Open Peer Commentaries

on Fiona Murphy & Hugh Gash's "I Can't Yet and Growth Mindset"

Growth Mindset and Constructivism in Irish Primary Schools: Implications of a Qualitative Study

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> Abstract • I review some complexities, variables and problematics of growth-mindset research, the claims that can be made for its application, and possible avenues for future related research in the Irish educational context. My commentary responds to a qualitative study in an Irish primary school in a marginalised community, which found that a growth mindset intervention consisting of lessons affirming malleable intelligence positively impacted on the students' meta-learning skills and self-empowerment.

Handling Editor • Alexander Riegler

« 1 » Fiona Murphy and Hugh Gash's qualitative study on growth mindset, conducted in an Irish urban primary school, challenges certain teachers' assumptions that intelligence is immutable. It is predicated on Carol Dweck's proposition that "everyone can change and grow through application and experience" (Dweck 2012: 16). An intervention consisting of a series of lessons was conducted in a "DEIS" school (Deliver Equality of Opportunity in Schools), which caters for children from communities officially identified as experiencing social or economic disadvantage and who are "prevented from deriving appropriate benefit from education in schools" (Ireland Education Act 1998[1]).

1 | http://www.irishstatutebook.ie/eli/1998/act/51/enacted/en/html

« 2 » The study is timely, not least because it engages with concepts and values referenced implicitly or explicitly in the National Council for Curriculum and Assessment's (NCCA 2020) review document on Ireland's primary-school curriculum. When revised, the curriculum will shape children's learning experiences probably for decades: previous primary curricula covered the period 1922–1971, 1971–1999, and 1999 to the present. The NCCA document affirms active citizenship, meta-learning, and wellbeing. It glosses the latter as promoting persistence, flexibility, motivation, and choice: characteristics associated with growth mindset. The review's proposed pedagogical strategy involves allocating a proportionately significant 10–12 curricular hours per month to wellbeing, that is, to learning through engagement, motivation, choice and agency, and to harnessing values linked to constructivism and growth-mindset theory. It aspires to agentic, reflective teachers imbued with professional judgement, and learning environments relevant to children vulnerable to exclusionary pressures. Values informing its proposals are those scrutinised and affirmed in Murphy and Gash's study within disadvantaged school communities.

« 3 » However, in contrast to Murphy and Gash, the NCCA's proposal holds to the culture of standardised assessment. It deems the current primary curriculum (1999 to the present) successful in part because children showed "improved attainment […] in national and international assessments" (NCCA 2020: 1). Reliance on standardised testing also underpins the approach to policy and decision-making of the Schools Inspectorate, which is an influential body in Irish education (DES 2015). This official approval of standardised assessment confirms the researchers' observation that fixed-ability determinism is imbricated into educational discourse, and they interrogate its wisdom.

« 4 » Dweck, Walton & Cohen (2014) hold that if growth-mindset alternatives to competitive performance goals (§61) are to affirm effort and promote equal opportunities, they must be integrated with other interventions and reforms, specifically curricular and pedagogical reform, and that implies assessment reform. The NCCA's concession that standardised testing "is not necessarily more important than other types of assessment" (NCCA 2020: 24) elides the fundamental opposition to performance goals that informs Murphy and Gash's target article.

« 5 » Their study builds on the related conceptual pillars of growth-mindset theory, constructivism and reflexivity. Using qualitative and quantitative measures of progress, Dweck and David Yeager (2019) encouraged students to perceive their intellectual ability as capable of growth if they made a concerted effort, accepted appropriate assistance and experimented with new approaches. Other recent growth-mindset studies have shown – with varying degrees of success – that students' expectations and beliefs about learning can influence educational outcomes (e.g., Cutumisu 2019).

« 6 » Replicating the scale of the early positive impact of Dweck's thesis in significantly changing motivation, self-belief and school performance (such as is found in Mueller & Dweck 1998; Aronson, Fried & Good 2002; Blackwell, Trzesniewski & Dweck 2007) and in sustaining progress made (Orosz et al. 2017) has proven difficult. Yue Li and Timothy Bates's large-scale study (2019) was unable to confirm that mindset can improve children's resilience to failure and increase school grades, leading them to conclude that: "Beliefs about the malleability of basic ability may not be related to resilience to failure or progress in school" (Li & Bates 2019: 1640). The Changing Mindsets project report (Foliano et al. 2019) found no

https://constructivist.info/15/2/083.murphy

impact on numeracy or literacy among over five thousand English fourteen-year-olds.

« 7 » Nonetheless, other studies suggest that the approach can have an encouraging impact, particularly among lower socioeconomic groups. Victoria Sisk et al. (2018) found that mindset interventions could have some positive, although weak, outcomes for students with low socioeconomic status or who are academically vulnerable. Trudy Kearney's systematic review of growth-mindset studies concluded that notwithstanding some methodological and data shortcomings, most of the evidence points to effectiveness at improving the academic achievement of students at risk of educational disadvantage (Kearney 2015, citing Blackwell, Trzesniewski & Dweck 2007; Yeager et al. 2019). Yeager et al. (2019) note minor grade improvements following brief interventions, and a lower failure rate among ninth graders (fourteen-year-olds). Semester-long online academic-mindset interventions improved the rate at which high-school students performed satisfactorily in core curriculum by 6.4% (Paunesku et al. 2015). Mesmin Destin et al. (2019) found that reporting less of a fixed mindset was associated with better school performance, regardless of socioeconomic status, and it found that a less fixed mindset could lessen inequality.

« 8 » A complex of sometimes contradictory factors appears to influence outcomes of mindset studies. Dweck recognises that hers "are not one-size-fits-all strategies; instead, they must be customized" (Dweck, Walton & Cohen 2014: 14). Variables may or may not include culture: Li & Bates (2019) discount ethnicity as a factor affecting their nil association between growth mindset and resilience to failure and improved school performance in a study conducted in China. However, the "bootstrap" narrative of effort rewarded by upward mobility is integral to American self-perception. Arguably, Dweck's pragmatic revision of the myth, which accommodates the contemporary goods of equality and rights while holding to traditional American goods of motivation and progress, may increase/decrease its appeal in certain communities.

« 9 » Other significant variables may include the age of students: for example, outcomes of recent studies of teenagers, college students and in workplaces may have limited implications for young children, as in the current study. Simon Andersen and Helena Nielsen (2016) tested a growth-mindset reading intervention that involved parents reading to their second-grade children, probably similar in age to Murphy and Gash's cohort. They showed that children of parents who believed their children's abilities were fixed had lower reading skills. They found "large and consistent" improvements in language comprehension, decoding and text comprehension and in skills in writing expressive language when parents were taught about growth mindset and praise for effort, although effects were reduced after 7–8 months. Immigrant children and children of mothers with low educational attainment performed at least as well as other children. It is notable that the children in this intervention were similar in age to Murphy and Gash's cohort, and that both involved reading or reading-readiness interventions.

« 10 » Other notable variables include the quality, commitment and training of teachers, the diverse modes and scale of interventions, as well as the socioeconomic status of cohorts, each of which presents methodological challenges. Researchers might consider the relevant impact of Irish teachers' acknowledged professionalism (Walsh 2016) but also James Gleeson's (2010, in Walsh 2016) finding that they lack the confidence and professional resources required to develop curriculum. Isolating control groups was problematic for Sisk et al. (2018), so widely applied are Dweckian concepts in learning contexts.

« 11 » Murphy and Gash's study is distinguishable from other growth-mindset studies. Some methodological issues are not directly relevant to what is an exploratory, context-specific, Irish, qualitative study on children younger than those in most growth-mindset studies. Murphy and Gash seeks to alter dispositions and change values and perspectives on fixed intelligence, rather than evaluate academic performance. Its measures of progress are perspectival, subjective, self-reflexive and self-reported, although it does suggest that increased linguistic proficiency can also be an outcome. It recognises that further larger-scale relevant research is required. To the degree that the teacher and student participants report significant meta-learning and increased subtlety in their emotional lexicon, they have shown the value of growth-mindset initiatives and their value within the constructivist dispensation which now pertains in Ireland.

« 12 » An implicit thread through this study is the role of linguistic competence (e.g., §§32–36, 52) in initiating children into communities of practice, and in embedding them in cultures that can moderate inequities and power asymmetries. Language is the bridge to the interpersonal zone within which children as individuals and groups are agents constructing their worlds rather than being determined by it (Riegler 2001: 1). In this sense, this study shows how constructivism and growth mindset are linked.

« 13 » The growth-mindset approach puts flesh on the bones of the constructivist framework, offering structured interventions that can lead to outcomes desirable within the constructivist paradigm. It reformulates aspects of constructivism's value orientation, affirming the principles of learning by doing, learning from cognitive conflict, and from concomitant reflective and reflexive practices. Appropriate growth-mindset interventions exemplify how specific linguistic competences (such as relate to the emotional learning in this study) can enable children to grow "*into the intellectual life of those around them*" (Vygotsky 1978: 88, emphasis in original). They can provide opportunities for learners to construct and make sense of inter-psychological linguistic and cognitive experiences within specific temporal and spatial contexts. In this way, the combined constructivist-growth-mindset approach can induct students into discursive communities and facilitate agency and academic progress. This study provides such an opportunity through working with children in carefully modulated learning contexts relating to emotions, and by providing them with scaffolded opportunities to articulate, reflect on and modify their responses.

« 14 » Learning environments that adopt a constructivist approach are more likely to encourage experimentation and evince positive responses to the inevitable failures that accompany innovation (Scheyvens et al. 2008: 63). Learning from failure is intrinsic also to the growth-mindset approach, which eschews the fixedness of failure within standardised testing in favour

of more qualitative modes of assessment. Murphy and Gash's study highlights the way that children construct their world and their identities, rather than how they compare to pre-dominant academic norms.

« 15 » This study's growth-mindset intervention within a constructivist framework is an example of how the process of social construction (Goodson 1988; Elliott 1998) enables teachers and children to become co-constructionists of curriculum in the Vygotskian sense, that is, mediating or reconstructing it as a set of competences and capacities (Priestley & Biesta 2013), alongside more powerful arbiters of policy and practice – such as the NCCA and the Inspectorate, in the Irish context.

« 16 » Qualitative studies such as the one conducted by Murphy and Gash might continue to form part of future research methodology to access refined, subtle data, although its outcomes are not generalisable. Andersen and Nielsen's (2016) modest success in involving parents, cited above, offers an approach that acknowledges community and might empower parents to engage with the discourses of schooling. Other cohorts that might be considered for studies include children with diagnosed disabilities, whether specific or general learning disabilities, whether in special classes in mainstream or in special schools.

« 17 » Lessons may be learned from difficulties encountered in some previous studies – on modalities of research, interventions best avoided, the need for follow-up studies, the avoidance of over-simplification or overstatement of outcomes, and the appropriateness of intervention materials, among others. Identifying control groups may present problems, given the widespread absorption of proto-growth-mindset interventions into educational practices. Finally, challenges include avoiding allowing the growth-mindset approach to become a fixed educational mindset. Murphy and Gash implicitly or explicitly flag many of these caveats in their articulation of the need for further related research in the Irish primary-school context. Their study suggests that growth-mindset theory, prudently allied to constructivism, can lead to sound educational interventions that benefit students, teachers and the learning environment without losing the theoretical advantage of either concept.

References

Andersen S. C. & Nielsen H. S. (2016) Reading intervention with a growth mindset approach improves children's skills. Proceedings of the National Academy of Sciences. 113(43): 12111–12113. https://doi.org/10.1073/pnas.1607946113

Aronson J., Fried C. B. & Good C. (2002) Reducing the effects of stereotype threat on African American college students by shaping theories of intelligence. Journal of Experimental Social Psychology 38(2): 113–125.

Blackwell L. S., Trzesniewski K. H. & Dweck C. S. (2007) Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. Child Development 78: 246–263.

Cutumisu M. (2019) Feedback valence agency moderates the effect of pre-service teachers' growth mindset on the relation between revising and performance. Frontiers in Psychology 10: 1794. https://doi.org/10.3389/fpsyg.2019.01794

DES (2015) Looking at action planning for improvement in DEIS post-primary school: Inspectorate evaluation studies. Department of Education and Skills, Dublin.

Destin M., Hanselman P., Buontempo J., Topton E. & Yeager D. S. (2019) Do student mindsets differ by socioeconomic status and explain disparities in academic achievement in the United States? AERA Open 5(3). https://doi.org/10.1177/2332858419857706

Dweck C. S. (2012) Mindset: How you can fulfil your potential. Constable & Robinson, London.

Dweck C., Walton G. M. & Cohen G. L. (2014) Academic tenacity: Mindsets and skills that promote long-term learning. A white paper prepared for the Bill and Melinda Gates Foundation. Bill and Melinda Gates Foundation, Seattle WA.

Dweck D. & Yeager D. S. (2019) Mindsets: A view from two eras. Perspectives on Psychological Science 14(3): 481–496.

Elliott J. (1998) The curriculum experiment: Meeting the challenge of social change. Open University Press, Birmingham.

Folioano F., Rolfe H., Buzzeo J., Runge J. & Wilkinson D. (2019) Changing mindsets: Effectiveness trial. Evaluation Report. Education Endowment Foundation, London.

Gleeson J. (2010) Curriculum in context: Partnership, power and praxis in Ireland. Peter Lang, Oxford.

Goodson I. (1988) The making of curriculum: Collected essays. The Falmer Press, London.

Kearney T. (2015) Case study 1: An evidence-based practice review report. Theme: School based interventions for learning. Are school-based interventions that promote a growth mindset effective in raising pupil attainment? Doctorate in Educational and Child Psychology, University College London. https://www.ucl.ac.uk/educational-psychology/resources/CS1Kearney15-18.pdf

Li Y. & Bates T. C. (2019) You can't change your basic ability, but you work at things, and that's how we get hard things done: Testing the role of growth mindset on response to setbacks, educational attainment, and cognitive ability. Journal of Experimental Psychology: General 148(9): 1640–1655. https://psycnet.apa.org/fulltext/2019-50726-002.html

Mueller C. M. & Dweck C. S. (1998) Praise for intelligence can undermine children's motivation and performance. Journal of Personality and Social Psychology 75(1): 33–52.

NCCA (2020) Draft primary curriculum framework: Primary curriculum review and redevelopment. National Council for Curriculum and Assessment, Dublin. https://ncca.ie/media/4456/ncca-primary-curriculum-framework-2020.pdf

Orosz O., Péter-Szarka S., Bothe B. & Tóth-Király I. (2017) How not to do a mindset intervention: Learning from a mindset intervention among students with good grades. Frontiers in Psychology 8: 311. https://doi.org/10.3389/fpsyg.2017.00311

Paunesku D., Walton G. M., Romero C., Smith E. N., Yeager D. S. & Dweck C. S. (2015) Mind-set interventions are a scalable treatment for academic underachievement. Psychological Science 26: 784–793.

Priestley M. & Biesta G. (eds.) (2013) Reinventing the curriculum: New trends in curriculum policy and practice. Bloomsbury, London.

Riegler A. (2001) Towards a radical constructivist understanding of science. Foundations of Science 6(1–3): 1–30. ▸ https://cepa.info/1860

Scheyvens R., Griffin A. L., Jocoy C. L., Liu Y. & Bradford M. (2008) Experimenting with active learning in geography: Dispelling the

myths that perpetuate resistance. Journal of Geography in Higher Education 32(1): 51–69.

Sisk V. F., Burgoyne A. P., Sun J., Butler J. L. & Macnamara B. N. (2018) To what extent and under which circumstances are growth mind-sets important to academic achievement? Two meta-analyses. Psychological Science 29(4): 549–571.

Vygotsky L. S. (1978) Interaction between learning and development. Translated by M. Lopez-Morillas. In: Cole M., John-Steiner V., Scribner S. & Souberman E. (eds.) Mind in society: The development of higher psychological processes. Harvard University Press, Cambridge: 79–91.

Walsh T. (2016) 100 years of primary curriculum development and implementation in Ireland: A tale of a swinging pendulum. Irish Educational Studies 35(1): 1–16.

Yeager D. S., Hanselman P., Walton G. M., Murray J. S., Crosnoe R., Muller C., Tipton E., Schneider B., Hulleman C. S., Hinojosa C. P., Paunesku D., Romero C., Flint K., Roberts A., Jill Trott, Iachan R., Buontempo J., Man Yang S., Carvalho C. M., Hahn P. R., Gopalan M., Mhatre P., Ferguson R., Duckworth A. L. & Dweck C. S. (2019) A national experiment reveals where a growth mindset improves achievement. Nature 573: 364–369. https://doi.org/10.1038/s41586-019-1466-y

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A Spatial Turn for Constructivism: Concentric and Diametric Spatial Systems Framing Meaning for Exclusion and Inclusion to Challenge Failure Identity

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> Abstract • Murphy and Gash's target article offers an important emphasis on emotional and relational dimensions as part of a radical constructivist paradigm to challenge failure identity, fixed notions of intelligence and to go beyond social learning theory. This commentary seeks to expand their conceptual framework further as part of a spatial turn for constructivism to focus on background relational space and systems of relation. Concentric and diametric spatial systems are proposed as background foundational conditions for framing systems and meaning with regard to inclusion and exclusion in education.

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« 1 » Fiona Murphy and Hugh Gash's target article offers a challenge to a fixed-ability paradigm for school contexts of poverty and socio-economic exclusion. It does so through expanding a conceptual framework to a radical constructivist one beyond simply social learning theory. This challenge is timely in a European Union policy context given the 2018 EU Key Competence for Lifelong Learning, the Personal, Social and Learning to Learn Key Competence.[1] The authors recognise not only self-reflective learning to learn features of the pupils' responses; the personal and social dimensions, including emotional dimensions, are embedded in their understandings and qualitative research accounts.

« 2 » The concerns with overcoming a failure identity are resonant with well-established constructivist themes since William Glasser's (1969) *Schools Without Failure*. Murphy and Gash's article contributes to the research literature on early-school-leaving prevention that challenges the internalisation of a failure identity (Jimerson 1999; Kellaghan et al.1995; Downes 2003b), where pupils stop trying to learn as they assume or at least fear that they will fail. The research accounts here offer important approaches to treating mistakes as opportunities for learning to inform initial teacher-education approaches.

« 3 » In my commentary, I will argue that Murphy and Gash's broadening of the malleability of pupils' self-perceptions regarding ability to a radical constructivist framework, beyond social learning theory and indeed beyond Piagetian constructivist stages of development, requires further expansion. Their radical constructivist broadening to deconstruct essentialist claims and constructions of fixed intelligence is pertinent not only to systems theory but also to further understandings of space, of relational space, as part of a spatial turn for education (Ferrare & Apple 2010) and the wider social sciences (Massey 2005), though one that does not reduce space to mere place (Downes 2016, 2020).

« 4 » The systems concerns of direct relevance to Murphy and Gash's growth-mindset account in their article include Urie Bronfenbrenner's (1979) emphasis on promoting growth in systems and challenging deficit labels:

> "[A] deficit model of human functioning and growth assumes that human inadequacies or disturbance in human behaviour and development reflects a deficiency within the person or from a more enlightened, but fundamentally unaltered perspective, within the person's immediate environment." (Bronfenbrenner 1979: 290)

« 5 » While a Bronfenbrennerian concern here would be with the school and classroom microsystems in terms of promoting growth, as well as with macrosystem representations of fixed intelligence in the wider culture, a further system concern requires recognition, though it is largely overlooked by both early and later Bronfenbrenner. This further systems concern is to treat the individual herself as a set of differ-

1 | https://ec.europa.eu/education/education-in-the-eu/council-recommendation-on-key-competences-for-lifelong-learning_en