of English language tasks that assessed literacy skills, mostly through standardised tests. A standardised test often allows the researcher to identify where the child fits in the overall population. Understandably, parents and teachers are often quite interested to know how their child/children are situated within the population. We therefore are regularly asked to provide feedback on how an individual child performed on such measures; however to provide this feedback would be a serious breach of ethics. When any participant is recruited into a study, their performance has to be anonymous, known only to the researcher(s). Indeed, often researchers themselves are blind to the identity of an individual child/participant if they code participants in the data file. We cannot therefore give feedback to a parent or teacher because we would be violating the agreement we made with the child – or the child's parent in protecting that child's anonymity. Additionally, within the context of research, we usually carry out tests with children to assess their performance for research purposes only. Even if we are appropriately familiarised with the psychometric properties of given tests we use (as we should be), that does not make us diagnosticians who are qualified to use standardised tests to report on individual performance on any given child. We can, however, report group performance, which maintains the anonymity of all the individuals concerned.

Summary and implications

Working with children within the context of research projects is hugely engaging and enjoyable, not to mention extremely and increasingly important. We have highlighted only a few of the issues that need to be taken into consideration in carrying out research with young people. Fortunately, there are many guides available which provide much more detailed discussions of the practical and ethical issues surrounding research with children (e.g., Alderson & Morrow, 2011; Gallagher, Haywood, Jones & Milne, 2010; Greig, Taylor

& MacKay, 2013; Harcourt, Perry & Waller, 2011). It is also worth considering children as research partners, rather than sources from which we collect data. Noteworthy in this area is Pinter's work (e.g., Pinter, 2013; Pinter & Zandian, 2014; 2015; Pinter, Kuchach & Smith, 2013) in which she and her colleagues present a persuasive argument for thinking carefully about researching *with* children rather than *on* or *about* children. She identifies key ways in which conceiving children as researchers, and not mere sources of data, can offer researchers real and tangible insights into the nature of their language learning process. In her work, she argues that the specific challenges concerning children's status and roles as research participants has been largely ignored in research generally, and applied linguistics research more specifically. Pinter (e.g., 2013 and elsewhere) reports that historically in research contexts, children can be seen as either objects, subjects, social actors or co-researchers, and it is the last category that she argues is particularly important that researchers in applied linguistics begin to take note. She points out that the questions that children ask, in acting as researchers within second language acquisition research, are inherently different. They reflect different concerns than those of adults and can lead to deconstructing perceived hierarchies and lead to new perspectives. We think this is a really interesting perspective and one that researchers who work with children should be aware of.

In summary, in this chapter we have presented a brief discussion of selective issues that are relevant in carrying out research with children. It is crucial to stress here that this is by no means an exhaustive list and interested readers should most definitely familiarise themselves with the many excellent resources available which offer sound guidance for carrying out research with children, both generally and within applied linguistics research in particular. We are pleased to see a growing interest in work concerning children in applied linguistics and note that, commensurate with this interest, must be an increasing knowledge and sensitivity to specific methodological issues of relevance in working with children. Research with children may not be child's play, but it is certainly worth doing, and worth doing right.

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