academics, particularly those in less research rich institutions have most of their time committed to teaching - and the short time frame of the pilot has exacerbated these tensions. For example six months to complete the bursary scheme from initial rounding up of participants, preparation of the outline bid for 1st December 2007 and then from January 2008, the real work of writing, reading, training, discussing and nurturing in *collaborative* ways to generate a final version of a proposal has proved difficult for bursary holders. The WERN administration team were also "against the clock" and though we anticipated many queries and "What if scenarios", wrote detailed FAQs and guidance notes, designed protocols and explicit terms of reference, between ourselves we fielded hundreds of emails and telephone calls. The WERN executive and administration have experienced an enormously valuable learning journey which will stand us in good stead to support future WERN initiatives and maintain momentum. It has been hugely satisfying to witness research activity and hear accounts of upskilling and the value placed on this modest pilot initiative:

"The WERN pilot was the beginning of an important phase for Wales and educational research capacity. It has probably made impacts at a personal, departmental and institu-tional level which are not easy to capture in terms of outcomes. Confidence, knowing how and why, are not easily reported and not everyone is good at making visible their learning and specifying particular gains or their own upskilling, or even reporting on that of others. Building research capacity is not an overnight one initiative thing is it? But this is an excellent start and stepping stone towards increasing the population of academics and practitioners able to undertake research for Wales. If continued in some way, WERN could incrementally make a very real difference!" [Bursary Participant]

These comments are indeed insightful, nevertheless there is tangible evidence of a variety of outputs that have, and will it is hoped, deliver funding that will help to sustain further research activity across Wales. The external evaluation reached the following conclusion :

'*WERN was never formulated as transforming 'silver bullet' initiative but in terms of its primary intention 'to trial a funding and support structure for education researchers in Wales that harnesses collaboration between institutions to build research capacity'…the WERN initiative has been highly successful*' (Gardner, 2008:2)

Education research in Wales has suffered a long, and severe period of decline in all institutions except Cardiff University, therefore this initiative can only be a start to the reversal of this trend. There is evidence that a good beginning has been made, and it is hoped that further funding will be made available to continue and sustain this progress.

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Developmentally Appropriate Research Methods: A Strategy for Use With Child and Adolescent Participants

Jenny E. Symonds   University of Cambridge

This paper broaches the concept of 'developmentally appropriate research methods' and encourages researchers to use these in order to improve participatory experiences whilst raising the validity of information gathered. This two way beneficial effect for researchers and participants follows the conventional wisdom of pooling resources for the greater good. Developmentally appropriate research methods can be used to investigate samples of any age, although here their potential is explored primarily in relation to children and early adolescents.

Developmental appropriateness in research

The lengthy period of development in humans creates vast physical and psychological differences between particular age groups. Although these differences underpin the field of developmental psychology, our research here (and in most other disciplines) uses similar tools for gathering information from samples of children, adolescents and adults. Methods are usually modified by the simplification of questions and demands when working with younger ages. However, this is often done without proper consideration of the nuanced developmental states and needs of child and adolescent sam-

ples.

The extent to which development occurs within and across biological, psychological, and behavioural domains can be readily observed by inspecting the chapters of developmental psychology textbooks (e.g. Lerner and Steinberg 2004). Reviews of alterations in personality occur for the key areas of attachment, self-concept, self-esteem, self-efficacy and motivation, along with overviews of the common behaviours of childhood and early adolescence. Recent neuroscience has prompted discussions on changes in the brain such the sudden increase of grey matter during early adolescence and of the shifting roles of the amygdale in relation to emotion, and of the prefrontal cortex in moderating cognitive response. These age-specific capabilities of the brain are central to our understanding of how physical development can influence a child or young person's abilities to conceptualise and behave. By identifying changes within and across the domains of the body and the psyche we can begin to understand how environments interact with individual differences to create developmental states of being.

Several major psychological theories conceive of set developmental stages occurring across the lifespan (see for example Piaget 1967 and Erikson 1950). Social constructions such as 'childhood', 'adolescence' and 'adulthood' are further indications of how stage theory can be used to categorise developmental states. Erikson (1950) introduced the idea that each developmental stage constituted specific goals that when met would facilitate positive wellbeing. An example of this is the acquisition of enough autonomy to be independent within a community during young adulthood – a tradition that is fostered in homes, schools and in the wider social arena. Erikson used the term 'developmental needs' to refer to that which is necessary to reach such goals. Critiques of stage theories remind us that individuals of any age are deservedly whole beings and should not be considered as 'unfinished

products' on a continuum of birth to adulthood (James and Prout 1990). However, when observing that certain age groups do display developmental similarities, we can assume that the relationships between individuals and their environments will affect how these changes are played out and thus impact on development. Therefore, 'developmental needs', as linked to achieving positive development, are an inherent part of individuals' social and physical interactions, regardless of whether or not these are directed towards a specific goal.

To achieve a 'best match' between a group of similar aged individuals and a research method, we can look *across* the various domains in which development occurs and do so in mind of both developmental states and needs. A strong argument for this rises from Eccles and Midgley's stage-environment fit theory (1989) which proposes that the mismatch between developmental needs and environment hinders developmental outcomes and creates negative psychologies and behaviours. Following this view we may hypothesise that by not tailoring our research methods to the characteristics of a particular sample, we are inhibiting the chances of participation being positive and facilitating developmental gains. Using developmentally appropriate research methods is therefore a child or 'person' centred approach. A second case for matching research techniques to developmental states is that a better method-participant fit will raise the validity of information gathered. This can occur in as many ways as there are aspects to a method. When each aspect is in line with participants' developmental needs or states, we should incur less setbacks (such as the artificial manufacture of information and participatory anxiety) and obtain better quality responses.

An example of how methods can react differently with specific age groups comes from an investigation of ten early adolescents who were involved in testing a selection of research methods for developmental appropriateness (Symonds *in*

press). The methods examined were peer and self interview, stimulated video recall, mind maps, video diaries and projective tests. The participants' negative and positive reactions to the use of each method were coded into the developmental characteristics of early adolescence as outlined in the stage-environment fit literature. These areas include the increased desire for autonomy, the salience of identity issues and increased peer orientation and self-consciousness (Eccles and Midgley 1989). Building on these findings, the method of active participation (Rudduck 2001) was chosen for use in a further study, where a sample of twenty early adolescent participants are currently engaged as researchers of their own experiences. This method attempts to promote participants' autonomy and sense of personal agency in the research, to assist relational bonds with the adult researcher, and to allow for more control over the disclosure and treatment of information to alleviate concerns about anonymity, self-appearance and incompetence.

Active participation not only meets many of the developmental needs of early adolescents when conducted sensitively, but also has the potential to raise the quality of information when participants express themselves using intuitive concepts and on their own terms. Researchers from the EPPI-Centre found in a study of mental health, that young people did not relate to medical terms such as 'mental illness' and 'depression' and were more likely to describe their mental states in emotional terms such as 'happy', 'sad' and 'frustrated' (Harden et al. 2001). They advised for young people to be actively engaged "in the task of eliciting their views" (p.6) so as to avoid these types of misunderstandings. Smyth and Hattam (2001) explain the benefits of this process in stating that "the promise of voiced research is anchored, local knowledge, in the face of objective, normative, hegemonic forms of knowledge" (p.47).

A common approach in active participation is to empower young people to do their own interviewing, a

technique used in many studies including Pollard (1985). Peer interviews allow the researcher to gain knowledge otherwise inaccessible to adults (Fielding and Bragg 2003) and to find accounts that more accurately reflect participants' realities. By consulting young people about research and by actively involving them in the research process, we can "enable young people to express themselves in a manner in which they are most at ease" with "lines of questioning and terms which are relevant to the context of their everyday lives" (Harden et al. 2001 p.6). In this we are creating a research environment that improves the authenticity of information by considering a sample's developmental state.

Developmentally appropriate strategies can also be used without altering the entire structure of one's research. An example of this is in vernacular term interviewing, where participants are asked 'what did you mean by that?' in an attempt to better understand a specific age group's individual and social concepts. Surveys can be decorated with pictures to engage the visual orientation of younger children, or used to facilitate autonomy and responsibility for adolescent participants by offering personalisation options when presented online and by revealing the purpose of gathering information with respect to its use in local or international contexts. We can foster participants' cognitive reflective development by asking them to comment on our analysis of results so as to ensure that our interpretations reflect the 'real world' that they inhabit. A final suggestion is that when working with children and young people as researchers we can draw on their intuitive understandings of how they best impart information, by asking them to construct research methods of their own. Herein lie ways to improve the chances for methods to be developmentally appropriate, by 'opening up spaces for young people to tell their accounts' (Smyth and Hattam 2001: 404) in a manner that is not too forced or predefined.

Testing for developmentally ap-

propriate research methods
Considering the methods suggested above, there are plenty of opportunities to be more developmentally appropriate in our research. However there is still some definition to be made between allowing for more developmentally authentic processes and information through our altered use of traditional methods, and in designing research methods that *are* in themselves more developmentally appropriate to a specific age group. Unfortunately there is very little publication on age specific research methods which belies a lack of testing for these. Pilot studies most often examine methods for the appropriateness of their question types and wording, or for the reliability of themes or measures. However these types of studies simply test an existing a method for its degrees of participant fit, instead of generating new methods or comparing a range of alternative techniques that may be more developmentally appropriate.

A further aspect that is rarely tested for age appropriateness is a method's administration. For example, what are the needs of six year olds in comparison to older children when completing paper or online surveys? How long can different age groups concentrate for before their attention and commitment reduces and error occurs? What effects might the location of an interview or familiarity of a researcher have on early adolescent participants who are asked to express sensitive information about growing up? These issues and more lurk under the surface of age specific investigations yet their potential impact on the ethological validity of data is considered far less in pilot studies than are the testing of questions and themes.

As we hardly ever test alternative methods or the conduct of methods in relation to a samples' age specific needs, and as our eventual alterations to research techniques are unlikely to be discussed in publications, the current approach to pilot testing does little to generate developmentally tailored research methods. The failure of many research-

ers to properly test for developmental appropriateness when researching with children and young people undermines the prospective success of our studies to produce good quality information and positive participatory experiences.

Building a community of active, engaged participants
So how might we address the dearth of published information and construct a bank of developmentally appropriate research methods? Firstly, a review of what is known is badly needed. It is likely that useful advice and examples are imbedded in the text of many articles and methodology chapters. Ideally, this data could be reviewed systematically for different age groups of samples. Secondly, pilot studies could begin to consider multiple factors of method-participant fit, such as the choice of method, a method's contents, its administration and the quality of its results – and do so in relation to developmental psychology. Although the multiple relationships, effects and causes in any developmental state may present a serious challenge to researchers when attempting to discover what is developmentally appropriate, this complexity should not prevent us from trying. Thirdly, we must try to incorporate this information into publications, conference presentations and into our communication with colleagues and student researchers. This will extend our knowledge base and encourage research that does not harm participants.

In summary, when research methods and developmental needs are in line we are likely to provide more positive participatory experiences whilst improving the quality of information gathered. By using active participation we can assist young people's agency, skills and reflective tendencies and by this add to progressive development. Importantly, through the use of developmentally appropriate research methods we can help to foster a community where young people and their caregivers are enthusiastic about participation in research and thus willingly contribute to our studies.

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Mixing Methods and Blending Data: The case of re-searching learning

Phil Hodkinson   **University of Leeds**

Flora Macleod   **University of Exeter**

A great deal has been written on how theoretical orientations affect methodology but less has been said about the reverse. Yet the tools and techniques used by the researcher restricts what can and cannot be seen and what is foregrounded and what is backgrounded. This, by implication, limits what is possible conceptually and the questions that can be framed. Here we draw on our combined personal experience of researching learning to illustrate this point. By reflecting on our recent separate work using mini-ethnography, life history and panel survey research we argue that different methodologies have strong affinities with particular theoretical positions on learning.

When I (Phil Hodkinson) used a mini-ethnographic approach to research with others cultures of learning in FE in the TLC project, we found that whilst our method of enquiry allowed us to focus on the practices through which students participated and through which their learning was mediated, it had less of a facility to examine the individual life stories that the students and their tutors brought with them to the learning situation under examina-

tion. As our research purpose was to study the relational dimensions of learning by examining the complex interrelationships between factors that influenced learning, centring of cultural practices was crucial to the investigation. Learning was examined through the lens of theories that saw it as social rather than individual (e.g. Engeström, 2001; Lave & Wenger, 1991). It was the practices in which students participated as a group that were foregrouned rather than individual students. This not only had the effect of unintentionally marginalising the learners and their histories as learner, but also pushed the research in the direction of a participatory metaphor of learning (Sfard, 1998) shaping what we could see and what was hidden from our view.

In my next project, Learning Lives, the focus was on the life history of individual learners. Here it was the individual's story that was the unit of analysis in contrast to the TLC project where it was the FE site rather than the learner. This meant learning in the Learning Lives project could be seen and understood over a long time frame that spanned the full length of the individual partici-

pant's life. But this was at the expense of shifting the focus away from the sites of learning in which the individuals studied participated. The cultures and contexts in which any significant learning took place during the course of their lives could only be viewed through the lens of their story, the story they told the interviewer. This meant their many and various sites of learning could only be examined indirectly. Seeing learning as participation was thus more difficult. Rather, there was an affinity between the longitudinal and biographical perspective of the life history approach taken and conceptualising learning as a form of construction or as *formation* (Dominicé, 2000). Unlike the participatory metaphor which centred the research on a particular context, the construction metaphor better fitted the method, because it centres on the ways in which people made sense of their learning experiences across contexts and over time. This process involved the project participants in constructing their own versions of what was being learned and sometimes (re)constructing themselves through that learning as they reflected on their own narrative accounts.