



# WHAT IS SMART? AN IN-DEPTH STUDY OF CHILDREN'S CONCEPTS OF INTELLIGENCE

## Background to Study

This Research Briefing summarises the main findings and policy and practice implications from *What is smart? An in-depth study of children's concepts of intelligence*, an ethnographic study undertaken by the Children's Research Centre, TCD.

The study explored children's concepts of intelligence and how these concepts of intelligence influence their motivation to achieve in school in Ireland. The study was conducted with one 5th class in an inner-city school which was designated as disadvantaged. Thorkildsen's and Nicholls' research in the United States (1998) found that children at the U.S. equivalent of 5th class in Ireland can clearly distinguish their own beliefs about the causes of success from those formed by teachers in the classroom setting.

The study was funded by the Children's Research Centre with additional funding provided by the Irish Research Council for the Humanities and Social Sciences.

### What do we mean by 'smart'?

The word 'smart' was used in conversations with the children in discussions about intelligence, as 'smart' reflects 'intelligence' in both academic and social contexts and seemed closer to the language of children.

### Why are children's concepts of intelligence an issue for practice and policy?

Children's concepts of intelligence concern educationalists and policymakers because previous research in the United States (for example Cain and Dweck, 1989) found that by the time children are 11 or 12 years old their beliefs about the nature of intelligence play a central role in their motivation to achieve in school.

Research that sheds light on the influences on children's motivation to achieve can contribute to developing effective educational interventions and policies to end educational disadvantage and early school leaving in Ireland. Understanding such motivation may help us comprehend what the National Economic and Social Forum (2002) describe as 'the factors, both within the school system itself and the individual and his/her background, [that] when combined lead to an alienation from school'.

The Educational Disadvantage Committee (2005), a body established to advise the Minister for Education and Science on policies and strategies to correct educational disadvantage in

Ireland, has also advocated that ending educational disadvantage requires an understanding of intelligence as 'multidimensional, plastic and learnable'. The Committee noted that while literacy and numeracy skills are vital tools for life, for learning and for social and economic participation, they are 'only aspects of the integrated curricula in primary and second-level schools that are designed to provide a broadly-based education to nurture and develop a range of intelligences and skills.'

## Key Findings

### Children want to feel 'smart'

- ▶ The findings of *What is smart?* concur with previous international research indicating that children's concepts of intelligence - what they think 'smart' is - influence their motivation to achieve.
- ▶ The children in this research needed to feel 'smart', and feeling 'smart' increased their motivation to learn and to achieve.

### There are many ways and contexts in which children feel they can be smart

- ▶ For the children being 'smart' was associated with being good at schoolwork and intellectual competence, but equally with possessing social, personal and physical abilities. The types of abilities the children said characterised a smart person included:
  - » intellectual ability, such as being knowledgeable (both in school and out of school), being able to solve problems and find out where to get information;
  - » social skills, such as being competent in interacting with peers and teachers and able to sort out conflicts and manage social situations;
  - » personal skills, like knowing how to look after oneself and taking care of physical appearance;
  - » physical ability, being physically coordinated or competent in physical activities such as sport; and
  - » exhibiting good behaviour or being able to do what they wanted without getting into trouble or getting caught.
- ▶ Being smart was considered by the children to be context specific with the main contexts mentioned being the street,

home and school. It is possible, according to the children, to be 'gifted' in one context and a 'dope' in another. The research found that children who did not feel academically smart within the classroom made their own decisions about the activities and skills on which they would focus within that context, such as their social skills.

- ▶ The children recognised that 'smart' people may have natural abilities and may be 'gifted' in certain contexts. But some children distinguished between such innate abilities and a capacity for learning. Some children argued that learning can make you smarter and that intelligence can decrease if one does not learn. The children cited this capacity for learning as an important reason to go to school, although it seems that recognising the importance of school did not always translate into the motivation to achieve academically.

### Feeling 'smart' and disengagement from learning

- ▶ The children understood the link between educational achievement and their future access to opportunity and resources. Their school was in a designated disadvantaged area, and the children were aware of their disadvantaged social position. They talked about how going to school would improve their future socio-economic circumstances, provide them with opportunities and enable them to have a better life than their parents.
- ▶ Yet despite their understanding of the value of formal education and achieving academically, many of the children could not see the relevance of what they were being taught to their current or future situation. Some of the children said that they did not feel smart in school, expressed feelings of 'boredom' and by age 11 had already begun to disengage from classroom activity and school.
- ▶ The subjects the children perceived to be most important, often the more academic ones, were frequently seen by them as the most difficult. For these children struggling with academic skills, there were few opportunities to experience achievement in the classroom context. They were more motivated to apply themselves when subjects were considered relevant or allowed them to experience feelings of achievement in the classroom. Some of the children were reluctant to show that they were struggling because it made

them feel inadequate - not smart - in the classroom.

### Producing the right answer versus learning how to get the right answer

- ▶ Children's motivation to achieve in the more academic subjects in school, such as maths, was influenced by the understanding of being 'smart' as producing the right answer and looking intelligent rather than using their learning skills to work out the right answer. It was considered 'smart' to know how to get the correct answer, even if that was through cheating and copying.
- ▶ Most of the children were motivated to achieve in subject areas they valued and thought were useful, regardless of whether or not they felt they were 'gifted' in these areas, for example, reading and writing.
- ▶ The children tended to focus more on learning skills in practical or artistic subjects in school. They saw these subjects as relevant and easier, and gained a sense of achievement from working at them.
- ▶ The children were highly motivated to learn practical and personal skills and talked about how smart people 'know what to do' and how they wanted to learn 'what to do'. Some of the subjects they were interested in learning included languages, sports, practical skills such as changing a light bulb, and life skills including banking and looking after oneself and raising a family.

## Research Methodology

This study used ethnographic methods to explore children's concepts of intelligence. Ethnography provides in-depth, contextualised qualitative data gained through the researcher's immersion in a setting over a substantial period of time, in this case a primary school class over a sustained four-month period. Ethnography is suited to gathering data on the impact of policy decisions on people's everyday lives, particularly the impact of education policy on students in the classroom (Walford, 2001).

The research methods used were: participant observation (in the children's spaces and activities for two or three days a week for a maximum of four hours at any one time); a series of focused activities (classroom drawings, a photographic project, focus groups and individual interviews); and participation by the researcher in activities including playing in the yard, board games, Physical Education, singing and art.

The study was conducted with one 5th class (on average 11 years old) comprising 19 children, 12 boys and 7 girls, in an Irish inner-city school. Written informed consent for participation was received from the children and parents for the participant observation and individual interviews. School consent was received for the school-related activities. The researcher presented the findings to the children.

## Policy and Practice Implications

The research findings are relevant to national education policy, the development of teacher training and practice and curriculum development.

### Implications for assessment

- ▶ Given the different ways in which the children in this study defined intelligence, and the link between feeling smart and their motivation to achieve in the school context, the recommendation made by Ireland's National Economic and Social Forum (2002) that consideration be given to how non-academic achievements (attendance, punctuality, interpersonal skills, and skills in demonstrating, presenting and finding sources of information) can be formally recognised at primary level should be revisited.

### Implications for curriculum development

- ▶ For children who struggle with academic skills, there are currently very few opportunities to achieve in the classroom. In addition to ensuring that non-academic achievement and skills are formally recognised, the primary school curriculum could ensure that non-academic and practical

skills are encouraged so that all children have opportunities to experience success in the classroom and to feel 'smart' through a range of non-academic activities and experiences.

- ▶ The research findings highlight the importance of helping children to be active learners; enabling children to learn how to learn is an aim of the Irish Primary School Curriculum (Government of Ireland, 1999). Children find it much easier to learn when they see the relevance of subjects. The usefulness of the different knowledge and skills taught in school could be explained to children.

### Implications for teaching and learning

- ▶ The children were actively trying to make sense of the relationship between learning, achievement and failure. Children's understanding and misunderstandings of intelligence and how it works should be explicitly addressed and discussed by teachers (and parents).
- ▶ The children demonstrated some positive learning strategies in the subject areas they enjoyed. They could be encouraged to reflect on these strategies and identify those which could be applied in other subject areas, particularly those in which they are struggling.

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## Further Information

The full study *What is smart? An in-depth study of children's concepts of intelligence* is available to download from the Children's Research Centre's website: [www.tcd.ie/childrensresearchcentre](http://www.tcd.ie/childrensresearchcentre).

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ISSN: 1649-8887

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