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INTRODUCTION

Resources of hope: Towards a revaluing of education

Paul Stanistreet[1]

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Last year, the adult education movement in Europe marked a number of significant anniversaries associated with the effort to rebuild following the First World War. Among them were 100 years of the Volkshochschulen (adult education centres) in Germany and the centenary of the *Final Report* of the Adult Education Committee of the Ministry of Reconstruction, better known as the "1919 Report", in the United Kingdom.[1] Both initiatives stemmed from an appreciation of the costs of failing to foster and sustain democratic citizenship, and expressed a wide vision of the value of education, and of adult education in particular, far removed from the Gradgrind-like[2] focus on work-related skills and employability that has dominated the education discourse in recent decades.

This year, we mark two other significant anniversaries, associated with the end of the second calamitous world war of the twentieth century: it is 75 years since both the liberation of the Nazi concentration and extermination camp of Auschwitz-Birkenau (International Holocaust Remembrance Day is being marked as I write) and the creation of the United Nations (UN). The UN emerged in part from a determination to ensure that the horrors of the Holocaust, and the oppression and dehumanisation of Jews and other minorities that led to it, did not happen again. This sensibility also shaped the founding values of the United Nations Educational, Scientific and Cultural Organization – UNESCO – which was set up in 1946 with a mandate to construct "the defences of peace" in the minds of women and men.

[1] Ministry of Reconstruction, Adult Education Committee (1919). *Final Report.* Parliamentary Papers, House of Commons, Session 1919, vol. 28. Cmd. 321. London: His Majesty's Stationary Office (HMSO).

[2] Thomas Gradgrind is a fictional character in *Hard Times*, a 19th-century novel. He is an educator who insists on teaching children only "hard facts" which they should be able to put to profitable use when they join the workforce. While this reflected the Victorian utilitarian philosophy prevalent at the time this novel was serialised, the author exaggerated Gradgrind's obsession with facts. Dickens, C. (2003 [1854]). *Hard times.* London: Penguin.

✉ Paul Stanistreet
p.stanistreet@unesco.org

[1] UNESCO Institute for Lifelong Learning, Hamburg, Germany

As my colleague Maren Elfert describes in her recent book,[3] much of UNESCO's early thinking about education was a response to the misuse of education for ideological purposes during the Second World War and the atrocities to which it contributed. A "humanistic and emancipatory approach" emerged, Elfert writes, that "aimed at bringing out the full potential of human beings and enabling them to shape their societies towards greater democratization and social justice" (Elfert 2018, p. 1). Education, UNESCO's founding mothers and fathers recognised, was a human right, with "intrinsic", rather than instrumental, value, and its aim should be to foster a range of social and civic benefits, as well as economic ones, and to produce active, responsible citizens who think critically but not cynically.

This expansive, humanistic vision, developed by UNESCO in its landmark Faure[4] and Delors[5] reports, has inspired educators the world over and has occasionally featured in national-level policymaking. However, as the passionate humanism of the immediate post-Second World War years faded, a more instrumentalist philosophy of education took hold, emphasising, to an overwhelming extent, economic outcomes and treating education as means to increased economic productivity and growth. Politicians and policymakers neglected the wider value of education, with some governments more than content to profit from the absence of education for broader human purposes such as active citizenship. This is evident even – or perhaps especially – in the discourse about lifelong learning and adult education, concepts intimately linked to the cultivation of civic and democratic values. Although they often speak the same language, there is a growing divide between the values of groups that advocate lifelong learning and those responsible for planning and implementing education policy.

This should worry us, particularly in light of the broad, holistic intentions of the 17 Sustainable Development Goals and their interconnected nature. It is becoming increasingly evident that this narrow purposing of education is inadequate to the challenges posed by the climate crisis, the technological revolution, gross social and economic inequalities, and demographic change. Most of the articles in this issue reflect, in one way or another, the notion that more of the same will not do, that the certainties of the recent past deserve challenge, and that the way in which we think about and value education requires urgent reappraisal.

The first such challenge comes from authors *Kristen H. Perry*, *Donita M. Shaw* and *Sara Saberimoghaddam*. In their article, "Literacy practices and the Programme for the International Assessment of Adult Competencies (PIAAC): A conceptual critique", they examine the tension between PIAAC's "cognitive orientation" and "its attempt to factor in meaningful literacy practices". Literacy has become an important variable in country comparisons, thanks mainly to large-scale assessments such as PIAAC and the attention they command in the media and among policymakers. However, concerns have grown in the field of adult literacy scholarship that PIAAC, and the International Adult Literacy Survey (IALS) that preceded it, have failed

[3] Elfert, M. (2018). *UNESCO's utopia of lifelong learning: An intellectual history*. New York: Routledge.

[4] Faure, E., Herrera, F., Kaddoura, A.-R., Lopes, H., Petrovsky, A. V., Rahnema, M., & Champion Ward, F. (1972). *Learning to be. The world of education today and tomorrow*. Paris: UNESCO/Harrap.

[5] Delors, J., et al. (1996). *Learning: The treasure within.* Report to UNESCO of the International Commission on Education for the Twenty-first century. Paris: UNESCO.

to do justice to current understandings of literacy practice and have put too much weight on "employment-related aspects of literacy", thus, in the words of Mary Hamilton and David Barton, supporting "the new work-order vision of global capitalism" and encouraging people "to see this as a fixture around which we need to adjust our lives and national policies, rather than something which literacy might help to shape according to a more humanitarian agenda" (Hamilton and Barton 2000, pp. 386, 387).[6]

Perry, Shaw and Saberimoghaddam argue that while PIAAC has made some progress in addressing literacy practices, its conceptualisation does not align well with current theoretical understandings of literacy as social practice. They point, in particular, to its conflation of several key literacy constructs, such as "text", "genre" and "practice", and its neglect of context, purpose, social interaction and power relationships in literary practice. While PIAAC aims to focus on the skills demanded for participation both in "21st-century society and the global economy", they write, in reality its focus is on participation in the economy: "To do this issue justice, a broader and deeper exploration of 'everyday life' practices would be needed." The authors conclude by imagining what might happen if literacy practices, rather than individuals' skills, were "foregrounded" and PIAAC interrogated "a broader range of contexts … probing more deeply into the practices associated with those contexts". This, they suggest, "would provide a broader understanding of how people actually engage with literacy and the ways in which these practices align with other social factors and outcomes".

Also in search of new conceptualisations are *Jay Hays* and *Hayo Reinders* in their article "Sustainable learning and education: A curriculum for the future". The authors introduce *sustainable learning and education* (SLE), which they describe as "an emerging philosophy of learning and teaching founded on principles of sustainability". SLE, they write, is "not education *for* or *about* sustainability" but, rather, it is "sustainable *learning*, a new and different concept … understood as learning that is retained (and may be transferable) after initial exposure to it and may involve a process of 'learning to learn'". More particularly, it involves "ongoing, purposeful, responsive and proactive learning; the learner effectively builds and rebuilds her or his knowledge and skills base as circumstances change". This is a very interesting notion, which resonates strongly with the concept of lifelong learning, particularly in its intention "to instil in people the skills and dispositions to thrive in complicated, challenging and ever-changing circumstances, and contribute to making the world a better place". Hays and Reinders explain the concept and enumerate the principles of sustainability that might guide the design, delivery and evaluation of courses, before proposing a curriculum for SLE framed as a university course or professional development programme.

As the authors note, few courses of the kind proposed have been developed, and learning and education remain "relatively unexplored as expressions of sustainability". Nevertheless, they argue, there is a strong need for them, emerging from the increasing demand for education to not only foster a love of learning, but also equip

[6] Hamilton, M., & Barton, D. (2000). The International Adult Literacy Survey: What does it really measure? *International Review of Education*, *46*(5), 377–389.

learners with "the skills, dispositions and discipline to continually learn and to apply that learning towards ends – innovations – that contribute to long-term global flourishing". Hays and Reinders conclude by arguing that sustainability is "essentially a matter of community", whether community is understood as referring to "our workplace, neighbourhood, nation or planet": "Ultimately, what we do as individuals and collectives impacts others at some level of community. If we cared more about those communities we do not see and experience every day, including future generations, we might also think more deeply about our actions and their consequences … We must learn (and change) now and into the future".

"Literacy for self-reliance: A critical exploration of Nyerere's legacy in Tanzanian education policies", by *Kapil Dev Regmi*, *Samuel Andema* and *Marlene Asselin*, is also rooted in the challenges of sustainability. The authors contrast the need for stronger international connections and cooperation to deliver the 17 Sustainable Development Goals (SDGs) of the United Nations' 2030 Agenda with the troubling rise in nationalism and protectionism in countries such as the United States and the United Kingdom. In this context, the authors write, "Julius Nyerere's *education for self-reliance* (ESR) philosophy, which aimed at achieving sustainable development using Tanzania's own resources (rather than through development aid from foreign donors), has again gained traction among scholars and policymakers". Nyerere believed that Tanzania could achieve self-reliance "through state investment in socio-economic production and education". Unhappily, while his presidency was marked by some significant developments in education, notably in adult education and literacy, economic and political shocks meant that Tanzania "was obliged to create an investment-friendly climate for foreign donors in several sectors, including education".

Regmi, Andema and Asselin critically analyse key education policy documents produced by Tanzania and its development partners from independence to the present day, with a particular focus on literacy, with a view to evaluating the extent to which "literacy for self-reliance" has been included in national education policies and the extent to which it remains relevant to literacy education. Nyerere believed that literacy should help people "think clearly" and enable them "to examine the possible alternative course of action" and "translate their decisions into reality" (Lema et al. 2004, p. 134).[7] The authors' analysis shows that, even though ESR is mentioned in literacy policies, the term "self-reliance" has acquired new connotations: *literacy* is understood as comprising students' abilities in basic reading, writing and arithmetic; and current literacy initiatives are designed to prepare Tanzanians for work rather than empowering rural communities for sustainable development. This attenuated vision of literacy education reflects, of course, the wider drift away from broader, humanistic appreciations of education towards more economic, instrumental interpretations. However, as the authors argue in concluding, the obvious challenges in achieving the SDGs through donor aid, notably the retreat of some donor countries into political isolationism, mean that now is perhaps a good time to revisit Nyerere's ideas and re-evaluate his legacy in Tanzania.

[7] Lema, E., Mbilinyi, M.J., & Rajani, R. (Eds) (2004*). Nyerere on education: Selected essays and speeches.* Dar es Salaam: The Mwalimu Nyerere Foundation.

Self-reliance and autonomy are important concepts also in the development of open and distance learning. The advent of massive open online courses (MOOCs) carried for many commentators the promise of a form of learning that was free, flexible, open and democratic, and that had the potential to widen access to higher education in significant ways. However, as *István Danka* points out in his article entitled "Motivation by gamification: Adapting motivational tools of massively multiplayer online role-playing games (MMORPGs) for peer-to-peer assessment in connectivist massive open online courses (cMOOCs)", while enrolment in "connectivist" MOOCs (MOOCs that emphasise a collaborative approach to learning) is high, completion rates are extremely low, and courses often "lack an appropriate method of evaluating learning progress and motivational resources". The fact that a large proportion of MOOC learners do not finish their courses points to motivation being a central problem for MOOCs in their current design and conceptualisation. In his thoughtful account, Danka suggests that one way of addressing the problem is through adapting motivational formative assessment tools used in massively multiplayer online role-playing games – or MMORPGs. He notes in particular three motivational characteristics of online role-playing games: character generation and the process of identity construction; constant progress monitoring and instant feedback through "experience points" and the "levelling up"; and interactive progress via user-defined goals, characterised by a high degree of collaboration.

Danka supports the principles of *connectivism*, which characterise most MOOCs, and particularly the democratic principles of *autonomy*, *diversity*, *openness* and *interactivity*, which, he argues, represent the "best scenario for fruitful peer-to-peer connections". And although these principles may be considered problematic in that learners participating on this basis do not always seem motivated to stay (on) the course, he contends that some motivational characteristics of MMORPGs can be effectively incorporated into cMOOCs without compromising connectivist principles. In particular, the article points to the potential of MMORPGs' formative, peer-to-peer assessment as a solution to the problem of motivation, arguing that while assessment may, on the face of it, seem incompatible with connectivism, the incompatibility can be dissolved if assessment is "understood in a connectivist spirit". Danka does not suggest that gamification is the only or best way to address the motivational problem with MOOCs, but he does demonstrate that there is a great deal of scope here for further research and reflection. While some of the early enthusiasm about MOOCs has been replaced with scepticism, or at least a more modest sense of ambition, this article indicates that there is still rich potential to be tapped, if we are prepared to think a little differently.

"The potential of Accelerated Learning Programmes (ALPs) for conflict-ridden countries and regions: Lessons learned from an experience in Iraq", by *Moritz Bilagher* and *Amit Kaushik*, also considers student engagement in learning, but from a quite different perspective. The article examines the Iraq Accelerated Learning Programme (ALP), set up in 2005 by the Government of Iraq, in partnership with the United Nations Children's Fund (UNICEF), to provide a "fast-track second-chance opportunity to complete formal education" to excluded children and young people. The programme aimed to give 50,000 "out-of-school, often traumatised and disenfranchised" children aged between 12 and 18 years, whose education had been

disrupted by conflict, an opportunity to complete the six-year primary education cycle in three years and move on to further general education, vocational training or work. Bilagher and Kaushik discuss the findings of an evaluation of the programme conducted in 2008, drawing out lessons that could apply to other conflict-ridden countries and regions.

The evaluation data imply that the programme addressed a significant need and that it was appreciated by the target group, with 75 per cent of learners stating that they "liked it very much" and a further 18 per cent saying they "liked it". Around 90 per cent of ALP graduates either continued in secondary education, or were otherwise studying in other programmes, engaged in an apprenticeship scheme or in employment. Interestingly, both survey and interview data suggest that the Iraq ALP did more than create educational opportunities for young people, important though this is. It also enabled them to obtain a "confident perspective for their own future in their own country". As most educators will recognise, a sense of hope for the future can be critical in engaging learners, particularly those who are most vulnerable and disadvantaged. The job of education is to offer such learners "resources of hope", in Raymond Williams' glorious phrase.[8] As the authors note, it can also be key in making young people less vulnerable to participation in extreme or "subversive" activities, such as joining militias. This finding and the other data on the Iraq programme suggest that interventions such as this one have the potential to impact very positively on the lives of young people in conflict-affected countries.

As this article indicates, the moment in which we live is one of acute challenge and, for very many people, hopelessness. Migration and the forced displacement of large numbers of people are putting unprecedented strain on public services, including education, while creating populations that are more diverse. The technological revolution, including the development of artificial intelligence, increased automation and the wide use of information and communications technology (ICTs), is changing the world of work and redrawing social boundaries, while posing new ethical questions concerning access, scrutiny and control. And the climate crisis is forcing us to reconsider the way in which we live, and question the principle of endless economic growth and our tolerance of appalling levels of injustice and inequality. We need to create a "new normal", both in education and in wider society; something more than a sophisticated way of maintaining our change-resistant status quo.

This is why the work of UNESCO's Futures of Education commission[9] is so critical and why so much is expected of it. It coincides with and should inform the increased policy attention that has been given to lifelong learning since it emerged as a crucial dimension of the fourth Sustainable Development Goal (SDG 4), which concerns education. Critically, the commission needs to create a space in which people feel empowered and inspired to disrupt and resist, to be imaginative and open, and to create something new and different. It is to be hoped that that the commission's ambitions prove equal to the challenge, and that the outcomes command greater and more sustained interest than did those of its predecessors,

[8] Williams, R. (1989). *Resources of hope*. London: Verso.

[9] For more information, visit https://en.unesco.org/futuresofeducation/ [accessed 4 February 2020].

the commissions headed by Edgar Faure and Jacques Delors. As the founders of UNESCO, and the progenitors of the adult education movement in Germany and the United Kingdom understood, the purpose of education cannot be reduced to the creation of productive economic units. Its purpose is, rather, to foster the development of a better society – a *learning* society in which people are empowered to change the future instead of being prepared for a future they did not choose and cannot control.

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ORIGINAL PAPER

Literacy practices and the Programme for the International Assessment of Adult Competencies (PIAAC): A conceptual critique

Kristen H. Perry[1] · **Donita M. Shaw**[2] · **Sara Saberimoghaddam**[1]

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Abstract

The Programme for the International Assessment of Adult Competencies (PIAAC) assesses key skills in literacy, numeracy and problem-solving in technology-rich environments, as well as their relationship to other social outcomes for adults. PIAAC's developers claimed to better account for adults' literacy practices than earlier international studies such as the International Assessment of Literacy Study (IALS). Through the sociocultural lens of literacy as social practice, the authors explore the tension between PIAAC's cognitive orientation and its attempt to factor in meaningful literacy practices. Specifically, they analyse PIAAC's conceptualisation of *literacy practices* as instantiated in the background questionnaire given to adult participants. They conclude that PIAAC's conceptualisation does not align well with current theoretical understandings of literacy practice, as evidenced by (1) its conflation of several key literacy terms, including *text, genre* and *practice,* and (2) its erasure of *context, purpose* and *social interaction* from literate practice. Thus, the authors found considerable room for improvement in the assessment of adults' actual literacy practices.

Keywords Adult literacy · assessment · Programme for the International Assessment of Adult Competencies (PIAAC) · literacy practices

✉ Kristen H. Perry
kristen.perry@uky.edu

Donita M. Shaw
donita.shaw@okstate.edu

Sara Saberimoghaddam
ssa338@g.uky.edu

[1] Department of Curriculum & Instruction, College of Education, University of Kentucky, Lexington, KY, USA

[2] College of Education, Health and Aviation, School of Teaching, Learning and Educational Sciences, Oklahoma State University-Tulsa, Tulsa, OK, USA

Résumé
Les usages de la littératie et le Programme pour l'évaluation internationale des compétences des adultes (PIAAC) : une critique conceptuelle – Le Programme pour l'évaluation internationale des compétences des adultes (PIAAC) évalue des compétences clés en littératie, en numératie et concernant la résolution de problèmes dans des environnements technologiques, ainsi que ce qui en résulte pour les adultes au sein de la société. Les concepteurs du PIAAC affirmaient que leur programme prenait mieux en compte les usages que faisaient les adultes de la littératie que d'autres études internationales antérieures comme, par exemple, l'Enquête internationale sur la littératie des adultes (IALS). À travers le prisme socioculturel de l'usage social de la littératie, les auteurs se penchent sur le décalage entre l'orientation cognitive du PIAAC et la tentative de ce dernier de prendre en compte des usages utiles de la littératie. Ils analysent particulièrement la conceptualisation du PIAAC concernant les *usages de la littératie* tels qu'ils sont exemplifiés dans le questionnaire de référence remis aux participants adultes. Ils concluent que la conceptualisation du PIAAC est mal adaptée aux notions théoriques actuelles concernant l'usage de la littératie ainsi que le démontrent (1) l'amalgame qu'il fait de plusieurs termes clés de la littératie, y compris des mots *texte*, *genre* et *usage*, et (2) sa suppression du *contexte*, du *but* et de l'*interaction sociale* de l'usage de la littératie. Ainsi les auteurs ont-ils constaté qu'il y a largement matière à améliorer l'évaluation des usages concrets de la littératie.

Introduction

After several years of conceptualisation, the Organisation for Economic Cooperation and Development (OECD) conducted the first round of its Programme for the International Assessment of Adult Competencies (PIAAC) in 2008–2013. PIAAC builds upon earlier comparative international adult assessments, such as the International Adult Literacy Survey (IALS), which assessed literacy and numeracy skills in the adult population, and the Adult Literacy and Life Skills Survey (ALL), the "fundamental goal" of which was "to shed new light on the twin processes of skill gain and loss" (Statistics Canada and OECD 2005). These two assessments defined literacy as

> a particular capacity and mode of behaviour: the ability to understand and employ printed information in daily activities, at home, at work, and in the community – to achieve one's goals and to develop knowledge and potential (PIAAC Literacy Expert Group 2009, p. 8)

To "meet both the descriptive, expansive, and linking criteria it wanted for PIAAC", the Literacy Expert Group "expanded and re-ordered" (ibid.) the IALS/ALL definition, taking the view that literacy comprises

> *understanding, evaluating, using and engaging with written texts to participate in society, to achieve one's goals, and to develop one's knowledge and potential* (ibid.; italics in original).

Beginning with IALS, which was conducted from 1994–1998, comparative international adult literacy assessments have attempted to better account for how adults use literacy and its variances in a variety of contexts. IALS proposed an intermediary model of literacy that accounted for both universal and culturally specific literacy (Boudard and Jones 2003), although it is questionable whether such a model is possible (Perry et al. 2017).

ALL, which was conducted in two rounds between 2003 and 2008, took up this project by measuring both literacy and numeracy skills of nationally representative samples of 16- to 65-year-olds in several participating countries. The intent of ALL was to provide participating countries with information regarding various skills among their adult populations (NCES n.d.-a).

PIAAC's developers argued that assessment of engagement in literate activities must accompany cognitive assessments (PIAAC Literacy Expert Group 2009). Towards this end, they expanded on definitions of literacy previously used in IALS to include various text types, a variety of contexts and an acknowledgement of purpose (Rampey et al. 2016), while also designing assessment tasks that are

> authentic, culturally appropriate, and drawn from real-life situations that are expected to be important or relevant in different contexts (Goodman et al. 2013, p. 1).

Andreas Schleicher (2008) claimed that PIAAC differed significantly from its predecessors because it used a background questionnaire to gather contextual data and information on socio-economic outcomes and practices in order to better understand the actual impact of skills. Indeed, this focus on practices represented a major step forward from previous assessments (Carpentieri 2015). However, Ralf St. Clair has argued that

> the claim that this is a robust indicator of an individual person's complex multi-layered set of literacy practices has never been fully discussed and must be treated with caution (St. Clair 2012, p. 773).

Importantly, as he points out, PIAAC's conceptualisation of *literacy* rests upon assumptions that

> literacy is based on a set of cognitive attributes that allow people to extract information accurately from instrumental texts (ibid., p. 771).

Despite the efforts that went into its design, PIAAC's emphasis on information-processing skills, along with the components targeted by reading tasks (e.g. Sabatini and Bruce 2009), highlight a definition of literacy that only includes specific aspects of reading. As St. Clair (2012) noted, this conceptualisation omits significant forms of literacy, such as writing and literary uses of language. It also ignores nearly four decades of research grounded in sociocultural perspectives that has illustrated the rich, meaningful and myriad ways in which individuals and communities use literacy to participate in society and achieve goals (e.g. Barton and Hamilton 1998; Heath 1983; Street 1984).

Assessments such as PIAAC are neither purely objective scientific measures nor independent of the context in which they were developed (Gorur 2017; Guadalupe 2017). In addition to being technical instruments, these assessments are also sociological phenomena and political events (Gorur 2017) that reflect "other interests, views, and political or commercial agendas, etc. that are promoted by different agents" (Guadalupe 2017, p. 333). PIAAC and its predecessors were influenced by the efforts of the OECD and the World Bank to link education to concepts such as "manpower", human capital, and national and global productivity (Gorur 2017). PIAAC's four competency domains – reading, reading components, numeracy and problem-solving in technology-rich environments (PS-TRE) – reflect a "vocational discourse" (Hamilton 2012, p. 31) or a belief that these skills facilitate economic and social participation in advanced economies (Goodman et al. 2013; Schleicher 2008; St. Clair 2012). Indeed, its developers claim that PIAAC offers "a far more complete and nuanced picture of the stock of human capital than has yet been available to policy-makers in most countries" (Goodman et al. 2013, p. 630). These models imply a simple, direct relationship between literacy and economic development, although much research has shown that this relationship is complex and includes many other factors (Hamilton 2012). César Guadalupe (2017) criticised what he regards as a simplistic conception of the relationship between literacy and economic well-being and ethnocentric notions about appropriate benchmarks for measuring skills, concluding that the OECD's testing agenda promotes a narrow and politicised view of education and literacy.

It is certainly worth trying to assess the skills levels and other proficiencies of individuals and groups. However, reading and writing do not occur in a vacuum (Kirsch 2001). Indeed, research has consistently demonstrated that practices vary significantly depending on context, social activity, the reasons for engaging with a text (Grotlüschen et al. 2016; Guadalupe and Cardoso 2011; Perry 2012; Purcell-Gates et al. 2011; Smith 2000), or the individual's role within a particular literacy event (Karlsson 2009). Cecil Smith (2000), for example, found that adults' reading practices differed significantly depending on context and occupation. Distinct reading practices occurred in work and home contexts, related to different texts and purposes for reading. For example, extended reading was more likely to happen at home, while adults in professional jobs typically quick-read shorter texts at work. The connection to purpose was even more predominant in research the first author of this article conducted with Sudanese adults (Perry 2009). She found that many literacy brokering events involved helping participants to understand the purpose of or use for a text – for example, how to use coupons, or why a parent should sign a permission form from school. In their study of literacy practices among adults with little or no prior schooling, she and Annie Homan concluded that

> what is important here is the emphasis on *purpose*, indicating the agentive ways in which participants … choose which literacy practices are meaningful in which to engage (Perry and Homan 2015, p. 445; italics in original).

Anna-Malin Karlsson's (2009) research found that a variety of literacy practices occurred in workplaces, but the nature of those practices depended on the role of the worker and their place in the organisation. Different types of organisations

determined whether workers were predominantly seen as producers or recipients of texts.

In the United States, research in adult literacy typically emphasises the importance of cognitive skills and their connection to literacy proficiency and other outcomes (Perry et al. 2017, 2018), although some research has demonstrated the ways in which literacy practices affect outcomes (Grotlüschen et al. 2016; Reder 2009). For example, Anke Grotlüschen et al. (2016) found that engagement in reading practices at work better predicted earnings than did reading proficiency scores, even after controlling for demographics, educational attainment, occupation and other variables. Stephen Reder's research demonstrated that, while participation in adult literacy education programmes has a limited effect on literacy *proficiency*, there is a "strong relationship between program participation and changes in *practices*" (Reder 2009, p. 41; italics in original). Moreover, Reder's *practice engagement effect* shows that increased engagement in literacy practices leads to increased proficiency, rather than the other way around. Given the practice engagement effect, a more careful understanding and treatment of literacy practices in research and assessment is needed in order to truly understand adult literacy proficiency.

Wondering if approaches to literacy practices generated by the New Literacy Studies (NLS)[1] are being "swept away" by large-scale assessments, Grotlüschen, Thériault et al. (2019) propose exploring such assessments through a combination of NLS and quantitative approaches. Recent analyses have done just that, for example identifying different subgroups of adults based on their frequency of engagement in particular literate activities (Nienkemper and Grotlüschen 2019) or the relationship of poverty and indebtedness to everyday numeracy practices (Grotlüschen, Buddeberg et al. 2019). Thus, understanding PIAAC's conceptualisation of literacy practices is particularly important as researchers begin to use PIAAC datasets to explore the relationships between skills, practices and other outcomes.

In this article, we explore the tension between PIAAC's cognitive orientation and its developers' attempt to account for respondents' meaningful literacy practices. Specifically, we analyse PIAAC's conceptualisation of *literacy practices* as it is instantiated in the background questionnaire, in order to answer this question:

> *How does PIAAC's treatment of literacy practices align with sociocultural perspectives on literacy as a social practice, or with genre theories?*

After outlining conceptualisations of literacy practices, we describe two particular issues we identified with respect to literacy practices in PIAAC, and then discuss the main implications of these findings.

[1] In a nutshell, New Literacy Studies (NLS) refers to perspectives that view literacy as a social practice (Barton and Hamilton 1998; Street 1984). In other words, literacy is not simply a skill that individuals possess, but is rather viewed as something that "people do, as part of social interactions, as multimodal, and as situated in complex and layered social contexts" (Grotlüschen, Thériault et al. 2019, p. 1).

Conceptualisations of literacy practices

Grounded in Vygotskian conceptualisations of mediated social activity (Vygotsky 1978; Wertsch 1981),[2] theories of *literacy as social practice* propose that literacy is a cultural tool used purposefully to accomplish particular social goals. Thus, literacy is always situated within social and cultural contexts, as well as being contextualised by power relationships and ideologies (e.g. Barton and Hamilton 1998; Heath 1983; Purcell-Gates et al. 2011; Street 1984). Literacy goes beyond cognitive skills and encompasses what people do with texts, their purposes and the contexts in which they engage with those texts. In other words, *whether, when*, *how* and *why* people engage with texts is shaped by *context.*

Textual *genres*[3] themselves represent socially constructed practices that are intimately tied to real-world contexts and the purposes for and uses of texts in those contexts (Askehave and Swales 2001; Bakhtin 1986; Miller 1994a, 1994b). Victoria Purcell-Gates et al. (2011) combined perspectives on literacy as social practice with genre theories to better explain what happens when adults engage with texts. They considered the genre, the immediate communicative function in reading or writing the text and the larger social purpose of doing so. They also posited that we cannot think about genres or literacy without also considering the purposes for which texts are used and the wider contexts in which those uses occur.

Cognitively oriented literacy scholars also acknowledge that *context* plays a role in real-world literacy use and proficiency. In our previous reviews of functional literacy research (Perry et al. 2017, 2018), we noted that the role of context was discussed frequently in cognitively oriented scholarship, as researchers referred to "contextualised skills" or how adults apply skills in particular settings. What readers and writers do with texts is also accounted for by some cognitive perspectives. Sheida White's task-text-respondent (TTR) theory of functional literacy, for example, includes *tasks* – "goals [that] may be connected to significant personal consequences" (White 2011a, p. 244) – as a fundamental element of adult literacy proficiency. However, White acknowledges that her TTR theory

> views the performance of real-world tasks exclusively through the lens of linguistic and cognitive processes. Therefore, the theory cannot account for the variability in performance that occurs as a result of a host of social, political, and other such contextual factors (White 2011b, p. 173).

The cognitive and sociocultural theoretical lenses thus show context and literacy practices in fundamentally different ways. Unlike sociocultural perspectives, which emphasise the role of practices in explaining literacy phenomena, cognitive perspectives show practices as having less importance or relevance than skills.

[2] Russian psychologist Lev Vygotsky's idea was that human thinking and social activity are mediated by various psychological tools, one of which is language.

[3] "Genre" refers to the type of text being read or written (e.g. letter, news article, novel, questionnaire etc.).

Few research studies, and even fewer assessments, have reconciled or attempted to integrate cognitive and sociocultural perspectives on literacy and literacy practices. Scholars have offered various critiques of both perspectives, especially as related to adult literacy assessment. White's use of the word "task" (White 2011b), shown above, illustrates a common sociocultural critique: assessments conflate *practice* with *task* (Barton and Hamilton 2000; Street 1996). Cognitive perspectives on practices tend to ignore the social, cultural and political aspects of context that sociocultural perspectives view as crucial in understanding literate practice. Indeed, Mary Hamilton argued that culture and context are distracting variables in assessments and that the ways in which a text is actually used cannot necessarily be inferred from the text itself (Hamilton 2012; Hamilton and Barton 2000).

Similarly, quantification processes reinforce the conflation of *literacy* with *reading,* because writing skills introduce messy complications to literacy assessments (Hamilton 2012). Our prior work demonstrated that adult literacy assessment continues to be dominated by several fundamental "ofcoursenesses" (taken-for-granted assumptions), including the idea that cognitive processes are the only legitimate explanations for literacy phenomena, and the fact that writing is largely absent from assessment (Perry et al. 2018). While sociocultural critiques have merit, literacy practices are not easily standardised or measured (ibid.) and "alternatives have not been proposed that are practical for use on a large scale" (Reder 2009, p. 36). Accounting for literacy practices in a way that is theoretically sound while also methodologically feasible for standardised data collection on a large, international scale is clearly a formidable task (Guadalupe and Cardoso 2011).

Literacy practices and PIAAC

Methodology

Our evaluation of PIAAC's conceptualisation of literacy practices emerged from a larger research project in which we investigated the relationship between specific literacy practices and demographic factors captured in the background questionnaire to skills scores. Theoretical and conceptual struggles led us to question how PIAAC was conceptualising literacy practices and to evaluate its claim to better account for literacy practices than prior international literacy assessments (Goodman et al. 2013; PIAAC Literacy Expert Group 2009). PIAAC's background questionnaire (NCES n.d.-b; OECD 2010) asked adults how frequently they engaged in various tasks in the domains of reading, writing, and information and communication technologies (ICTs) in two settings: *work* and *everyday life* (see Table 1). Using a Likert-type scale ranging from *never* to *every day*, participants indicated how frequently they engaged in a variety of practices, referred to as "skills use". In addition, portions of the questionnaire provided information on "individuals' labour market status, health status, and behaviours relevant to citizenship and social capital" (Schleicher 2008, p. 641). For this analysis, we used the background questionnaire items on reading, writing and ICTs listed in Table 1. We evaluated the questionnaire items in relation to genre theories and theories of literacy as social practice.

Table 1 Background questionnaire items related to literacy practices

	Work	Everyday Life
Reading	In your job/last job, how often do/did you usually read: • directions or instructions • letters, memos or e-mails • articles in newspapers, magazines or newsletters • articles in professional journals or scholarly publications • books • manuals or reference materials • bills, invoices, bank statements or other financial statements • diagrams, maps or schematics	In your everyday life, how often do you usually read: • directions or instructions • letters, memos or e-mails • articles in newspapers, magazines or newsletters • articles in professional journals or scholarly publications • books, fiction or non-fiction • manuals or reference materials • bills, invoices, bank statements or other financial statements • diagrams, maps or schematics
Writing	In your job/last job, how often do/did you usually write • letters, memos or e-mails • articles for newspapers, magazines or newsletters • articles for professional journals or scholarly publications • reports • fill in forms	In your everyday life, how often do you usually write • letters, memos or e-mails • articles for newspapers, magazines or newsletters • articles for professional journals or scholarly publications • reports • fill in forms
Information and Communication Technologies	In your job/last job, how often do/did you usually: • use e-mail • use the Internet in order to better understand issues related to your work • conduct transactions on the Internet, for example buying or selling products or services, or banking • use spreadsheet software, for example Excel • use a word processor, for example Word • use a programming language to program or write computer code • participate in real-time discussions on the Internet, for example online conferences or chat groups	In your everyday life, how often do you usually: • use e-mail • use the Internet in order to better understand issues related to, for example, your health or illnesses, financial matters or environmental issues • conduct transactions on the Internet, for example buying or selling products or services, or banking • use spreadsheet software, for example Excel • use a word processor, for example Word • use a programming language to program or write computer code • participate in real-time discussions on the Internet, for example online conferences or chat groups

Source: OECD (2010)

Analysis

Our analysis showed that while PIAAC has, indeed, made some progress in addressing literacy practices, its treatment is not well aligned with theories of literacy as social practice or sociocultural perspectives on genre. Our analysis focuses on two central findings: (1) PIAAC's conflation of literacy practices concepts, and (2) the questionnaire's erasure of context, purpose and social interaction.

Conflation of concepts

As we attempted to develop a theoretical model for our analysis, we observed that the items in the background questionnaire, while seemingly parallel, exhibited important conceptual differences. The wording of the questions reflects an overall conflation of several constructs, such as *text*, *genre* and *practice,* at least as understood within the frameworks of genre and literacy as social practice.

First, we observed that questions related to reading and writing for both work and everyday life focus on the texts being read or written, such as directions/instructions, e-mails or books. However, when we consider texts from the theoretical perspective outlined by Purcell-Gates et al. (2011), it is clear that this treatment of texts is problematic. Theoretically, the *genre* of a text (as indicated by its social purpose and essential features) is distinct from the *form* of the text (or its material form). As an example, the genre of a *recipe* could occur in the form of a book (in a cookbook), notecard (in a recipe box) or online (on a cooking website). Conversely, the form of a *book* could hold any number of different genres, such as recipes (cookbook), maps (atlas), novels or poems, etc. Thus, while questions about different types of texts such as "directions or instructions" or "diagrams, maps or schematics" help to isolate the actual genres used by participants, other items such as "books" are frustratingly vague; they indicate the physical form of a text, but not *what* people actually read.

Another problematic conflation occurred between texts and associated practices. As previously indicated, nearly every item in the reading and writing categories concerned a *text* (in terms of either genre or form). Only one item in the writing category – "fill in forms" – specified the type of writing (providing short responses). Asking only about a text implies the erroneous assumption, highlighted by Mary Hamilton and David Barton (2000), that what people do with a text can be inferred from the genre or form of that text. For example, the first author of this article currently reads different books in her everyday life, and for a variety of purposes. These include mystery novels for relaxation/entertainment, cookbooks for trying out new baking techniques, and informational books on being a better parent. None of these practices would be captured by asking simply about a text. By contrast, nearly every question in the ICT section included a more specific verb. This allows for greater differentiation in the nature of engagement with texts. For example, the ICT-related questions asked how frequently participants "conduct transactions on the Internet" or "participate in real-time discussions on the Internet". From a theoretical

standpoint, the ICT section represents a significantly different approach to literacy practices compared to the sections on reading and writing.

To complicate matters even further, some of the questionnaire items included a *purpose* for reading or writing. With respect to ICTs, the questionnaire asked participants how often they "conduct transactions on the Internet, for example *buying or selling products or services, or banking*" (emphases added). Other ICT items did not mention texts at all (e.g. "use a word processor, such as Word"). Software differs fundamentally from text in terms of literacy practice. For example, when we use Excel, we are likely to read or create a variety of different genres, such as budgets, spreadsheet overviews to keep track of applicants to our graduate programmes, or graphs to visually represent data. Similarly, we may use Word to write research articles, record meeting minutes, or provide feedback on students' assignments. Such questionnaire items, therefore, tell us almost nothing about the actual text or the purpose for which it was used.

To better understand the types of questionnaire items, we categorised them by the level of literacy practice represented by each item (text-only, text + purpose, or digital application only). The ICT-related items are italicised (see Table 2). As Table 2 shows, all items in the reading and writing sections ask only about texts. The ICT-related items, by contrast, include purposes and differentiate between simple reading and writing of texts. It is worth noting that the questions about technology use more closely reflect literacy practices as understood by theories of literacy as a social practice than do the questions about reading and writing.

Our analysis also called into question the distinction between reading, writing, and use of ICTs. These categories are treated as distinct in the questionnaire, but in fact, they overlap. Many of the items in the reading and writing sections could easily include ICTs, and vice versa – a lack of differentiation also noted by Barbara Nienkemper and Anke Grotlüschen (2019). Indeed, the reading and writing sections ask about the text genre *e-mails*, while "use e-mail" is the very first item in the ICT sections. Many of the items in the reading and writing sections – such as directions, articles in newspapers or bills – are texts that can take a variety of material forms, including digital forms. For example, we variously receive bills on paper, via e-mail, and through our banks' smartphone interfaces. Conversely, the practices reflected in the ICT questions could conceivably encompass a variety of genres. For example, someone who uses "the Internet in order to better understand issues related to [their] work" could be reading a news article, a government report, a chart or graph, or any number of other genres. PIAAC's distinction between reading/writing and use of ICTs seems to be rather inadequate, at least in relation to literacy practices.

Erasure of context and social interaction

The finding that none of the reading and writing items include purpose indicates the limited treatment of actual literacy practices in the questionnaire. Other important elements of literacy practices are also treated in a limited way, such as context and related social interactions.

Table 2 Background questionnaire items categorised by level of literacy practice. ICT-related items are italicised

Text-only	Text + purpose	Digital application only
• Directions or instructions • Letters, memos or e-mails • Articles in newspapers, magazines or newsletters • Articles in professional journals or scholarly publications • Books • Manuals or reference materials • Bills, invoices, bank statements or other financial statements • Diagrams, maps or schematics • Reports • Fill in forms	• *Use the Internet in order to better understand issues related to your work* • *Conduct transactions on the Internet, for example buying or selling products or services, or banking* • *Use a programming language to program or write computer code* • *Participate in real-time discussions on the Internet, for example online conferences or chat groups*	• *Use e-mail* • *Use spreadsheet software, for example Excel* • *Use a word processor, for example Word*

The questionnaire categorises reading, writing and use of ICTs according to two locations: work and everyday life. The question items in both categories are almost identical; only the item asking about books differs (the item under "Everyday Life" adds the differentiation of "fiction or non-fiction"). While the near-identicality of the items was likely assured for standardisation purposes, it effectively erases meaningful differences in practices that might occur in both contexts. For example, it is highly unlikely that most people write reports in their everyday lives at home, but other genres of writing, such as journal entries or blog posts, might be used quite frequently. The identical items also illustrate the ways in which the questionnaire places emphasis on *location* (home or workplace) rather than *social activity domain* (leisure or work-related). For example, items that ask about reading "articles in professional journals" as part of everyday life are actually about *work* and not about *everyday life.* Purcell-Gates et al. (2011) used the social activity domain rather than location to indicate that people might engage in practices for one area of their lives, but in a variety of locations. For example, many teachers grade assignments at home, which means they engage in the social activity of work in their homes. Similarly, an adult who participates in a Bible study group during her lunch break at work is engaging in a social activity related to religion, but in the workplace as opposed to at church.

While the categories of work and everyday life reflect a dichotomy observed in other adult literacy research (e.g. Smith 2000), they are a limited representation of the various contexts in which literacy is practised and the different ways in which those practices occur. Indeed, the category of "Everyday Life" is quite vague, essentially lumping together and "render[ing] less visible" (Hamilton 2017, p. 286) many contexts and domains in which literacy might be practised. Other research has identified a variety of life domains that contextualise literacy practices (e.g. Barton and Hamilton 1998; Purcell-Gates et al. 2011), such as community, spirituality/religion, health, family care and entertainment, among others. Literacy practices as construed in the questionnaire do not include the meaningful practices that occur in those contexts. Not only are the everyday life items limited, but they replicate the same texts and practices as the work context, indicating the much more privileged place of work practices in this assessment.

It is difficult to determine the exact number of items in the background questionnaire, as questioning routes depend, in part, on prior answers from participants. The numbers represented in Figure 1 should, therefore, be interpreted with some caution, although they are broadly indicative of the proportions of various topics. As Figure 1 indicates, the bulk of the background questionnaire focuses on employment and employment-related items, such as job training and wages. Of course, the questions about employment are an attempt to account for the complexity of work contexts. Yet, even questions that are ostensibly about other areas of life, such as education, are ultimately connected back to work. Some question items ask, for example, whether educational experiences were useful in work and whether employers had paid for any educational opportunities.

Some items in other areas of the questionnaire indirectly refer to literacy practices. For example, respondents were asked whether they had placed or searched job advertisements as part of seeking work. In fact, because it includes both genre

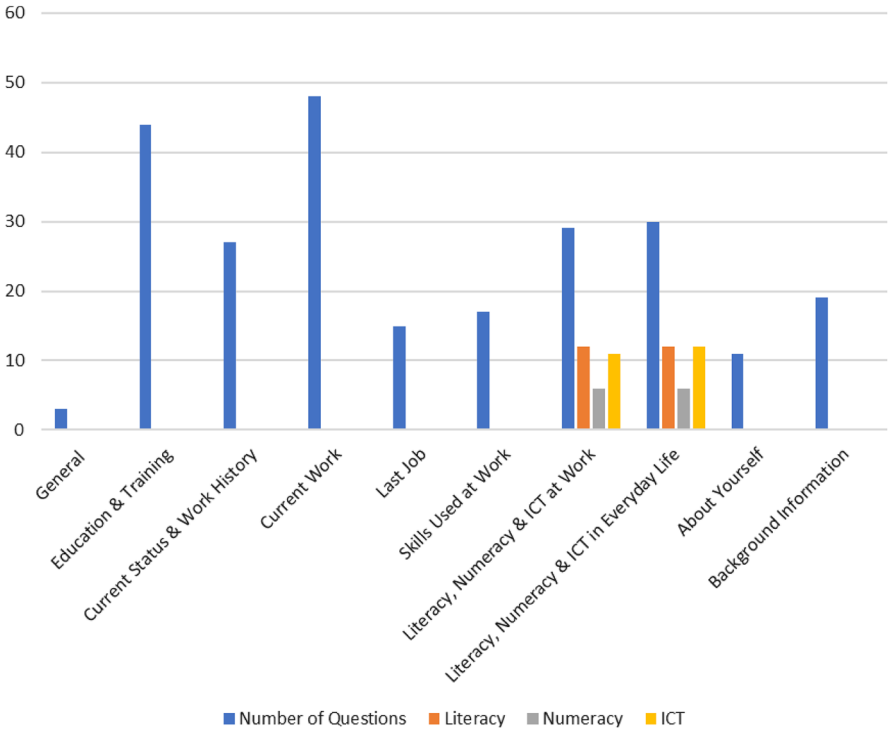

Figure 1 Number of items per category in the PIAAC background questionnaire

and purpose, this non-literacy practice item actually aligns much more closely with the theory of literacy as social practice than do the items intended to assess literacy practices! Other questions concerned work-related behaviours that are clearly related to literacy practices, such as making speeches or presentations, or instructing and training others. Still others referred to specific everyday life practices, such as volunteering, political participation and general health. One item in the section entitled "About yourself" asked,

> In the last 12 months, how often, if at all, did you do voluntary work, including unpaid work for a charity, political party, trade union or other non-profit organisation? (OECD 2010, p. 104).

This is a fairly specific area of everyday life that might include a significant body of literacy practices, such as answering e-mails, creating newsletters or researching relevant topics online. Yet, despite the detailed attention devoted to paid work and its associated literacy practices, no specific questions are asked about voluntary work as a literacy practice – indeed, this item is the only one in the questionnaire that asks about this domain of everyday life. According to the theory of literacy as social practice, these contexts and areas of life are essential to fully understanding literacy use. Yet, questions addressing these contexts are few, and entirely separated from

questions that directly ask about literacy use. These items reflect PIAAC's view of texts/genres and actual practices as separate, rather than integrated.

Although the domain of work dominates much of the background questionnaire, this area is not without problems. Emphasising the *literacy role,* or "the positions of participants in literacy events construed through their reading and writing" (Karlsson 2009, p. 56), Karlsson's research examined how workplace organisation related to the functions of reading and writing in different occupations; for example, whether an employee was viewed as predominantly a producer or a recipient of a text depended on their place within the organisation. Interestingly, PIAAC's background questionnaire does capture this aspect of the participant's work experiences. Individual items in the "Skills used at work" section ask about the amount of time spent in planning the employee's own activities, planning the activities of others or organising their own time. Yet, these items are not connected to literacy practices. Similarly, items about how often participants "share work-related information with co-workers" or about "selling a product or selling a service" offer clear connections to literacy practices, but are disconnected from literacy as represented in the questionnaire.

In addition to context, social interaction, not surprisingly, is a significant aspect of both genre theories and the theory of literacy as *social* practice. Karlsson's (2009) research illustrated the relational and interactive nature of most workplace literacy practices. For example, a truck driver's work-related writing might be limited to documentation such as keeping delivery or fuel logs. The driver would thus be positioned largely as a recipient of texts from the company, rather than a producer of them. By contrast, the driver's supervisor might read a wider range of work-related texts, and be responsible for designing the record-keeping forms used by the driver, and might also be using the driver's records to produce written reports or other texts for the company. Karlsson concluded that "our prototypical understanding of reading and writing as separate, solitary, and sequential activities has little validity" (ibid., p. 66).

Our analysis of PIAAC's background questionnaire, however, showed little evidence of the interactive nature of literacy practices or the differing roles that participants might take within those practices. PIAAC's background questionnaire is intended to be used with individuals, as is the skills assessment. The wording of most literacy practices items implies that the participant uses texts in isolation. Only one ICT-related question implies the interactive nature of a potential literacy practice: "participating in real-time discussions on the Internet" such as in chat groups or instant messaging. The only section of the background questionnaire to specifically address interaction was the final section, intended for the researcher only. Entitled "General information to be derived after the interview" (OECD 2010, pp. 117–118), this section asks the administrator to indicate whether anyone else was present during the background interview and whether that person assisted the respondent. Similarly, the administrator is required to indicate whether the respondent had any conversations with others in the household – for example, answered a phone call, a text message or an e-mail – or were interrupted by other household activities. These items imply that PIAAC views

interaction as problematic; as a distraction or as interfering with the validity of other responses.

Discussion

In response to our own question, "How does PIAAC's treatment of literacy practices align with sociocultural perspectives on literacy as a social practice, or with genre theories?", our answer turns out to be: "not particularly well". Conceptually speaking, PIAAC is a direct descendent of IALS, which understood literacy as a process of information retrieval and successful task completion (St. Clair 2012). While PIAAC has attempted to account for individuals' literacy practices as part of the background questionnaire, this accounting clearly is not grounded in current theoretical conceptualisations.

In 2000, Hamilton and Barton critiqued the text-focused nature of IALS by commenting that text use is not inherently obvious, and it is not possible to infer a practice from a text alone. Smith (2000) similarly observed that printed materials can be used for various purposes. PIAAC's dominant emphasis on texts as opposed to practices suggests that these critiques have been largely ignored. PIAAC also continues to use *practices* "in a weak sense to mean *activities* or *tasks*" (Hamilton and Barton 2000, p. 381; italics in original). In other words, not much has changed in the quarter century since IALS.

In addition to the focus on literacy tasks, PIAAC's understanding of literacy practices omits context, purpose, interaction and – significantly – the power relationships that always characterise literacy practices (Barton and Hamilton 1998; Purcell-Gates et al. 2011). Practices included in the background questionnaire refer to dominant literacy discourses, particularly those items about books, journals and reports (Nienkemper and Grotlüschen 2019). This reflects the inherent ethnocentrism and promotion of particular views of literacy that Guadalupe (2017) identified. While PIAAC seeks to better account for literacy practices than previous iterations of international adult assessments, according to its developers (e.g. Rampey et al. 2016) there is still much room for improvement.

That work-related practices dominate and subsume those in the "Everyday life" categories is not surprising, given that PIAAC "focuses on cognitive and workplace skills needed for successful participation in 21st-century society and the global economy" (NCES n.d.-c). With respect to PIAAC's skills assessments, St. Clair (2012) observed that the assessment relied on a high number of texts related to shopping, being a consumer, managing money, or employment. "None of the texts are critical or political", he argued,

> and participants are not asked to respond to arguments. The surveys seem to centre on a highly limited set of texts that reflect a highly selective set of text consumption in a developed society (St. Clair 2012, p. 770).

PIAAC is clearly a product of the OECD. Its particular understanding of literacy, and the texts that it uses to assesses participants' use of literacy, are grounded in that organisation's perspective on the relationship between education, skills and

economic success. It largely ignores the role of context or power relationships in literacy practice. We would argue that "successful participation in 21st-century society" requires a great deal more than participation in the economy. To do this issue justice, a broader and deeper exploration of "everyday life" practices would be needed.

Moving forward: implications

Of course, while PIAAC may attempt to account for literacy practices, it nevertheless was designed to assess individuals' skills, not their literacy practices. If the field takes seriously Reder's (2009, 2015) claims that literacy practices matter more in employment outcomes than skills proficiency, then it behoves the developers of adult literacy assessments to more carefully consider literacy practices. How we conceptualise and evaluate literacy practices matters not just for broad-scale standardised assessment of adults' capabilities, but also for how we conduct and evaluate programmes to develop those capabilities for adults. We echo Reder's (2009) call for new assessments that are better aligned with sociocultural frameworks on literacy in order to better support the design and evaluation of adult literacy programmes and the ways in which learners are taught and assessed. Due to PIAAC's emphasis on skills rather than practices, it is not surprising that the information on literacy practices is relegated to a "background" questionnaire. We wonder, however, what would happen if we flipped the PIAAC model, so that literacy practices were foregrounded? What would a reasonable assessment look like that truly accounted for a theoretically sound conceptualisation of adult literacy practices?

Foregrounding practices implies interrogating a broader range of contexts and probing more deeply into the practices associated with those contexts. Exploring not just which texts people use, but also how they use them and for what purpose, would provide a broader understanding of how people actually engage with literacy and the ways in which those practices align with other social factors and outcomes. Possible questions include how often respondents read health-related pamphlets from their doctor's office, read or write opinion pieces related to politics, write social media posts about their family's experiences, or read and write texts related to their faith communities.

More recent research into the interactive and relational nature of literacy practices also suggests that attention should be paid to *who* is involved with literacy practices, the relationships of those individuals and the nature of the interaction. Cormac O'Keeffe, for example, critiqued PIAAC's background items that intended to document who else was in the room at the time of the assessment:

> More relational stances cannot dissociate the test taker from the social and material world around them … The relationships between helpers and additional presences, interviewers and respondents, rather than being extraneous variables, provide evidence that by overly focusing on the textual representation of literacy within the e-assessment, the literacy practices around the

> e-assessment were, albeit ephemeral and difficult to observe, no less valuable or relevant (O'Keeffe 2016, p. 112).

O'Keeffe's observation reflects Karlsson's (2009) findings about the importance of organisational relationships in shaping literate practices in the workplace, as well as research on literacy brokering (e.g. Perry 2009) which demonstrates the usefulness of the Vygotskian "more knowledgeable other" (e.g. an experienced colleague) in supporting successful literate practices in a variety of contexts.

One problematic assumption in PIAAC, according to Guadalupe (2017), is its understanding of skills as individual traits. Expertise is increasingly seen as more distributed (Littlejohn et al. 2012), reflecting other sociocultural perspectives on learning and development (e.g. Lave and Wenger 1991). This has, or should have, important implications for assessment. We (the authors of this article), for example, consider ourselves highly literate, yet our own workplace writing occurs with a community – we write collaboratively, and our work is reviewed by peers, usually reworked based upon those reviews, and carefully combed over by copy-editors. Even single-authored publications undergo this process. Everyday practices, too, often "take a village", as the first author of this article learned when she found herself unable to help a kindergartner's family accurately fill in the paperwork for free school lunches, and needed assistance from the school's secretary to successfully complete the forms. If social interaction characterises so much of adult literate practice, why are we testing learners in isolation? Why should it matter that a literacy task was successfully completed in collaboration with others, rather than alone? After all, the outcome is the same. Taking a cue from the popular game show "Who Wants to Be a Millionaire" (Briggs 1998), how might our understandings of adult proficiencies and related outcomes change if we included a "phone-a-friend" option in our assessment of adult literacy?

While our analysis was limited to PIAAC, our findings have the potential to inform broader debates on educational assessment. We began this article by noting the political nature of all assessment (Gorur 2017; Guadalupe 2017) and highlighted the significant differences in approaches to literacy between cognitive skills and social practices approaches. As Radhika Gorur observed, these differences

> do not just reflect the "partiality" (in both senses of the term) in the understandings of different groups engaged in different ways in a large and complex enterprise; rather, they underscore the diversity in ontological commitments, methodologies and paradigms of research that make discussions among one set of scholars almost incomprehensible to another (Gorur 2017, p. 342).

PIAAC is fundamentally different from international assessments focused on children in school, because it "crosses education, employment and citizenship domains, each with their own competing discourses and struggles for visibility in the public sphere" (Hamilton 2017, p. 284). In other words, PIAAC more closely connects skills, typically learned in schools, with their real-life applications in context. PIAAC, therefore, offers a rich opportunity to uncover new ways to combine seemingly incompatible paradigms, and to better understand the relationships between literacy, education and other outcomes.

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Kristen H. Perry, PhD, is a professor of Literacy Education and Director of Graduate Studies in the Department of Curriculum & Instruction at the University of Kentucky in Lexington, Kentucky, USA. She researches literacy as a social practice across the lifespan in family and community contexts, particularly among immigrant and refugee communities. She received the Literacy Research Association's 2012 Early Career Achievement award and their 2007 J. Michael Parker Award for research in adult literacy. She publishes in journals including the *Reading Research Quarterly,* the *Journal of Literacy Research, Research in the Teaching of English,* the *International Journal of Applied Linguistics,* and the *Journal of Language and Literacy Education.*

Donita M. Shaw, PhD, is a professor of Literacy Education in the School of Teaching, Learning and Educational Sciences at Oklahoma State University in Tulsa, Oklahoma, USA. With diverse teaching and tutoring experiences, she brings a developmental and balanced perspective to her college classroom. She actively serves in a variety of positions with the Literacy Research Association, the International Literacy Association, and Oklahoma Literacy Association. Her research interests focus on adult literacy and teacher education, with a specific focus on metaphors of literacy. Donita Shaw publishes in journals including the *Journal of Literacy Research,* the *Journal of Language and Literacy Education,* and *Teachers and Teaching: Theory and Practice.*

Sara Saberimoghaddam, M.A., is a PhD student in Curriculum and Instruction with a focus on literacy at the University of Kentucky in Lexington, Kentucky, USA. She received her Bachelor of Science in microbiology sciences from the University of Iran (2003), and a Master of Arts in Teaching English as a Second Language from the University of Iran (2011). Sara taught college-level English as a Second Language in Iran and was a kindergarten English-as-a-second-language (ESL) teacher in Denmark. Sara is currently a research assistant working on Project PLACE (Partnerships for Learning, Achievement, and Classroom Engagement), a federally funded project to provide professional development to improve teachers' ability to enhance academic achievement and engage the families/communities of learners of English.

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ORIGINAL PAPER

Sustainable learning and education: A curriculum for the future

Jay Hays[1] · **Hayo Reinders**[2]

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Abstract

This article introduces *sustainable learning and education* (SLE), an emerging philosophy of learning and teaching founded on principles of sustainability. SLE is not necessarily *education for* sustainability, but rather sustainable *learning,* a new and different idea. The intention behind SLE is to create and proliferate sustainable curricula and methods of learning and teaching. These are designed to instil in people the skills and dispositions to thrive in complicated, challenging and ever-changing circumstances, and contribute to making the world a better place. This article contributes to the literature by (1) elucidating the concept and purpose of SLE; (2) enumerating principles of sustainability that apply in the educational and professional development context; and (3) proposing a curriculum for SLE framed as a university course or professional development programme. The authors emphasise the importance of systems and ecological thinking and the essential role of self-sufficiency as both a means and an end of sustainable learning and education. They conclude with a comment on community: the more fully we accept and appreciate our neighbours, organisations and societies as important, interdependent and deserving of a viable future, and the more we engage with them towards positive ends, the more universally accepted the imperative of sustainability will be, and the more likely we are to attain it.

Keywords sustainable education · sustainable learning · lifelong learning · autonomy

✉ Hayo Reinders
info@teacherleadership.ac

Jay Hays
joe@imt.ac.ae

[1] Institute of Management Technology Dubai, Dubai, United Arab Emirates

[2] King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand

Résumé
Apprentissage et éducation durables : un curriculum pour l'avenir – Cet article présente *l'apprentissage et l'éducation durables* (AED), une philosophie émergente de l'apprentissage et de l'enseignement, basée sur des principes de durabilité. L'apprentissage et l'éducation durables ne correspondent pas forcément à une *éducation au* développement durable, mais plutôt à un *apprentissage* durable, une notion nouvelle et différente. Derrière cette approche se cache la volonté de créer des curriculums et méthodes durables d'apprentissage et d'enseignement, et de les multiplier. Ils sont conçus pour inculquer les compétences nécessaires à la réussite dans des situations difficiles, complexes et marquées par de continuelles mutations, pour mettre en valeur les dispositions indispensables à cela et pour contribuer à rendre le monde meilleur. Cet article contribue à enrichir la documentation à ce sujet en (1) expliquant le concept et le but de l'apprentissage et de l'éducation durables; (2) en énumérant les principes de durabilité appliqués dans le contexte du développement éducatif et professionnel; (3) en proposant un curriculum d'apprentissage et d'éducation durables structuré comme un cursus universitaire ou un programme de développement professionnel. Les auteurs soulignent l'importance de la pensée systémique et écologique, et mettent en relief le rôle essentiel de l'autosuffisance en tant que moyen et fin en soi de l'apprentissage et de l'éducation durables. Ils concluent par un commentaire sur la communauté : plus nous acceptons et apprécions pleinement que nos voisins, organisations et sociétés sont importants et interdépendants, et qu'ils méritent un future viable et plus nous nous engageons à leurs côtés à des fins positives, plus l'impératif de la durabilité sera universellement accepté et plus il est probable que nous le réaliserons.

> What we want is a process of discussion and transformation which creates a culture of constant learning and development that radically improves the everyday education of young people.
>
> Titus Alexander and John Potter (2004, p. 2)

Introduction: foundations

This article introduces *sustainable learning and education* (SLE), a philosophy of learning and teaching founded on principles of sustainability, as outlined by scholars such as Walter Leal Filho et al. (2018) and John Stuart et al. (2016). SLE is not education *for* or *about* sustainability, as it might be defined in the literature (see, for example, Cullingford and Blewitt 2013; Ng 2019). Rather, it is sustainable *learning*, a new and different concept. *Sustainable learning* is generally understood as learning that is retained (and may be transferrable) after initial exposure to it and may involve a process of "learning to learn" (see Tractenberg et al. 2016).

Sustainable *learning* is also more than retained knowledge and skills. It involves ongoing, purposeful, responsive and proactive learning; the learner effectively builds and rebuilds her or his knowledge and skills base as circumstances change. In this sense it is akin to lifelong learning (Jackson 2011; Livingstone 1999), especially

in terms of "learning to learn" (Stringher 2014). It also involves *unlearning* (Pedler and Hsu 2014), and focuses on critical reflective action (Hays and Reinders 2018) and "environmental scanning" (Gardiner and Rieckmann 2015).[1] Compared to lifelong learning, sustainable learning is distinguished by conscious and intentional learning *in the moment*[2] (Hays 2017) amid an ongoing flow of circumstances and emerging possibilities.

Sustainable *education* is formal and informal education and professional development that continually renews itself, incorporating principles and aspirations of sustainability in design and delivery, and educating in ways that promote sustainable learning. It is less structured and "fixed" than conventional education, and operates more organically and responsively.

We have entitled this article "Sustainable learning and education: A curriculum for the future" to emphasise that a sustainable future depends on learning and education that are, themselves, sustainable. We use the term "curriculum" broadly; less in terms of a particular course or a seminar, and more as a way of thinking about the design and delivery of education and professional development (see Hays 2015). Built on principles of sustainability, this "way of thinking" and the ensuing pedagogy *lean* into the future, inclining towards what is arising and might be needed rather than resting secure in the understandings and skills of yesterday. This means seeking to learn "in the moment" and to create learning moments, and rapidly adapting and disseminating the learning in recurring and quickening cycles.

In SLE, the skills and dispositions of anticipatory learning (Gardiner and Rieckmann 2015; Tschakert and Dietrich 2010; Wollenberg et al. 2000) are esteemed, whilst past knowledge and skills are viewed as flexible and receptive to modification. It recognises that, in many respects, one has to let go of the past to move forward. Developing this mindset is one half of the SLE equation. The other half involves equipping individuals and teams with the skills and disposition to aggressively deconstruct and reconstruct ways of being, understanding and doing so as to enable survival and the emergence of a sustainable future.

Purpose and scope

In authoring this article, we wish to share our views on SLE as a way of thinking that arises from and informs the discourse on sustainability. As educators, we realise that much of what is taught hinges on past knowledge and ways of living. This base of knowledge and action-taking does not necessarily equip us to deal with precarious, uncertain and complex situations. Thus, what and how we teach must change (Hays 2017). A curriculum for the future has to be flexible and change-ready,

[1] The term *environmental scanning* refers to the purposeful and thorough search for and analysis of information in one's environment and circumstances that enables effective decision making, planning and course correction.

[2] *In the moment* refers to being "fully focused on or mentally involved in what one is doing or experiencing" (OUP n.d.-a).

open-minded, enquiring and more about possibility than certainty in design, delivery and outcome.

It is not our intention to critique existing courses on sustainability, sustainable development, the environment or corporate social responsibility (CSR), nor to recommend how these might be configured. Rather, we draw on principles of sustainability to compose a programme or agenda for reforming education and shaping individual and organisational learning.

Background and justification

The intention behind SLE is to create and proliferate sustainable curricula and methods of learning and teaching that instil in people the skills and dispositions to thrive in complicated and challenging circumstances, and contribute to making the world a better place. What makes SLE different from education intended to empower and liberate (Shor and Freire 1987), as laudable as such an approach may be, is its focus on sustainability, self-sufficiency and consciousness.

Notions of self-sufficiency and consciousness are key to SLE – in design, delivery and outcome. Self-sufficiency is an essential quality and objective of sustainability. Thus, a curriculum for sustainability should strive for self-sufficiency and require few external resources to sustain and govern itself. Later in the article we discuss the concept of *autopoiesis*,[3] the quality of self-generation and renewal that characterises sustainable ecosystems. While no social system is entirely autonomous, to be sustainable it must have the capability and will to generate its own resources.

SLE hinges on and produces consciousness: vigilant attentiveness and mindfulness, continual awareness of internal and external conditions and ongoing assessment of the effectiveness of acting in the world, filtered through a lens of ethics, responsibility and sustainability. A sustainable world requires a critical mass of citizens who remain conscious of actions (and inactions) that might jeopardise the greater good. Thus, a sustainable curriculum must equip learners with a commitment to consciousness and the disposition to act upon germane observations.

SLE is just beginning to coalesce as a concept and strategy. Very little has been published in scholarly sources on "sustainable teaching and learning" or "sustainable learning and teaching". In 2012, an edited volume entitled *Teaching Sustainability/Teaching Sustainably* (Bartels and Parker 2012) was published. This offers helpful background, though does not focus on SLE. "Sustainable education", on the other hand, has been the topic of several recent publications, notably by Stephen Sterling (2001, 2008, 2010), Ian Thomas (2009) and Nancy Van Kannel-Ray (2006). "Sustainable education system" is a term that has also appeared in the literature, but has not yet been well defined.

As no established theory, codified approaches or accepted components exist, much of what is discussed in this article is speculative, and open to critique, debate

[3] *Autopoiesis* (Di Paolo 2005; Kickert 1993; Luisi 2003; Maturana Romesin 2002) means the inherent capacity of a system to create, produce and self-sustain.

and revision. We hope that researchers and practitioners will take forward the ideas advanced here, applying, testing and formalising them.

In this article, we seek to catalyse a new and needed paradigm for learning and teaching. Realising that a vision is only as good as its theoretical and practical foundations, we also present a defensible framework for SLE. While our proposed framework for SLE is preliminary, we are confident of its robustness, as it is built upon proven and compatible fields of knowledge, including sustainable development, *systems thinking*,[4] and organisational learning and change.

A new paradigm for learning and teaching is needed for a variety of reasons, principal among them that current models struggle to keep pace with the disruptive nature of technological and social change (Fukuyama 2017). Conventional approaches to learning and teaching are ineffective and perhaps even counterproductive in an unconventional world (Hays 2017), especially as the scope of problems and possibilities extends beyond established understandings and strategies. SLE is designed to overcome the limitations of *incremental learning* (Stroh 2015).[5] This is only possible through a new way of thinking about learning (Kuhn 1962).

SLE attempts to fulfil the new paradigm in two interconnected ways: (1) enhancing and expediting the cycle of learning, unlearning and relearning (Zhao et al. 2013) at individual, team and organisational levels; and (2) improving the education system so that it becomes more sustainable (reducing dependence and drain on external resources). In the model proposed here, both of these quality objectives rely on and build self-sufficiency through an ongoing process of capacity-building, reflective-corrective action and self-governance. One objective of this exposition of SLE is to consider what a sustainable education system might or should look like. To this end, we explore the nature of education systems and how notions of sustainability are applied to them.

The crucial nature of SLE is only beginning to be realised, thus there is much to be explored in order to capitalise on its potential. This article elucidates the essence of SLE and proposes a curriculum that incorporates principles and practices likely to foster individual and organisational capacity for intentional, proactive and collaborative learning. Such capacity is essential in a world changing so quickly we can barely make sense of it; where problems – and opportunities – may arise or vanish in the blink of an eye (Schön 2017). SLE is about readiness and resilience, drawing

[4] Systems thinking refers to thinking of events and situations, problems and opportunities, as embedded in larger, more complex systems. This means there may be much more to the story than is obvious. Systems are comprised of many parts that are connected and interrelated, often in subtle and complicated ways which are not easy to see and which take time to reveal. Systems thinking strives to see beneath the surface of symptoms and first observations to obtain deep understanding of causality. Hays (2010a), Mathews et al. (2008), and Stroh (2015), cited elsewhere in this article, provide useful background on systems thinking.

[5] Incremental learning refers to learning through accumulation of information, adding to existing knowledge. Such learning is necessary and important in the additive sense, but insufficient in fundamentally changing the way we see the world, or challenging if what we know and are learning remains useful. Incremental learning may be contrasted to deep, transformational learning. The concept as we use it here is discussed in more detail by Steven Appelbaum and Lars Goransson (1997).

on decades of research on *organisational learning,*[6] but with more emphasis on sustainability and conscious intent.

In short, SLE is an emerging and timely concept, a reimagined and re-engineered system of and for education and professional development. It is designed to continually renew itself in order to keep pace with technological and social change and, indeed, to allow learners to think forward and prepare for what may arise (Dochy and Segers 2018; Tschakert and Dietrich 2010). This goal and associated curriculum are embodied in our proposed SLE course/professional development programme. The aims of this course are manifold, but its central objective is to empower and equip those involved in the education enterprise with the knowledge, skills and will to educate in ways that are sustainable and renewing.

"Those involved" implies individuals and teams that design, deliver, administer, fund or evaluate educative and developmental courses, programmes and initiatives. These people may be teachers, trainers, coaches, counsellors, ministers, facilitators, supervisors, planners, executives and others. They may work in private or public schools at any level, in corporate training centres, community settings, consulting companies, hospitals, government agencies, the defence forces, police and fire departments or any other organisation striving to promote innovation, effectiveness, development, empowerment and well-being through learning.

The subjects of SLE initiatives – that is, students and other learners – need to become active agents in the education enterprise. They need to become different learners in order to benefit fully from SLE and to take it beyond the education setting. A sustainable curriculum for the future will involve learners intimately in what and how they learn, and why and how this is imperative for their future. It will develop awareness about the learning process and the need for ongoing learning and equip learners with the tools and techniques of needs analysis to ask the following questions:

- *What do I need to know or be able to do to succeed in a given circumstance?;*
- *What does this unique situation or problem require of me or my team?; and*
- *How well equipped am I to deal with this problem?*

A sustainable curriculum will also equip them to critique the effectiveness of their learning, and determine what new strategies might be more constructive. This helps to explain how SLE will be more responsive and organic.

[6] The concept of organisational learning has been around since the 1980s and has increasingly become part of the management lexicon since the 1990s. A learning organisation is an enterprise or institution that learns and applies learning intentionally. Such organisations can identify *what they know* and *what they still need to learn* to survive and thrive. They are equipped to learn and to make use of knowledge acquired. For more background on this concept, see Murray (2002), cited elsewhere within this article, or Pemberton and Stonehouse (2000).

Beneficiaries

Arising yet distinct from the burgeoning arena of sustainability and sustainable development (see, for example, Holden et al. 2017), SLE actuates, accelerates, amplifies and extends learning cycles (see, as background, Murray 2002). Its potential is largely due to feedback loops, which may act as virtuous cycles amongst elements of the ecosystem leading to large gains (or losses in the case of vicious cycles) (Hays 2010a). Understanding influence relationships amongst system elements is of vital importance in an era of seemingly insurmountable global challenges, especially when collaboration is required – and, with complex, "wicked" problems[7] (Sharma and Patil 2017; Sturmberg 2018), when is it not?

What this means for individuals, organisations and society is outlined in this article. In particular, we cover principles of sustainability and how they apply in the learning context, as well as themes and aspects of a curriculum for SLE. This material should be of great reference to practitioners seeking to develop or enhance more sustainable and adaptable courses and programmes. The discussion should also be helpful for individuals attempting to make sense of contemporary pedagogy and instructional methods that are learner-centred and designed to empower. An empowering education builds agency, autonomy and self-direction (Brockbank and McGill 2007; Myers and Beringer 2010). It comprises learning for the future, not merely the present (Hays and Reinders 2018; Howard 2018).

A curriculum for the future

SLE is a transformative concept designed to change the way people think about learning and education – to produce a *paradigm shift*[8] in higher, continuing and professional education. As a course or training programme, SLE attempts to equip participants with knowledge, skills, methods, tools and dispositions to create and sustain conditions for dynamic, continuous and renewable learning whatever their endeavour and wherever they work. Such purposeful, ongoing and progressive learning is of vital importance to individuals, teams, organisations and communities. Indeed, it can be argued that relentless learning is essential for global well-being, and is necessary to combat the greatest problems of our time (Hays and Reinders 2018).

[7] A *wicked problem* is a persistent problem that seems too big to resolve. Such problems have been resistant to attempts to solve them – simple remedies have little to no impact and solutions attempted may have unexpected, counterproductive results. Wicked problems cut across disciplines and geographic boundaries, necessitating collaboration in tackling them while making this even more difficult. The dynamics of wicked problems in education are clarified and explored at length elsewhere (Hays 2012, 2013a).

[8] Thomas Kuhn (1962) is credited with coining or popularising the concept of "paradigm shift", a revolution in thinking resulting in profound change in understanding, application, direction and possibility. A useful explanation and further references are provided elsewhere by the first author of this article (Hays 2010b).

To date, we have not identified similar courses elsewhere, though they no doubt exist in one form and place or another. The need and ideas for such a course were promulgated by Stephen Sterling in his book, *Sustainable Education: Re-visioning Learning and Change* (Sterling 2001). Sadly, as confirmed recently through personal communication with Professor Sterling, it appears that little progress has been made internationally to put in place sustainable education practices as outlined in his forward-thinking text, published almost two decades ago. However, there are some positive indications of forward movement, as suggested by scholars such as Cathryn Hammond and Deborah Churchman (2008) and Ian Thomas (2009).

One challenge concerns terminology. Certainly, "sustainable" content and approaches to learning and the education enterprise are currently still being trialled and adapted, and/or incorporated in many curricula around the globe (Barth and Rieckmann 2012; Schneider et al. 2018; Willats et al. 2018), though often going by other names. Further, the concepts of "sustainable learning" and "sustainable education" are still new to many academics or their meaning is contested. An obvious problem of misinterpretation might arise simply from the assumption that what is implied is learning or education *for* or *about* environmental sustainability. However, this is not the case here. What we mean is a framework and consciousness for educational *transformation,* whereby courses and curricula are designed or re-imagined and delivered based on principles, values and aspirations of sustainability. Such an education, by nature, would be *transformative* and sustainable.[9]

The central objective of such a learning programme is to empower and equip those involved in the education enterprise with the knowledge, skill and will to educate in ways that are sustainable and that, by extension, produce learners endowed and inclined to enact sustainable ways of living. This implies a deep understanding of and adherence to principles and aims of sustainability. Towards this end, we have identified and synthesised many relevant principles and attributes from a number of sources, namely a review of the literature, dialogue with practitioners and observation (see Table 1 in the next section).

What does it mean to be sustainable*?* At its most basic level, it means possessing an enduring quality. For human systems, this involves making the best use of available resources to support a healthy existence and ensure a viable future for all, neither depleting resources irreplaceably nor harming the environment. At the least, sustainability concerns continued maintenance (having enough or doing enough to survive). At its best, it is about thriving and flourishing now and into the future. Sustainability is inherently ecological, not merely with respect to environmental conservation, but in terms of the encompassing system, its elements and their relationships.

[9] There is an underlying belief amongst proponents of sustainable education that transformation of existing practices and systems is necessary to produce (and sustain) transformational learning, itself requisite to viability, at the individual, organisational, community, societal and global levels (see Hammond and Churchman 2008; Sterling 2001; Thomas 2009). Though not addressing issues of sustainability, the first author of this article emphasises elsewhere (Hays 2013a) that producing graduates with the capabilities required in the 21st century will require dramatic reinvention of the content and process of higher education, a point underscored by Karl Haapala and John Sutherland (2005), Mitchel Resnick (2003) and others with respect to ecological and sustainability thinking and acting by citizens.

Table 1 Principles of and guidelines for sustainability and ecological thinking of relevance to learning and education

• See that sustainability is not an option, but an imperative.	• Design and build to solve more than one problem or requirement.
• Accept that sustainability equals ecology.	• Design and build for need and meaningful purpose, rather than for profit and consumerism.
• Reduce production of "consumables"; when they cannot be reduced, make them recyclable or degradable.	• Reduce waste. Do not pollute. Use waste as a recyclable resource or as "nourishment" for other systems and processes.
• Design and build for durability.	• Design and build for efficiency.
• Design and build for flexibility, adaptability and ease of modification (multi-use and purpose).	• Accept responsibility for future generations and the welfare of the planet.
• Strive to become self-sustaining and self-sufficient (lessen dependence on external support and funding). Build internal capacity through learning.	• Always investigate and ascertain as far as possible the place of a new product or idea in the wider system and its long-term contributions and impacts.
• Use renewable energy, particularly sunlight.	• Strive for optimisation rather than maximisation.*
• Use ethical judgement in determining what is worth doing and how it may best be done (adding value to the community; reducing harm or threat to the ecosystem).	• Strive for diversity in membership, perspective, experience, discipline and focus.
• Strive for the flourishing of all, seeking equity and balance across stakeholders and generations.	• Strive to co-exist with nature and within the limits of nature's offerings.
• Remember that a system is only as strong as its weakest link.	• Know that members of a community (like a species) are not interchangeable or easily replaced.
• Decentralise where possible and loosen control. Foster interaction, independence and interdependence.	• Think of organisations (and machines, technological processes and tools) organically – as living systems that must play a part in ecosystem health, vitality and longevity.** If they do not contribute to long-term well-being, they should be stopped. Think less of a product's life cycle, and more about its impact on the lives of those who use or are affected by it.
• Promote (rather than destroy or neglect) biodiversity in one's surroundings (landscaping, gardening, preserving natural habitat).	
• Keep in mind that problems (and opportunities) are usually more complex than they appear; resolving (or capitalising upon) them is not merely a matter of rational analysis, but also of ethics, judgement and practical reasoning based on critical reflection (see Ulrich 1993).	• Emphasise sufficiency – the idea that enough is enough. Too much of a good thing is wasteful, self-serving and potentially destructive (after Princen 2003).

Note: These principles are drawn and inferred from a range of sources, including Gudmundsson and Höjer (1996), Hammond and Churchman (2008), Orr (1996), Resnick (2003), Selby (2000), Sterling (2001), and Wals and Jickling (2002)

*A discussion of the importance of optimisation may be found in Choi et al. (2001)

**This might be referred to, as Dewulf and Van Langenhove (2005) put it, as "industrial metabolism"

We are all agents in our ecosystem, actively contributing to its viability, and influencing its resilience or demise (O'Reilly et al. 2018; Spinozzi and Mazzanti 2017).

The notion of sustainable *development* is also important and relates to the ideas about SLE put forward here. While being problematic in many respects (see Hobson and Lynch 2018), one major strength of sustainable development is that it addresses

the need to provide for today without damaging the prospects for tomorrow. It implies continuing to grow and develop while minimising cost to the planet through unwise exploitation of resources. What makes development sustainable (or more sustainable) is the employment of principles (such as those listed in Table 1) for the design and conduct of business (e.g. choosing materials that are more renewable or less damaging to the environment before marketing one's products). Ultimately, some undertakings and aspects of human existence may not be sustainable, at least as presently conceived (Næss 2006; Welfens et al. 2010). This is why individuals, organisations and societies need to discover and implement strategies to think ourselves out of our boxes, to see beyond our accustomed boundaries of living and working, and envisage dramatically new and different approaches.

Producing that new capacity requires the dramatic reinvention of traditional education and professional development (Hays 2015). Graduates of SLE courses are expected to demonstrate thinking and actions consistent with the principles, ideals and aspirations of sustainability as codified in Table 1. They would, for example, strive to continually improve themselves, their surroundings and the lives of those they work with and for, serve and lead. They do this because they are able and disposed to think and act ecologically. This means they understand the systems in which they play a vital part – including, though not exaggerating, their own importance (Wals and Jickling 2002). They know the parts of these systems (stakeholders, economic aspects, environmental features), how they interact, relate to and influence one another, and how each part is a precious, vital and contributing member of the whole (Ulrich 1993). They see these systems as communities, whose survival depends on learning and co-evolution (see Capra 2005). Co-evolution is the idea of mutual interdependence and benefit (Choi et al. 2001; Selby 2000).

Our hope is that instructional programmes like the one proposed here and continuing research and publication will lead to greater understanding of SLE and the need for it among educators, policymakers, organisations and other communities. There is no one best way to employ, or singular definition of, SLE; and, even if there were, it would have to continually adapt and evolve to remain viable as the environment poses new and different challenges. So, we cannot and should not provide a definitive "how to", but we do hope that our work inspires others to consider how their courses and programmes might be transformed through incorporation of the concepts, principles and practices discussed here.

What comprises a sustainable curriculum?

SLE embodies the principles and requirements of sustainability for people concerned with learning and education around the world, irrespective of whether this concerns their own or others'. Some of the key principles are listed in Table 1.

The principles, concepts and aims of sustainability included in (and unintentionally excluded from) Table 1 are not exhaustive and are open to challenge. However, we believe they provide a solid foundation to begin designing educational and learning programmes that exhibit attributes of sustainability. Such

programmes would be responsive, resilient and responsible (Allen et al. 2019; Ortiz-de-Mandojana and Bansal 2016).

Sterling (2010) provides us with four criteria for sustainable education; it should be (1) sustaining; (2) tenable; (3) healthy; and (4) durable. It sustains people, communities and ecosystems, is ethically defensible, fostering integrity, justice, respect and inclusiveness. It is itself a viable system, embodying and nurturing healthy relationships and emergence at different system levels.

Drawing on the science of *complex adaptive systems* (CASs), we might add one more key characteristic of SLE. A CAS is a system of distinct interrelated, mutually dependent elements that interact with each other and their environment (Hays 2010a). Complex adaptive systems are considered synergistic – their collective behaviour cannot be entirely predicted or accounted for by the behaviours of their individual elements. Thus, their behaviour may be described as emergent (Iñigo and Albareda 2016).

Complex adaptive systems are viable to the degree that they are resilient and respond effectively and adapt to changes in the environment. This is their potential for creativity and innovation, an inherent and emergent quality of living systems that contributes to survival and adaptation (Russell and Smorodinskaya 2018). Complex adaptive systems are highly responsive to threats and opportunities in unpredictable and novel ways without being directed or instructed by external authority (Capra 2005; Harkema 2003; Selby 2000). Whilst this may happen unconsciously, we believe that mindfulness (Griffith et al. 2017) about this process – that it needs to happen, is happening or has happened, when, how, why and with what outcomes – is a crucial aspect of SLE. This is a system aware of itself (Pratt et al. 2005) and its place in the world.

An SLE course or training seminar would emphasise the relationship between learning and innovation, and help educators and executives cultivate conditions wherein continuous improvement and innovation through learning are likely. Lending support to this assertion, Saskia Harkema (2003) draws a clear link between learning and innovation. She argues that while innovation is an expression of learning, learning is required to make the most of innovation.

We see sustainability as the essential, yet often missing, link between learning and innovation (see Figure 1).

Figure 1 Learning and innovation are linked through sustainability

In our envisaged programme, we focus on two main aspects of educational sustainability:

- The first is *education that lasts* – theories, practices and systems that are (a) current and viable in a world of dwindling resources and (b) influence positive change.
- The second is *sustainability of learning* – learning that is continuous, enduring and proactive. Such learning focuses less on the amassing of knowledge or technical skills and more on learning to learn and optimising learning from experience. As David Orr has said,

> [W]e must recognise that the goal of education is not the mastery of knowledge, but the mastery of self through knowledge – a different thing altogether (Orr 1996, p. 9).

Self-mastery of learning involves developing skills of inquiry, discovery, critical thinking, problem-solving, reasoning, judgement, imagination, collaboration and other higher-order capacities, including reflection and the disposition and discipline to make the most of the above skills (de Bruin and Harris 2017).

The first of these aspects – education that lasts – is of critical importance to anyone in education, whether as a teacher or administrator in educational institutions or as a professional who drafts policies, audits institutional effectiveness or funds programmes. The second aspect – sustainability of learning – is of even greater concern. Every organisation needs to be concerned with the ability of its people to continuously and effectively adapt to rapid and radical change, learn to deal with new and different challenges, and create, innovate and manufacture products better and faster than its competitors; and, sometimes, not to compete at all, but to collaborate (Trilling and Fadel 2009).

SLE sets out to build capabilities in resilience, responsiveness and change-readiness. More than that, it is committed to building the skills and orientations necessary to "learn forward"[10]: to anticipate challenges and opportunities that might arise, to proactively learn, develop and prepare by choice and design rather than being held hostage to change and environmental turbulence; and, moreover, to lead learning and innovation in such circumstances (see Dochy and Segers 2018).

These skills and dispositions are in high demand and short supply (Hays 2015). Worse, it appears that, where present, they remain isolated, reflecting neglect or misuse of resources and unsustainable practice (Livingstone 1999, 2017). Our envisaged SLE programme seeks to reverse this trend by (1) awakening participants to the need for sustainable education and learning; and (2) developing strategies and

[10] The concept of "learning forward" is introduced and explained in Hays (2013b). More recently, Afiavi Dah-gbeto and Grace Villamor (2016) present an interesting application of anticipatory learning. Elsewhere (Hays 2014, 2015), the first author of this article underscores the importance of proactive, anticipatory and innovative learning. Likewise, Sterling (2008) speaks of *anticipative* education as "recognising the new conditions and discontinuities which face present generations, let alone future ones" (p. 65).

mechanisms to better promote and support learning to learn (Evans 2017; Smith 2016) at individual, team and organisational levels.

Exploring and applying the theory, principles and ideals of sustainability in learning and education, the proposed SLE programme undertakes to influence participants' thinking and behaviour with respect to learning that is continually and consciously self-initiating and self-directing; both autonomous and collaborative; and responsive, adaptive and anticipative of emerging challenges and opportunities. It seeks to provide the impetus for and facilitation of dialogue, inquiry and co-construction of practical understanding among students, practitioners and authorities around the globe who are invested in improving their own learning or that of those they teach, train, work with or lead.[11]

SLE: a proposed programme employing the new paradigm

Learning for good

The SLE curriculum is about the individual, organisational and societal change needed to protect and nurture our communities. It seeks to promote intention and capability to find new and better ways to liberate and cultivate human potential rather than depend on and deplete Earth's natural resources. It seeks to equip citizens with the skills, knowledge, tools and will to solve problems and pursue opportunities in ways that produce long-term and widespread benefit, and to create a new cadre of capable and courageous leaders committed to doing the right thing for the greater good rather than pursuing courses of action that might seem more immediately attractive to themselves or their constituencies. The instructional programme poses and attempts to answer – through collaboration and dialogue – this two-part question:

> *What kinds of learning enable sustainable innovation and growth;*
> *and how can we best create conditions for such learning in differing contexts around the globe?*

Learning from the complexity sciences

As mentioned earlier, *autopoiesis* (Di Paolo 2005; Kickert 1993; Luisi 2003; Maturana Romesin 2002) means the inherent capacity of a system to create, produce and self-sustain. It implies, for individuals and organisations alike, formulating a vision

[11] It seems reasonable to conclude that emergent, evolving and responsive learning hinges on dialogue, collective inquiry, united action, purposeful reflection, conscious shared understanding and creation of meaning. *Emergent learning* is flexible in that it determines the learning content in accordance with the learners' interests and the circumstances of the day. *Evolving learning* is another term for experiential learning. *Responsive learning* adapts to learners' individual needs and encourages collaborative learning among them. Sources such as Bessant (2012) and Garrison (2013) provide helpful background in this regard.

of better circumstances, crafting tools and strategies, and generating the energy to pursue them. Thus, our proposed SLE course promotes and facilitates empowerment, autonomy and agency (Kusano et al. 2016) – reducing reliance on external resources and control, whilst increasing the individual's or community's efficacy, responsibility and stewardship (Hernandez 2012; Mohrman et al. 2017). The course is designed to help us all thrive in a world of complex and constant change, diminishing resources and endangered ecosystems (Benson and Garmestani 2011); to find our own way forward, become increasingly capable, self-reliant and generous, and extend and multiply capability and contribution rather than depleting external resources.

An SLE course or training programme of the kind we envisage would explore and apply concepts, tools and practices of systems thinking and interdisciplinary collaboration to better understand issues and problems, consider alternatives and design solutions that are more effective than those we have tried in the past (Mathews et al. 2008). SLE employs an adaptive systems – or ecological – approach to analysis, adaptation and learning (Hahn and Nykvist 2017), carefully considering complexity and the precarious nature of the world in which we live. Through this approach, our envisaged course would examine how we influence the environment through action *and inaction* and are, in turn, influenced by it.

A central concern of such a course is continual and sustainable innovation. This is innovation that constantly seeks to reduce harm to the environment and the planet's ecosystems and improve the quality of life for all of Earth's inhabitants. Such innovation accepts that profit and efficiency can be achieved whilst simultaneously serving widespread interests and preserving long-term viability. It is innovation that is conscious of itself – a *knowing innovation* – responsive, responsible and ethical, continually learning from its interaction with the world.

This notion of "knowing innovation" is new, but finds resonance with consciousness, perception, self-awareness, meta-cognition and mindfulness, all of which are concepts closely related to SLE. In the course of our literature review, we did find some rare mentions of "innovation consciousness" and "innovation thinking", but these ideas do not appear to have been elaborated (yet) in mainstream scholarly literature.

Whilst not being an established technical definition or one drawing on extant literature, our idea of a "knowing innovation" is that it is conscious innovation, of which the innovator is aware. The innovation may have been intended and purposeful, though it may also have arisen unintentionally, accidentally or opportunistically. However, for it to qualify as a *knowing innovation,* the innovator should also be aware of the process that produced it, or at least be able to retrace the steps and circumstances giving rise to it. And, with respect to sustainability, an innovation should be assessed with respect to its contribution to the greater good and against costs and consequences to environmental and ecological health. A *knowing innovation* would not proceed based purely on profit or short-term relief, "because it can" or "because it is new, different and sexy", but, rather, because it is needed, beneficial, and has no discernible long-term negative consequences.

Table 2 SLE themes likely to be relevant and instructive

■ Principles and practices of sustainability	■ Theory and behaviour of complex adaptive systems (CASs)
■ Systems thinking	■ Notions of chaos, discontinuity and emergence*
■ Ecology	■ Vicious and virtuous cycles**
■ "Wicked" problems	■ The nature of knowledge and knowing, and their limits
■ Self-direction and learner autonomy	■ Agency and efficacy
■ Changing role of leaders	■ Paradigms and paradigm shifts
■ Mindfulness and reflective action	■ Action learning and action research
■ Arrogance and humility	■ Individual accountability and collective action
■ Global citizenship	■ Power of paradox
■ Convergence and divergence of education and learning	■ Problems and promises of teaching
■ Managing change and innovation	■ Creativity and the creative process

*Emergence and other aspects of complexity science are addressed in a number of sources cited in this article. A prime example and useful source is Choi et al. (2001). A concept and process closely related to emergence is self-organisation. Harkema (2003) provides more background on the relationship between these two aspects of complex adaptive systems

**Why nothing we do seems to help, and what we do often makes matters worse … More importantly, how some elegant solutions and strategies may become self-sustaining (that is to say, virtuous cycles). Elsewhere, the first author of this article provides a tutorial on vicious and virtuous cycles (Hays 2010a), and provides elaborate illustrations (Hays 2012)

Principles, paradigms and paradoxes: themes in SLE

Whilst by nature the proposed SLE course or programme cannot be tightly defined and structured, certain themes, listed in Table 2, are predicted to be relevant and instructive.

The 22 items listed in Table 2 are themes that might be included in an SLE curriculum; these can be complemented by readers with topics and themes which might contribute to a robust and resilient programme. Items on this list come from our interpretation of literature streams relevant to an evolving and emergent curriculum intended to promote learning that adapts to a changing environment and shifting demands, deriving primarily from ecosystems science, ecology, sustainability and complex adaptive systems (see, for example, Wals and Jickling 2002). Clearly, if dealt with more than superficially, the content would exceed what could be squeezed into a typical university course of one semester. Indeed, each theme could comprise its own course, or at least a seminar or workshop.

Logistical and administrative problems aside, content and delivery should be flexible and contingent on learners' prior learning and needs (Hubball and Burt 2004). Analysing and developing each theme is beyond the scope of this article, as is detailing how it might be taught and assessed. Readers should keep in mind that *sustainable* learning and education do not "fixate" and convey content predictably and efficiently. Content and its delivery must be organic, emergent, and evolve as a socially constructive, participatory and interactive process (Schcolnik et al. 2016).

In keeping with the principles and aspirations of autopoiesis (Peschl and Fundneider 2017), the proposed curriculum is designed to be self-sustaining and emergent, reliant on little to no outside financial support for equipment, operation or growth. We hope it can generate sufficient interest globally to attract diverse and willing engagement and contribution, with participants investing in one another, offering questions, insights, perspectives, lessons learnt, readings and activities, posing dilemmas, noting paradoxes and contradictions, as their interests, needs, talents and availability shift.[12]

Indicative learning outcomes

To assist educators and professional development practitioners in operationalising what we have outlined as aspirations for a curriculum for the future built upon principles of sustainability, we have developed the following list of desired and expected learning outcomes.

Assuming an elapsed period of 15 weeks with a variety of contact hours and other interaction per week, learners should be able to:

(1) Critically assess their learning style and competencies given a likely 21st-century organisational or community problem or scenario. This might be on a team basis.
(2) Craft a thorough and objective learning and development plan with specific and measurable tasks linked to their assessment in Item (1) above.
(3) Graphically depict a complex problem or other phenomenon as a relationship diagram and defend the presence of each element and its presumed relationship to other elements, including the expected effect of an intervention at one or more points in the system.
(4) Thoroughly and richly describe the ecosystem and context governing the dynamics of an ongoing problem, initiative or proposed intervention, explaining certain behaviour that is evident or likely in the system given its features, and/or predicting the success or failure of the attempted solution or change.
(5) Present a proposal for an organisational or community sustainability project, justifying the project in accordance with the principles of sustainability it incorporates and addresses.
(6) Assess a given project proposal against an approved or suitable set of business ethics and sustainability principles, objectives and standards – in other words, prepare a sustainability due diligence[13] assessment.

[12] In this sense, SLE – as a course understood more broadly – might be likened to a massive open online course (MOOC), providing access to, engaging with and receiving inputs from interested individuals around the globe (see Bali 2014; Kim 2014). Whilst the MOOC phenomenon may appear as a "flash in the pan" (a sudden and unrepeatable success), many of its aspects could be drawn upon in designing a course for sustainable learning and education.

[13] *Due diligence* is a legal term which refers to "a comprehensive appraisal of a business undertaken by a prospective buyer, especially to establish its assets and liabilities and evaluate its commercial potential" (OUP n.d.-b). In the context of this article, it refers to a thorough assessment of a project proposal.

(7) Plan and carry out an approved project in a designated organisation or community sector, giving special attention to optimising the learning across the implementation continuum.
(8) Design and deliver a learning/education module that incorporates the principles, aspirations and strategies of SLE. The learner can choose the topic and mode of delivery. This could be a team endeavour.

The desired and expected learning outcomes shown here reflect our ongoing teaching and research interests, and are meant to be illustrative, not prescriptive. Every realised SLE programme would have its unique and relevant learning objectives and outcomes. The important thing to remember is to make the material and assessments as representative of the real world (and of the learner's actual work and day-to-day life) as possible (Ashford-Rowe et al. 2014) whilst emphasising sustainable practice. Lessons and assessments should be immersive and deeply engaging, as it is unlikely that the essence of sustainability will be internalised through instruction that treats the subject superficially (Hays 2015).

Conclusion

In this article, we have introduced a new concept, *sustainable learning and education* (SLE), and a proposed curriculum under the same name. As a nascent idea, SLE builds on the notion of sustainability, which is increasingly recognised as crucial in the 21st century (Skene and Murray 2017). Not surprisingly, sustainability is beginning to figure in curricula across disciplines including environmental science, engineering, economics and management, as the sampling of literature we cite in this article indicates. Sustainability is also a political issue and is high on national and international agendas, as Sterling and others have emphasised.

Despite progress and awareness of sustainability, learning and education are relatively unexplored as expressions of sustainability (Stough et al. 2018). We recognise and appreciate that concepts such as "continuous learning", "lifelong/life-wide learning" and even "organisational learning" have qualities that relate to SLE. They (and intersections with other similar concepts) will be the focus of continued study contributing to a deeper understanding of SLE and its enhanced applicability. We therefore hope the ideas put forward in this article will stimulate interest and inquiry more broadly.

It is not surprising that few if any courses of the kind we have proposed here exist. Yet, the need for them is profound for a number of reasons. These include the ever-increasing demand of education to "do more with less" (Levine 2017) and the widely-held view (perhaps *outside* academia) that conventional education is entrenched in the past, slow to change, not particularly innovative, and out of step with the demands (and opportunities) of the new millennium (Rist 2017). While many exceptions can be found to counter this view, it is undeniable that education systems are less relevant and inspiring than they could be, and fail to promote meaningful learning and change in organisations and communities.

Education should be a catalyst for innovation and change (Dyer and Dyer 2017). In particular, education should inculcate in students not merely a love of learning (Bowen and Fincher 2018), but equip them with the skills, disposition and discipline to continually learn and to apply that learning towards ends – innovations – that contribute to long-term global flourishing (Brundiers and Wiek 2017). Such an education is broad, deep and challenging, and increasingly necessary.

One of the contributions of this article towards establishing this kind of education is the compilation of sustainability principles (Table 1) that can guide the design, delivery and evaluation of courses and programmes. A second important contribution is the notion of sustainability as the hub connecting learning and innovation (see Figure 1 and related discussion). It is important to reiterate here that our focus is not on learning for sustainability but rather on *sustainable learning* as the engine of continuous innovation.

There is also a cautionary undertone to this article. We argue for progress and innovation facilitated through education and learning. But we also submit that we should not pursue progress and innovation just because we can or because they may be immediately profitable. We must consider the far-reaching consequences of progress and innovation. Applying the principles of sustainability we have presented in this article should help us determine if and when pursuit is wise.

Offsetting some of the concerns and anxieties raised by thinking about threats to planetary well-being is the remarkable quality of creativity inherent in complex adaptive systems (Tengblad and Oudhuis 2017). We can solve the challenges of our time by working together, bringing our collective and multifaceted creativity to bear (Peschl and Fundneider 2013). This potential for creativity can be cultivated and unleashed, but is stifled in controlling, inhibiting and isolating circumstances (de Bruin and Harris 2017). Discovery, invention and adventure await schools, organisations and communities that encourage and equip their members to cultivate autonomy, self-direction, collaboration, responsibility and agency (Barth and Rieckmann 2012). Top-down and teacher-centred approaches limit possibility, particularly when diversity and divergence are minimised and undervalued (Warburton 2003). Space, models, tools, and time for creative collaboration are necessary (Zandvliet and Broekhuizen 2017).

Arising from our research for this article and attendant thinking about the various aspects of and relationships between sustainability, learning, education and innovation is a suggestion that sustainability is essentially a matter of community. *We are all in this together* (Huang et al. 2016). This is highlighted further when considering the nature of complex adaptive systems, ecology and ecosystems (Levin et al. 2013). Clearly, sustainability concerns the environment and its ecosystems. But there are human and social implications as well. Writing on wise organisations, and emphasising the aspect of community as ecosystems (Hays 2010a, b), the first author of this article noted:

> The term ecosystem was incorporated because it invokes the notion of a diverse, thriving community whose members are mutually interdependent, working in harmony, concerned with continuity and welfare, and interacting continually with the environment. … An inherently wise system is one that is

> both resilient and does minimal harm to the environment. A truly wise organisation will be the one that contributes positively to the world while sustaining itself (Hays 2010b, p. 83).

Our perceived "community" may be our workplace, neighbourhood, nation or planet. Ultimately, what we do as individuals and collectives impacts others at some level of community. If we cared more about those communities we do not see and experience every day, including future generations, we might also think more deeply about our actions and their consequences. Here, our notion of *learning forward* (Hays 2014, 2015; Tschakert and Dietrich 2010; Wollenberg et al. 2000) is critical. We must learn (and change) now and into the future. Sustainable learning and education (SLE) makes that possible.

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Jay Hays, Professor, has held senior positions in academia, private industry and the public sector across the globe, including Australia, Germany, Italy, Malaysia, New Zealand and the United States, and has run projects in Spain and Zambia as well. Focus areas in research, teaching and consulting span leadership and leadership development; organisational capacity-building; teamwork and collaboration; and complex adaptive and socio-ecological systems. Jay is author of two books, two research monographs and 50+ peer-reviewed journal articles, book chapters and conference papers. Jay's current research and curricular activities focus on development of higher-order thinking capabilities and dispositions and sustainable learning and education.

Hayo Reinders, PhD, (www.innovationinteaching.org) is Professor of Applied Linguistics at King Mongkut's University of Technology Thonburi (KMUTT) in Thailand and TESOL Professor/Director of the Doctoral Programme at Anaheim University in the USA. He is Founder of the Global Institute for Teacher Leadership (www.teacherleadership.ac). Hayo has published over 25 books and 100 articles in the areas of autonomy, technology, teacher education and out-of-class learning. He edits a book series for Palgrave Macmillan and is Editor of the Journal *Innovation in Language Learning and Teaching*.

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ORIGINAL PAPER

Literacy for self-reliance: A critical exploration of Nyerere's legacy in Tanzanian education policies

Kapil Dev Regmi[1] · **Samuel Andema**[2] · **Marlene Asselin**[3]

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Abstract

The global movement to achieve the 17 Sustainable Development Goals (SDGs) of the United Nations' 2030 Agenda rests on strengthening international connections and cooperation. However, in recent years nationalism and protectionism have been on the rise in donor countries such as the United States and the United Kingdom. In this situation, Julius Nyerere's *education for self-reliance* (ESR) philosophy, which aimed at achieving sustainable development using Tanzania's own resources, has again gained traction among scholars and policymakers. Placing Tanzanian education policy development in the context of the international political economy, this article critically analyses key education policy documents produced by Tanzania and its development partners, with a particular focus on literacy. The authors not only examine the extent to which ESR has been included in current literacy policies, but also consider its relevance for literacy education. Their analyses show that, even though ESR is mentioned in literacy policies, the term *self-reliance* now has different connotations; *literacy* is understood as comprising students' abilities in basic reading, writing and arithmetic; and current literacy initiatives are designed to prepare Tanzanians to find jobs in the global capital market rather than empower rural communities for sustainable development.

✉ Kapil Dev Regmi
kapil.regmi@ubc.ca

Samuel Andema
andemasam@yahoo.co.uk

Marlene Asselin
marlene.asselin@ubc.ca

[1] Department of Educational Studies, Faculty of Education, University of British Columbia, Education Centre at Ponderosa Commons, Vancouver, BC, Canada

[2] Pincer Training and Research Institute, Kampala, Uganda

[3] Department of Language & Literacy Education, Education Centre at Ponderosa Commons, Vancouver, BC, Canada

Keywords Tanzania · self-reliance · Nyerere · literacy · community · sustainable development · education for self-reliance (ESR) · structural adjustment policies (SAPs)

Résumé
L'alphabétisation pour l'autonomie : un examen critique de l'héritage de Nyerere dans les politiques d'éducation tanzaniennes – Le mouvement mondial qui vise à atteindre les dix-sept Objectifs de développement durable (ODD) du Programme de développement durable à l'horizon 2030 de l'ONU repose sur le renforcement de la coopération et des liens internationaux. Toutefois, ces dernières années, le nationalisme et le protectionnisme ont gagné du terrain dans les pays donateurs comme les États-Unis et le Royaume-Uni. Dans un tel contexte, la philosophie de l'éducation pour l'autonomie préconisée par Julius Nyerere et qui visait à réaliser le développement durable en utilisant les ressources de la Tanzanie retrouve de l'intérêt auprès des universitaires et des décideurs. Cet article, qui place le développement de la politique tanzanienne de l'éducation dans l'optique de l'économie politique internationale pour procéder à une analyse critique des documents clés de politique de l'éducation produits par la Tanzanie et ses partenaires en développement, accorde un intérêt tout particulier à l'alphabétisation. Non seulement ses auteurs examinent la mesure dans laquelle l'éducation pour l'autonomie a été intégrée dans les politiques actuelles de l'alphabétisation, mais ils se penchent aussi sur sa pertinence pour l'alphabétisation. Leurs analyses montrent que même si les politiques d'alphabétisation font mention de l'éducation pour l'autonomie, le mot *autonomie* a d'autres connotations aujourd'hui; on considère que *l'alphabétisation* englobe les bases en lecture, en écriture et en arithmétique des apprenants; enfin, les projets d'alphabétisation actuels sont davantage conçus pour préparer les Tanzaniens à trouver du travail que pour autonomiser les communautés rurales dans l'optique du développement durable.

Introduction

For several developing countries, the post-World War II period, especially the 1950s, was marked by increasing international engagement and support for economic development and the institutionalisation of democracy. Much of this was led by the United States (US), motivated by the Truman Doctrine,[1] as outlined by US president Harry S. Truman in his 1949 inaugural address (Truman 1949). Yet, the United States' Cold War rival, the Union of Soviet Socialist Republics (USSR), was also highly influential in many developing countries. These countries developed networks, such as the East African Federation, the Afro-Asian People's Solidarity Organisation, the Organisation of African Unity, and the Non-Aligned Movement, to

[1] The *Truman Doctrine* refers to "the principle that the US should give support to countries or peoples threatened by Soviet forces or Communist insurrection. First expressed in 1947 by US President Truman in a speech to Congress seeking aid for Greece and Turkey, the doctrine was seen by the Communists as an open declaration of the Cold War" (OUP, n.d.).

strengthen their international connections. The two key ideologies shaping the purpose and visions of these networks were communism – promulgated principally by the USSR and China – and Western market capitalism, whose strongest proponents were the US and the United Kingdom (UK).

The Republic of Tanzania was formed after the unification of Tanganyika (ruled by the British until 1961) and Zanzibar (ruled by an Arab dynasty until 1963) in 1964 under the leadership Julius Nyerere. Possessed of charismatic leadership and high educational qualifications (he was a graduate of the University of Edinburgh), Nyerere emerged as one of the most influential African leaders of his generation (Mulenga 2001). His political philosophy, as expounded in numerous publications (Nyerere 1968a, b, c, 1985) and speeches (Lema et al. 2004), aimed to strike a balance between capitalism and communism. Influenced both by Chinese statesman Mao Zedong and Indian spiritual leader Mahatma Gandhi, Nyerere introduced *Ujamaa* as an African version of socialism.[2] His anti-colonial and socialist ideals (see Nyerere 1968d) were championed by his political party, the Tanganyika African National Union (TANU), and became popular among Tanzanians. TANU established itself as the ruling party of Tanzania under Nyerere's leadership. In the *Arusha Declaration,* Nyerere affirmed that "hard work" and "intelligence" were the two "major conditions" for the sustainable development of national capacities and resources (Nyerere 1968d, pp. 29–32). He thus became a major proponent of mass education, starting with agricultural education for the predominantly rural communities of Tanzania:

> … using a big hoe instead of a small one; using a plough pulled by oxen instead of an ordinary hoe; the use of fertilizers; the use of insecticides; knowing the right crop for a particular season or soil; choosing good seeds for planting; knowing the right time for planting, weeding, etc.; all these things show the use of knowledge and intelligence. (ibid., p. 31)

Nyerere believed that investments by non-state actors in education, health and the economy would not lead African societies towards sustainable development. He wanted to achieve self-reliance for Tanzania through state investment in socio-economic production and education. The idea of *education for self-reliance* (ESR), which is the main focus of this article, emerged from the above context (Nyerere 1968a). However, Nyerere's ambitious vision soon encountered obstacles. The oil crisis of the 1970s left many developing countries, including Tanzania, unable to manage their economy autonomously and increasingly dependent on loans from international banks (McMichael 2012). The national economy worsened during the 1980s due to a growing trade deficit, an international economic recession, a prolonged drought, and the war that Tanzania was "forced to fight when Idi Amin's Ugandan troops invaded" (Nyerere 1985, p. 52). In the name of debt management, the *structural adjustment policies* (SAPs) demanded by the World Bank and the

[2] The Kiswhahili word *ujamaa* means brotherhood in English (*jamaa* means family, relatives), and its philosophy is being aware of all members of a family or community. The meaning of the term has been extended to include socialism in a political context.

Figure 1 Tanzania's international debt (in millions of US dollars). *Source:* World Bank (2020a, p. 129)

International Monetary Fund (IMF) were implemented in several countries, including Tanzania, during the 1980s.[3] Major state institutions, including banks and schools, were privatised as a condition for securing loans. Tanzania was obliged to create an investment-friendly climate for foreign donors in several sectors, including education. Tanzania's reliance on foreign donors has continued to the present day.

Two issues illustrate the effect and relevance of non-state actors in Tanzania's education system. First, as shown in Figure 1, although Tanzania has readily adopted many of the policies recommended by international organisations (Vavrus 2005), its foreign debt has grown steadily. This discrepancy calls to mind Nyerere's argument that development aid from foreign donors will not lead to the sustainable development of the Tanzanian economy.

Second, during Nyerere's presidency (1964–1985) Tanzania was regarded as one of the most successful countries, not only in reducing the illiteracy rate but also in defining the purpose of adult education and literacy (Mulenga 2001). While about "90% of the Tanzanians above 10 years of age were illiterate in 1962", this proportion "decreased to 27% in 1977" (Wedin 2008, p. 756); thanks to several educational initiatives, including the national campaign to eradicate illiteracy (see Nyerere 1985). According to Nyerere, literacy should

> help men [*sic*] think clearly; it must enable them to examine the possible alternative course of action; to make a choice between those alternatives in keeping with their own purposes; and it must equip them with the ability to translate their decisions into reality (Lema et al. 2004, p. 134).

Despite all the policy changes and the involvement of non-state actors in education, as shown in Table 1, Tanzania's progress did not meet expectations, especially after the 1980s.

[3] Structural adjustment policies are a set of economic policy reforms which developing countries had to implement as a condition for receiving loans from the World Bank and the IMF.

Table 1 Literacy rate (%) of Tanzania in 2015

Age group	Male	Female	Total
15–24 years	87.01	84.64	85.76
15 years and older	83.2	73.09	77.89
65 years and older	58.86	29.71	43.46

Source: UIS (2018)

The global goals for education supported by international organisations (UNESCO 2015; UN 2015) have tended to focus on increasing enrolment rates in primary and secondary education. However, in Tanzania "huge disparities persist in learning outcomes across different regions and districts", with a significant deterioration in rural areas (Uwezo 2017, p. 54). As Figure 2 shows, despite the fact that education is compulsory for children under 15, there is a marked inconsistency even at primary level.

Literature review

Several empirical studies (DeJaeghere 2017; Orodho 2014; Tonini 2012; Vavrus 2002, 2005; Vavrus and Kwauk 2013; Wedin 2008) have explored the various educational challenges faced by Tanzania. These studies can be grouped under three major themes: (a) the influence of international organisations on education in Tanzania; (b) social inequality, particularly in relation to education for girls; and (c) the increasing disconnect between the Tanzanian social context and the global education movement.

Donna Tonini (2012) examined the World Bank 2020 education strategy (World Bank 2011) in the Tanzanian context and found that, while global movements such

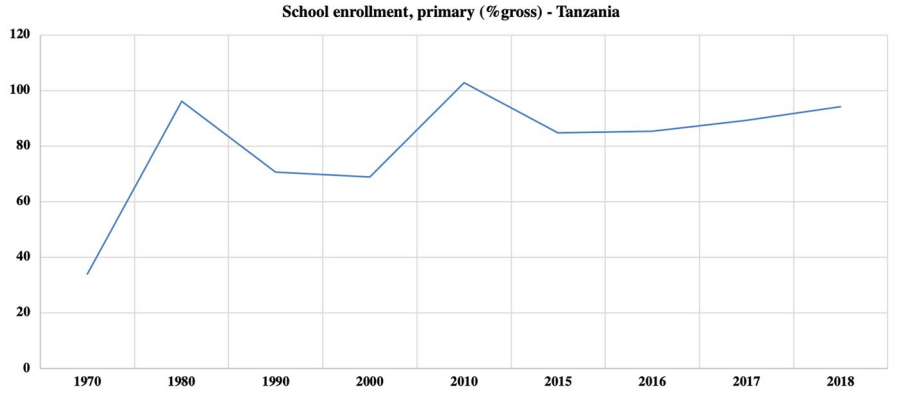

Figure 2 School enrolment rate at primary level. *Source:* World Bank (2020b)

as Education for All (EFA)[4] have helped to increase enrolment rates, the overall quality of education has deteriorated. Similarly, John Orodho conducted a comparative study of education policies in Kenya and Tanzania with regard to equity and quality of basic education. He found that, while "tremendous quantitative growth has occurred in access to primary and secondary education", the real outcomes have been fraught with "multifarious and intertwined challenges of providing education", which have resulted in severe regional and gender disparities (Orodho 2014, p. 11). Frances Vavrus and Christina Kwauk explored the ambiguity within the World Bank's stance on the initiative to abolish school fees and found that "the language of school fee abolition" has not increased access to education because of the Bank's "neoliberal policy prescriptions" (Vavrus and Kwauk 2013, p. 351).

Using quantitative data, Elaine Unterhalter, Jo Heslop and Andrew Mamedu explored "gender parity in access and progression, governance and management, and teacher qualifications" in Northern Tanzania and Northern Nigeria and highlighted "the importance of contextual factors in understanding the relationships between … distributional and empowerment aspects of gender justice in education" (Unterhalter et al. 2013, p. 566). Similarly, Vavrus examined "the effects of privatisation policies on girls' education" in Tanzania and found that cultural notions about gender and economic hardship have been major obstacles to increasing access to education for girls (Vavrus 2002, p. 527). In another study, Vavrus investigated how the lives of students were affected by the SAPs in three domains: access to schooling, opportunities for employment, and the risk of HIV/AIDS infection. She found that international economic forces affect policy at multiple levels, and highlighted the "the importance of understanding the local setting in the development of international and national policy" (Vavrus 2005, p. 174).

Joan DeJaeghere explored how Nyerere's legacy, especially of ESR and the neoliberal policies introduced since the 1980s, has shaped education policies and practices of Tanzania, in particular its aim of producing entrepreneurial citizens. She argues that international agencies and governments should "go beyond technical approaches of creating enterprises and increasing income" and instead adopt approaches that promote the wellbeing of communities (DeJaeghere 2017, p. i). She further argues that, even though current policies have provided for fee-free school education, many students cannot afford to attend because of other costs, such as uniforms, books and test fees.

Not long after Nyerere's presidency ended in 1985, the international political economy changed in significant ways, including the end of the Cold War and the rise of new economies such as China. However, the debate on what kind of education Tanzania really needs – essentially whether to pursue the ideals of ESR or the global goals and agendas – has continued. The studies noted above are helpful in understanding how policy recommendations by international organisations such as the World Bank have failed to meet Tanzania's challenges such as ensuring

[4] The Education for All (EFA) initiative, launched at the World Conference on Education for All in Jomtien in 1990, and reconfirmed at the World Education Forum in Dakar in 2000, strove to universalise access to education and promote equity (WEF 2000).

equal opportunities for all and implementing contextually relevant education policies. However, there is a dearth of literature examining the connection between ESR and Tanzania's current efforts to promote sustainable development through literacy education.

Informed by the broader context of the international political economy, this article critically reviews Tanzania's education policies from independence to the present with a particular focus on literacy education. We analyse Tanzania's historical context, especially the decolonisation efforts led by Nyerere and his philosophical ideal of *Ujamaa* (Nyerere 1968c), and explore how ESR has been reflected in education policies through the past five decades.

Theoretical and methodological discussions

Theoretical framework

This article draws theoretical insights from Mahatma Gandhi (1996), Jürgen Habermas (1984), John Dewey (2004 [1916]) and Amartya Sen (1999) to help understand the importance of the social context in education policies. In our study of the theoretical literature we found that, even though there are unique nuances in Nyerere's ideas, including his ESR philosophy, they are very much related to ideas developed by these leaders and scholars. For example, Nyerere's stand on non-violent resistance to colonial power can be related to Gandhi's non-violence movement in India. Gandhi introduced "Sarvodaya Shiksha" as a new philosophy of education. The Sanskrit word *sarvodaya* means "prosperity for all" and *shiksha* means education. Hence, *Sarvodaya Shiksha* means achieving prosperity for all through education. Gandhian principles were geared towards making individuals "self-sufficient" and improving the socioeconomic condition of villages by focusing on rural education. Students were expected to learn spinning, weaving, woodworking and agriculture as basic skills.

Both Gandhi's and Nyerere's notions of education were guided by an underlying assumption that education should help common people to enjoy a good quality of life in their own communities. What comprises a good quality of life, however, is a fundamental question for many scholars, including German philosopher and sociologist Jürgen Habermas, American philosopher, psychologist and educational reformer John Dewey and Indian economist and philosopher Amartya Sen. *Rational choice theory* (RCT) helps answer this question. According to RCT, individuals are expected to acquire knowledge and skills that enhance their capacity to make life choices and decisions; another insight is that education is needed to achieve economic gains such as finding a salaried job. From a Habermasian perspective, this is an instrumental or utilitarian value of education, in which individuals are expected to take actions by following "technical rules" that are geared towards achieving success and increasing "efficiency" (Habermas 1984, p. 285). In the debate about whether education should promote *efficiency* or *self-sufficiency,* the views of Dewey and Sen are important.

Dewey appears to have adopted a middle path between education for efficiency and self-sufficiency, which influenced Nyerere (see Lema et al. 2004). According to Dewey, knowledge should have either

> an immediate value, and require no justification, or else be perceived to be a means of achieving something of intrinsic value. An instrumental value then has the intrinsic value of being a means to an end (Dewey 2004 [1916], p. 120).

With regard to what to teach in schools, Dewey argued that "no subject or topic should be taught unless some quite definite future utility can be pointed out by those making the course of study or by the pupil" (ibid., p. 120).

Though Sen did not write particularly on the philosophy of education, his theorisation of what comprises a good quality of life has become influential in education research. According to Sen,

> an alternative to focusing on means of good living is to concentrate on the actual living that people manage to achieve (or going beyond that, on the freedom to achieve actual livings that one can have reason to value) (Sen 1999, p. 73).

As per Sen's theorisation, an appropriate approach to education is "neither that of utilities", as advocated by the proponents of RCT, "nor that of primary goods … but that of the substantive freedoms – the capabilities – to choose a life one has reason to value" (ibid., p. 74).

Methodology

To understand the kinds of literacy policies being implemented in Tanzania, we undertook an extensive search and found multiple policy documents produced by the Government of Tanzania (GoT 1978, 1995, 1998, 2004, 2007, 2010, 2013 [2009], 2014, 2016) and its international development partners, especially the World Bank (2004, 2011; Mulkeen and Chen 2008), the United Nations Educational, Scientific and Cultural Organization (UNESCO 1990, 2000, 2014, 2015), the United States Agency for International Development (USAID 2016) and Uwezo (2017). Since some of the documents were in Kiswahili (e.g. GoT 2014) and others were not available online, we sought the help of local Tanzanian scholars to obtain documents that could be used for analysis. Despite our concerted efforts to find all the policy documents, there may be other relevant documents which we were unable to include in the analysis.

After identifying the key documents, we read and re-read them in light of the theoretical framework and the gap in the current body of literature noted above concerning the connection between ESR and Tanzania's current efforts to promote sustainable development through literacy education. We identified a number of key themes and categories. Following the notions of *reflexivity* (Finlay and Gough

2003)[5] and *thematic analysis* (Boyatzis 1998)[6] in qualitative research, we used a number of strategies to question and challenge ourselves. After multiple rounds of discussions among ourselves and personal communications with five Tanzanian scholars, we further revised our key themes by dividing them into smaller categories and by merging some of them. Finally, we settled on the following three themes:

- the meaning of self-reliance;
- the understanding of literacy; and
- the connection between the community and school.

Analysis and findings

The three key findings of our analysis are as follows: (1) although ESR is mentioned in most of the education policy documents produced after the 1990s, it has different connotations; (2) in ESR, literacy was understood as a more comprehensive approach to education, but in current policy documents literacy is limited to reading, writing and arithmetic (known as the the 3Rs); and (3) while ESR focused on the connection between school and community to make literacy a cornerstone of sustainable development, more recent policies have focused on preparing individuals for finding jobs in the labour market. Below, we elaborate on these three findings in three subsections entitled, respectively, "The meaning of self-reliance", "The understanding of literacy" and "The community–school connection".

The meaning of self-reliance

The idea of self-reliance introduced by Nyerere in the *Education Act 1978* (GoT 1978) is mentioned in the *Education and Training Policy 1995*:

> The relationship between education and development depends on the extent to which the kind of education provided and its methods can meet the expectations of the individual and the needs of society. The guiding philosophy of all development efforts in Tanzania is the achievement of self-reliance (GoT 1995, p. ix).

However, *this* idea of self-reliance signifies something *different* from the one originally introduced by Nyerere. For him, self-reliance meant independence from foreign aid:

[5] "In research terms", reflexivity refers to "thoughtful, self-aware analysis of the intersubjective dynamics between the researcher and the researched. Reflexivity requires critical self-reflection of the ways in which researchers' social background, assumptions, positioning and behaviour impact on the research process" (Finlay and Gough 2003, p. ix).

[6] In a nutshell, thematic analysis is "a way of seeing" something that is "not … evident to others" (Boyatzis 1998, p. 3). It involves observation, finding a pattern and then interpreting that pattern (ibid., pp. 1–28).

> Independence cannot be real if a nation depends upon gifts and loans from another for its development (Nyerere 1968d, p. 23).

He argued that Tanzania had to increase its investment in education, but that the money required for this should be collected through "taxation" (ibid., p. 20) from its citizens. In the *Education and Training Policy 1995*, however, the "increased role of the private sector, … continued liberalization of trade, … the reduction of subsidies, and the introduction of cost recovery and cost sharing measures" (GoT 1995, p. xi) are adopted as key policy strategies. These are akin to the SAPs demanded by the World Bank and the IMF during the 1980s (DeJaeghere 2017) through the strategy of implementing *economic recovery programmes* (ERPs) in Tanzania.[7] The *Education and Training Policy 1995* also notes that "since the 1970s, the country has experienced serious economic problems which led to the deterioration of the economy at the turn of the 1980s" (GoT 1995, p. x). Further analysis reveals that, unlike the *Arusha Declaration* (Nyerere 1968d) and the *Education Act 1978* (GoT 1978), both of which were guided by what Nyerere himself called "African socialism" (Nyerere 1968b, p. 199), the *Education and Training Policy 1995* follows the SAPs:

> Most of these policies reflect a shift from the policy emphases of the 1960s to the early 1980s, which placed strong reliance on government control of the economy and the public sector. It is this shift of emphasis which has also influenced the form and direction of most of the education and training policies contained in this document (GoT 1995, p. xi).

The *Tanzania Development Vision 2025* (GoT 1998) still looks to national unity, which was stressed as a key component of ESR, as a major Tanzanian asset, yet explicitly discards the ideology that guided the Arusha Declaration. The *Tanzania Development Vision 2025* notes that

> the major strengths which Tanzanians must capitalize on are national unity, social cohesion, peace and stability. However, these assets, born out of the Arusha Declaration, should not be taken for granted (GoT 1998, p. 15).

As the *Tanzania Development Vision 2025* (GoT 1998) was prepared in consultation with non-state actors (the United Nations Development Programme [UNDP], the Government of Japan, the European Union and the Government of Ireland), Nyerere's appeal to bring education under the control of the national government was abandoned. The key ambitions of the *Tanzania Development Vision 2025* (GoT 1998) include developing a good governance mechanism, creating a learning society, and making Tanzania a competitive economy by achieving high economic growth. These ambitions connect with the economic policies adopted by the United Nations (UN), the European Union (EU) and the Organisation for Economic Co-operation and Development (OECD). For example, the UN advocated for a

[7] The first ERP, which ran from 1986 to 1989, "included a broad range of policies aimed at liberalising internal and external trade, unifying the exchange rate, reviving exports, stimulating domestic saving, and restoring fiscal sustainability" (Bigsten and Danielsson 1999, p. 13).

governance mechanism in which international donors, often referred to as "development partners", are regarded as governing bodies (Rhodes 1996). They are not elected through a democratic electoral process, yet are involved in the financing and management of national programmes, including education programmes. Similarly, the idea of fostering a learning society and creating a competitive economy are key policy agendas adopted by the OECD (1996) and the European Commission (EC 2000).

The *Tanzania Development Vision 2025* (GoT 1998) continued to follow the SAPs and the direction of liberalism adopted by the *Education and Training Policy 1995* (GoT 1995) because, according to these two documents, the Arusha Declaration and the Education Act 1978 "were not consonant with the principles of a market-led economy and technological development occurring in the world" (GoT 1998, p. ix). While the word "self-reliance" has been retained in the *Tanzania Development Vision 2025* (GoT 1998) and even in more recent education policy documents (see GoT 2014), it now has a different connotation:

> … building a strong and resilient economy that can effectively withstand global competition (GoT 1998, p. x).

The *Tanzania Development Vision 2025* further notes "the need for Tanzania [*sic*] society as a whole [to] treasure a competitive development mindset as well as nurturing a self-reliance culture" (GoT 1998, p. xi). Thus, the focus is not on creating a self-reliant economy, but a self-reliant culture. Further reading of the document makes clear that Tanzanian people are now expected to be competitive in the global capital market. This indicates that Nyerere's vision of making education provision the responsibility of the state (see Nyerere 1968d) has been replaced by a new discourse in which individuals should take responsibility for being literate and competitive.

Recognising that Tanzania was likely to have a predominantly rural economy for a very long time, Nyerere (1968c) advocated a development agenda that was rural-based. He believed that, since the majority of the people in the country lived and worked in villages, it was in those same villages that lives must be improved through the provision of social services. Yet the education policies implemented after the 1990s (GoT 2007, 2010) have mostly been guided by global goals such as EFA and the Millennium Development Goals (MDGs)[8] that focus on increasing enrolment and literacy rates rather than the sustainable development of rural communities.

The understanding of literacy

We found that, even though Nyerere's understanding of *literacy* was also limited to basic reading, writing and training, he sought to tailor education provision to the needs of Tanzanian society. While the *Education Act 1978* (GoT 1978) does not

[8] The UN's eight MDGs, in conjunction with the Education for All agenda (1990–2015), preceded the 17 SDGs of the UN's 2030 Agenda. For more information, visit https://www.un.org/millenniumgoals/ [accessed 9 January 2020].

include a definition of literacy, it does provide some key ideas – mainly on adult education, so-called "folk development colleges" (defined below) and national education – from which we may infer Nyerere's understanding of literacy education in Tanzania. The *Education Act 1978* defines *adult education* as

> the training of mature persons in the art of reading and writing, and in other fields of learning, the training in [*sic*] which they could not obtain through the formal process of education (GoT 1978, p. 5).

The document promotes the idea of a "folk development college", which is defined as "an adult education centre at or in which training is provided in a specific field of learning for the purposes of particular developmental requirements" in Tanzanian society (ibid., p. 6). The concept of national education in this document refers to learning opportunities for all irrespective of age and the field of education. Thus, education is geared to the "spiritual, moral, mental and physical development of the community, and to the attainment of the wider national goals of ujamaa and self-reliance" (ibid., p. 6). Furthermore,

> [t]he Commissioner [for National Education] shall-not grant approval for the establishment of any school under this Act unless … the school is intended to provide *training* wholly or mainly in *technical fields of learning* (GoT 1978, p. 12; emphases added).

The *Education and Training Policy 1995* stresses that "education makes man aware of his own potentials and responsibility to change and improve his own condition and that of his society; it embodies within it science and technology" (GoT 1995, p. viii). Even though "training" is used as a key strategy in both the *Education Act 1978* (GoT 1978) and *the Education and Training Policy* (GoT 1995), the stated purpose of training is not the same in these two documents. According to the former, technical education or training mostly serves to support a rural economy by modernising agriculture. But in the *Education and Training Policy 1995* (GoT 1995), as well as the *Tanzania Development Vision 2025* (GoT 1998), the aim of training is to provide for high economic growth through investment in human capital education:

> there is need [*sic*] to …:[t]ransform the education system so that it can develop the human capital in tandem with the socio-economic changes envisaged in the Vision 2025 (GoT 1998, p. 27).

It is important to note that some policies provide for education as a human right. For example, the *Zanzibar Education Development Programme I* (ZEDP I) refers to education as a "basic human right" and aims to shift "the focus from simply concentrating on the contribution that education can make to economic development and growth" to strengthening democracy (GoT 2007, p. 6).

More recent education policies and practices have focused on reading, writing and arithmetic (the 3Rs), but have shifted from providing learning opportunities through more regulated state provision to the assessment of the learning achievements of Tanzanian people, often led by non-state actors. For example, the *Uwezo*

initiative[9] assesses learning achievements of Tanzanian students on the 3Rs (Uwezo 2017). In 2015 this initiative conducted its Annual Learning Assessment in 159 districts of Tanzania and measured reading skills of students at five competency levels: non-reader, able to read letters/sounds, able to read words, able to read paragraphs, and able to read a short story. The 2015 assessment found

> evidence that literacy skills in English are significantly lower than those in Kiswahili. This applies to children at all levels of primary school which implies that many children who will join secondary school will find it highly problematic to communicate in English, the language of instruction in secondary schools in Tanzania (Uwezo 2017, p. 11).

Similarly, the Early Grade Reading Assessment (EGRA) initiative in Tanzania, which is funded by the United States Agency for International Development (USAID) and implemented by RTI International (a US-based research institute), measures students' 3Rs against the established benchmarks of a particular year of the past (USAID 2016). Like Uwezo, this initiative also focuses on a particular set of skills. For example, the national Kiswahili EGRA 2016 consisted of syllable sounds, non-word reading fluency, connected text oral reading fluency, reading comprehension, and dictation. Other similar assessment initiatives include the Early Grade Mathematics Assessment (EGMA), and the Snapshot for School Management Effectiveness (SSME). These initiatives have been embraced by national bodies such as the National Examinations Council of Tanzania (NECTA) and by international bodies such as the Southern and Eastern African Consortium for Monitoring Education Quality (SACMEQ). They have resulted in the implementation of the *Big Results Now!* (BRN) programme, whose results are used for official school ranking, national 3R assessment, and 3R teacher training (UNESCO 2014).

Even though EGRA also measures what the report (USAID 2016) terms *life skills* (e.g. perseverance, "academic grit", assertiveness and problem-solving), this is limited to the focused areas of the 3Rs. For example, the *problem-solving skill* does not mean that students are able to solve the problems and challenges of their lives, an ability which would be in line with Nyerere's vision of developing problem-solving skills, critical thinking and contextual knowledge required for the sustainable development of rural communities. Rather, what USAID understands as problem-solving skills refers to students' ability to solve arithmetic problems such as addition and subtraction. The report makes some recommendations, such as providing learning opportunities outside of the school, following a constructivist approach to teaching, and increasing interaction between teachers and students' families. However, all of these recommendations are geared towards increasing students' assessment scores on the 3Rs. For example, the report claims that "reading outside of the classroom needs to be provided to promote a culture of reading and ultimately increase achievement" (USAID 2016, p. 8).

[9] The Kiswhahili word *uwezo* means capability in English.

The same report recommends

> increas[ing] the communication between teachers and families so that families can support their children's reading, writing, and mathematics achievement (ibid., p. 8).

The meaning of "achievement" in Nyerere's understanding of literacy contrasts with the understanding of literacy limited to assessment of the 3Rs. In the former, *achievement* means development of contextualised knowledge and skills that can contribute to the sustainable development of rural communities (Gandhi 1996; Habermas 1984), whereas in the latter, *achievement* means getting high scores in the 3Rs tests that assess the more generic and decontextualised knowledge useful for the job market. It is important to note here that, due to the promotion of this limited notion of literacy, school curricula have not only become assessment-oriented but also focused solely on the 3Rs. For example, the *Curriculum for Basic Education, Standard I and II* claims that

> the 3Rs are fundamental in enabling the pupil to learn effectively and to cope with higher levels of study with required standards … Therefore, the main role of the teacher is to enable the learner to learn and develop competences in 3Rs (GoT 2016, p. vi).

The community–school connection

Nyerere argued that, to ensure the sustainable development of rural communities, Tanzania should design an "educational system to serve the community as a whole" rather than adhering to the system in place at the time which served "individual interests of the few" (Nyerere 1968a, p. 426). He further emphasised that education should be "directly relevant to the society in which the [learning] child was growing up" (ibid., p. 415). In recent policy documents (GoT 1995, 1998, 2004) this broader vision has been replaced by a new discourse that seeks to equip Tanzanians with the kind of skills they need as competitors on the global job market. For example, in the *Tanzania Development Vision 2025* (GoT 1998), Tanzanian people are expected to "attain self-reliance driven by the psychological liberation of the mindset" (ibid., p. 5) rather than liberation from capitalism and donor-reliance. Nyerere emphasised the importance of developing critical thinking as he argued that an education system should not "be designed to produce robots, who work hard but never question" authority (Nyerere 1968a, p. 420). However, the *Tanzania Development Vision 2025* (GoT 1998), along with more recent policies (see GoT 2014), assumes that people should be positive towards rather than critical of authority. It envisages Tanzania as

> a nation whose people have a positive mindset and a culture which cherishes human development through hard work, professionalism, entrepreneurship, creativity, innovativeness and ingenuity and who have confidence in and high respect for all people irrespective of gender. The people must cultivate a community spirit; one which, however, is appropriately balanced with respect for individual initiative (GoT 1998, p. 5).

For Nyerere, the formal schooling system developed by colonial powers was not the only venue for learning. He vigorously contended that informal learning existed "prior to the coming of the Europeans to Africa" (personal communication with a local Tanzanian scholar, August 2018). According to Nyerere, important learning occurs in community settings through day-to-day communication in local languages (see Lauwo 2018). He argued that in pre-colonial Africa, people had learned in their homes and on their farms

> by living and doing … the skills of the society … They learned the kind of grasses which were suitable for which purposes, the work which had to be done on the crops, or the care which had to be given to animals, by joining with their elders in this work (Nyerere 1968a, p. 412).

But the policies developed since the 1990s have aimed at preparing individuals for the job market and invest only in formal education. For example, guided by earlier policies, the *Education Sector Development Programme: Secondary Education Development Plan 2004–2009* (GoT 2004) posits that the aim of secondary education is to create a human capital base to support Tanzania's modern economy.

The *Education Sector Development Programme* notes that "[m]odern economies require the supply of an educated and trainable labour force with secondary education as the minimum qualification", because "secondary education is a necessary condition for economic competitiveness in the context of globalization and liberalization" (GoT 2004, p. v). Interestingly, unlike Nyerere's emphasis on primary education, this development plan stresses that "secondary education is one of the major components of the Poverty Reduction Strategy" (ibid., p. v). In a sense, it does not make much difference whether Tanzania focuses on primary or secondary education as long as its aim is to fulfil the needs of Tanzanian society. What is interesting here is that the earlier nationalist discourse (for example, Nyerere's insistence on reducing the reliance on foreign aid for Tanzania's sustainable development) is replaced with a new discourse of poverty reduction. Discarding the idea of the *Ujamaa* Village introduced by Nyerere, the *Education Sector Development Programme: Secondary Education Development Plan 2004–2009* (GoT 2004) follows the Poverty Reduction Strategy Papers (PRSPs) introduced by the World Bank in 2000.[10] The development plan (GoT 2004) stressed that the PRSPs of Tanzania are "underpinned by the notion that economic growth is a precondition for poverty reduction" (ibid., p. 1).

For Nyerere, schools not only constitute communities; they also form part of the communities in which they are located. He argued that

> [s]chools must, in fact, become communities – communities which practise the precept of self-reliance. The teachers, workers and pupils together must

[10] Poverty Reduction Strategy Papers, which "describe the country's macroeconomic, structural and social policies and programs" (IMF 2016), are documents required by the IMF and World Bank for the purpose of granting loans.

> be the members of a social unit in the same way as parents, relatives and children are the family social unit (Nyerere 1968a, p. 427).

Furthermore, Nyerere suggested that "every school should also be a farm", and that "the pupils working on it should be learning the techniques and tasks of farming" (ibid., p. 428). He further argued that

> by using good local farmers as supervisors and teachers of particular aspects of the work, and using the services of the agricultural officers and assistants, we shall be helping to break down the notion that only book learning is worthy of respect (ibid., p. 428).

To implement this vision, Nyerere introduced the concept of the *Ujamaa* Village to promote "living together, working together, solving problems together" (personal communication with a local Tanzanian scholar, August 2018). In such villages people were encouraged to run communal farms where they would "give rise to the birth of a *Mfuko wa maendeleo ya kijiji* or *Mfumaki*" – a village development fund (personal communication with a local Tanzanian scholar, August 2018).

A further intended benefit of the *Ujamaa* Village approach was that it would make people think more of community than of individual welfare. The villages competed to build their development funds. Some bought a bus from their village development funds to provide a transportation link between the village and the regional capital (personal communication with a local Tanzanian scholar, August 2018). In contrast to ESR philosophy and the strategies adopted by Nyerere for its implementation, current policies do not recognise farmers and parents as primary sources of learning (Habermas 1984), nor do they encourage students to learn in informal settings. For example, the *Curriculum for Certificate in Teacher Education Programmes in Tanzania* assumes that the aim of education is the

> improvement of the personalities of the citizens of Tanzania, their human resources and effective utilization of those resources in bringing about individual and national development (GoT 2013 [2009], p. 4).

The strategies proposed by Nyerere (1968a, d) to establish community–school connections are emphasised in the *Education Act 1978* (GoT 1978). For example, schools in *Ujamaa* Villages would "integrate the school in the life of the community which it serves" and promote schools as centres "for the provision of national education to the community which it serves" (ibid., p. 23). Moreover, to strengthen such connections, the *Education Act 1978* makes parents explicitly responsible for their children's completion of primary education:

> The parents of every child compulsorily enrolled for primary education shall ensure that the child regularly attends the primary school at which he [*sic*] is enrolled until he [*sic*] completes primary education (GoT 1978, p. 21).

The idea of creating a learning society – which can be compared to Nyerere's approach in establishing community-school connections – is included in the *Tanzania Development Vision 2025*:

> the Tanzanian society should be characterized by … [a] learning society which is confident, learns from its own development experience and that of others and owns and determines its own development agenda (GoT 1998, p. 13).

Unlike the *1978 Education Act*, where communities are assumed to be responsible for creating learning opportunities (GoT 1978), the *Tanzania Development Vision 2025* considers individuals and "the private sector as the central driving forces for building a strong, productive and renewing economy" (GoT 1998, p. 16). Recent literacy initiatives led by non-state actors have emphasised the role of parental education in the literacy achievement of children. For example, Uwezo found a strong association "between a mother's level of schooling and the learning outcomes of her children" (Uwezo 2017, p. 8), with children of an educated mother passing a literacy test at a rate of 74%, while children of an uneducated mother passed at a rate of 46%. However, the broader connection between school and community as envisioned by Nyerere is absent from recent initiatives. Similarly, school curricula are no longer connected to the students' families and communities. For example, the *Curriculum for Basic Education, Standard I and II* (GoT 2016) aims at helping students develop ability in the 3Rs, but does not emphasise the importance of school–community connection in this development.

Discussion and conclusion

A key message of the analysis presented above is that over the past five decades, the international political economy affected not only the political and economic systems of Tanzania, but also the purpose and scope of education broadly and literacy education particularly. At least three major political changes brought about significant shifts in Tanzanian education.

The first period, which extends from the era of independence in the early 1960s to the 1980s, can be understood as the rise of African socialism and ESR. The *Arusha Declaration* of 1967 (Nyerere 1968d), which introduced ESR as a new philosophy of education, shaped policy and practice (Nyerere 1968a) until the early 1980s. The *Education Act of 1978* (GoT 1978) endorsed the ESR philosophy with a strong focus on the development of nationalised education. During the 1960s and 1970s, several initiatives were taken to implement the ESR policies. All of them discouraged privatisation in education. The management and financing of education were seen as the responsibility of the national government. For example, the Commissioner for National Education was given full authority to manage and administer even those schools "other than … government school[s]" managed by the private sector (GoT 1978, p. 24).

The second period, during the 1980s, coincided with the rise of a neoliberal world order (McMichael 2012). From the mid-1980s onwards, there was a crisis not only in Nyerere's political approach based on what he termed "African socialism", but also in his education policy based on ESR philosophy. In 1985, Nyerere's successor Ali Hassan Mwinyi engaged with the IMF and the World Bank, and the SAPs were introduced in 1986. A key difference between ESR policies and SAP-guided

education policies is that, while the former discouraged investment in education by non-state actors, the SAPs encouraged investment by foreign donors and the private sector.

The third period, from the 1990s to the present, is shaped by the increased influence of global goals and agendas on Tanzanian education policies. Donors made an influential comeback after the 1990s with a new vision and agenda for Tanzania's educational development. Following global agendas such as EFA (UNESCO 2000), the Tanzanian government aimed to align its education policies with donors' recommendations. Since the 1990s, Tanzania has expressed its commitment to all international goals and agendas (UNESCO 1990, 2000, 2015; UN 2000, 2015). The third period, however, has been a mix of both the ESR guided by the nationalist ideology and the urge to meet international commitments. For example, the abolition of school fees in 2001 can be compared with Nyerere's vision of providing primary education for all (GoT 1978). Almost all recent education policies (GoT 2007, 2010; World Bank 2004) have stressed the importance of increasing access and quality of school education in Tanzania. However, Nyerere's vision of literacy as the process that begins "at the time of a child's birth and continues as the child grows up in the local community" (Nyerere 1985, p. 45) has been replaced by the kind of literacy children can learn during formal schooling.

To achieve the global education goals, the policy strategy of "partnership" between the Tanzanian government, the private sector, philanthropic foundations and international organisations (mainly the World Bank, the African Development Bank [AfDB), the EU, the Swedish International Development Cooperation Agency [SIDA], Global Affairs Canada [GAC], USAID, the Japan International Cooperation Agency [JICA] and the UN) has been applied (see UNESCO 2014). Tanzania is supported by the Global Partnership for Education (GPE) programme[11] "with the funding of USD 94.8 million to implement the Literacy and Numeracy Education Support (LANES) programme endorsed by the Local Education Group (LEG) in 2013" (UNESCO 2014, p. 23).[12] Though these initiatives help increase enrolment rates and students' competencies in 3Rs, they are less helpful in "making them better able to contribute to their own well-being and to the development of the society in which they live" (Nyerere 1985, p. 45; Sen 1999). In a sense, they have promoted the compliant yet individualist pursuit of white-collar jobs in a capitalist society instead of promoting cooperative and community-based approaches to sustaining lifeworlds (Habermas 1984).

[11] The Global Partnership for Education (GPE) programme was launched in 2002. According to its own website, "GPE brings together developing countries, donors, international organizations, civil society, including youth and teacher organizations, the private sector and private foundations to pursue the shared objective of equitable, quality education for all (GPE n.d.).

[12] The Literacy and Numeracy Education Support (LANES) programme was designed to improve the acquisition of the 3Rs among children in and out of school; especially marginalised children and those in hard-to-reach and hard-to-serve areas of Tanzania. The target age group was 5 to 11 years, with a consideration of 2- to 4-year-old children in day care centres, and 9- to 13-year-old children in non-formal education programmes. A Local Education Group (LEG) is a multi-stakeholder body led by a country's Ministry of Education. Its purpose is to support education sector planning, policy development, implementation and monitoring through joint sector reviews.

To conclude, in this article we used Nyerere's vision of education as a focus to examine the extent to which the education policies developed since the 1990s in Tanzania have incorporated ESR philosophy. We found that this philosophy understood literacy as a means to promote the sustainable development of rural Tanzanian societies. We also noted that both national and international political and economic changes affected the way ESR was understood and adopted in literacy policies. A number of additional insights emerged from our analysis of the current relevance of ESR in Tanzania (Mulenga 2001). One of these concerns gender. Although Nyerere critiqued "racial segregation in education" and appealed for the provision of education to "physically and mentally handicapped children and young people" (Nyerere 1985, p. 50), he did not pay attention to the traditional gender roles practised in Tanzania. Nyerere's philosophy assumed that all people living in rural communities known as *Ujamaa* Villages would contribute to their sustainable development. But he appears to have overlooked the issue of gender discrimination in traditional Tanzanian society and whether women's roles in the sustainable development of their communities could be changed or improved by following ESR.

We also found that, even though ESR was a very good philosophy of education, its implementation was blocked not only because of political and economic conditions, but also because ESR was poorly understood. Several documents (Nyerere 1968a, b, c, d) used in this article to inform our analysis reveal that Nyerere was the brain behind of the whole idea of ESR, but "very few people understood the concept the way he did and the villagers did not understand the concept" (personal communication with a local Tanzanian scholar, August 2018). Our personal communication with Tanzanian scholars also revealed that Nyerere's desire to create *Ujamaa* Villages was too ambitious. He encouraged people to move to those villages, but the government he led failed to develop basic infrastructure such as drinking water systems, school buildings and health centres. The utopian rhetoric of providing free medical services and free "universal primary education" (Nyerere 1985, p. 52) was not made a reality in rural communities. However, given the uncertainty of achieving the current agenda of the SDGs (UN 2015) by relying on donors, it is important to revisit and reconsider the value of Nyerere's legacy in Tanzania.

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Kapil Dev Regmi is a lecturer at the Department of Educational Studies at the University of British Columbia in Vancouver, Canada. His research focuses on critical development and educational issues faced by the most impoverished communities of the Global South. He has published several peer-reviewed papers that inform policymakers working at national level and supranational organisations such as the Organisation for Economic Cooperation and Development (OECD), the World Bank and the United Nations Educational, Scientific and Cultural Organization (UNESCO) regarding the development of contextually specific educational plans and policies for underprivileged people and their communities.

Samuel Andema is an associate consultant with the Pincer Training and Research Institute based in Kampala, Uganda. Before this, he worked as a programne management specialist with USAID/Uganda Mission, where he provided technical guidance to the USAID/Uganda School Health and Reading Program (SHRP) and Literacy Achievement and Retention Activity (LARA). Prior to that he has been an assistant professor of language and literacy education with Aga Khan University (AKU), Institute for Educational Development, East Africa (IED, EA), based in Dar es Salaam, Tanzania. His research interests focus on Information and communications technology (ICT) and digital literacy, local cultural and linguistic resources, educational policy and classroom practices.

Marlene Asselin has been at the University of British Columbia (UBC) in Vancouver, Canada since 1997, researching, teaching and supervising graduate students in the areas of literacy education, early childhood education, and libraries as learning centres. Her research encompasses local, national and international contexts of these areas. She works with the Canadian Organization for Development through Education (CODE) and its local partner in Ethiopia, where she has designed and implemented librarian training focused on reading promotion and library–school partnerships in rural community libraries. She is also a consultant for a CODE initiative that supports research about African literacy education for Africans by Africans.

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ORIGINAL PAPER

Motivation by gamification: Adapting motivational tools of massively multiplayer online role-playing games (MMORPGs) for peer-to-peer assessment in connectivist massive open online courses (cMOOCs)

István Danka[1,2]

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Abstract

In the first decade of the 21st century, distance learning (usually subject to course fees and resulting in formal certification) was complemented by free-of-charge open learning courses with unlimited numbers of participants and no final certificate. Termed *massive open online courses* (MOOCs), these soon fell into different categories, depending on their concept. Among them are *connectivist* massive open online courses (cMOOCs) which emphasise a collaborative approach to learning. However, while initial enrolment is indeed massive, completion rates are very low and cMOOCs notoriously lack an appropriate method of evaluating learning progress and motivational resources. The author of this article suggests that one way of addressing this problem might be to adapt motivational formative assessment tools used in massively multiplayer online role-playing games (MMORPGs) to cMOOCs. He argues that some characteristics of MMORPGs can be effectively incorporated in cMOOCs, thus benefiting from the motivational potential of MMORPGs. He cautions, however, that even if MMORPGs (and ongoing, low-stakes formative assessment in general) are motivational, they can only be applied to cMOOCs if the idea of formative assessment is not in tension with connectivist principles. Hence, the author argues for their compatibility, and builds on peer-to-peer assessment as a solution for resource allocation problems with low instructor–learner ratio.

Keywords Connectivist massive open online courses (cMOOCs) · Connectivism · Formative assessment · Gamification · Massively multiplayer online role-playing games (MMORPGs) · Motivation

✉ István Danka
danka.istvan@filozofia.bme.hu

[1] Department of Philosophy and History of Science, Budapest University of Technology and Economics, Budapest, Hungary

[2] Department of Management and Business Communication, John von Neumann University, Kecskemet, Hungary

Résumé
La motivation par la ludification (ou *gamification*) : adaptation d'outils motivateurs de jeux de rôles en ligne massivement multijoueurs (connus sous l'abréviation MMORPG/massively multiplayer online role-playing games) à l'évaluation par les pairs dans les concepts connectivistes des cours en ligne massifs et ouverts (connus sous l'abréviation MOOC/massive open online courses) – Durant la première décennie du 21e siècle, des cours gratuits ouverts à tous, susceptibles d'accueillir un nombre illimité de participants et non qualifiants, sont venus compléter la formation à distance (généralement payante et sanctionnée par des certificats formels). Désignés par l'expression *cours en ligne massifs et ouverts* (MOOC/massive open online course), ils ont vite été répartis en différentes catégories, en fonction des concepts. Parmi eux, on trouve une version *connectiviste*, les cMOOC (*connectivist* massive open online courses), qui met en avant une approche collaborative de l'apprentissage. Cependant, bien que l'inscription à ces cours soit effectivement massive, le pourcentage des participants qui les suivent jusqu'au bout est très faible, et il est bien connu que les cMOOC ne disposent pas de méthode adéquate pour évaluer les progrès de l'apprentissage et les ressources de motivation. L'auteur de cet article indique qu'adapter les outils d'évaluation formative motivateurs utilisés dans les jeux de rôles en ligne massivement multijoueurs MMORPG aux cMOOC pourrait être un moyen de s'attaquer au problème. Il affirme que certaines caractéristiques des MMORPG peuvent être intégrées efficacement dans les cMOOC – qui profiteraient ainsi du potentiel de motivation des MMORPG. Il prévient toutefois que même si les MMORPG (et les évaluations formatives continues à faible enjeu en général) sont motivants, ils ne peuvent être appliqués aux cMOOC que si l'idée d'évaluation formative n'est pas en conflit avec les principes connectivistes. Par conséquent, l'auteur défend leur compatibilité en s'appuyant sur l'évaluation par les pairs comme solution aux problèmes d'affectation de ressources liés à un faible ratio enseignant-apprenants.

MOOCs and the motivation problem

A *massive open online course* (MOOC) is an online educational environment in which a virtually unlimited number of learners can learn collaboratively without being physically present in the same place. The idea of MOOCs is based on three main components: peer-to-peer interactivity; openly accessible learning material; and technological equipment providing the necessary conditions for learners to process and share learning material.

Most MOOCs are grounded in a specific pedagogical model called *connectivism*. The term was coined by George Siemens (2005) and Stephen Downes (2005a). In a nutshell, it refers to the connectedness of learners through electronic networks, enabling them to engage in collaborative learning. Siemens summarises his eight principles of connectivism as follows:

(1) Learning and knowledge rests in diversity of opinions.
(2) Learning is a process of connecting specialized nodes or information sources.

(3) Learning may reside in non-human appliances.
(4) Capacity to know more is more critical than what is currently known.
(5) Nurturing and maintaining connections is needed to facilitate continual learning.
(6) Ability to see connections between fields, ideas, and concepts is a core skill.
(7) Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities.
(8) Decision-making is itself a learning process. Choosing what to learn and the meaning of incoming information is seen through the lens of a shifting reality. While there is a right answer now, it may be wrong tomorrow due to alterations in the information climate affecting the decision

(Siemens 2005; numbering added).

By following these principles, connectivist pedagogy aims to support the most democratic form of education in order to support online, self-taught, lifelong learning. (While there may be some tensions between some of these principles, a proper balance is presumably achievable.)

In a blogpost a few years later, Downes (2010) also highlights four democratic principles of connectivism: *autonomy, diversity, openness* and *interactivity*. These principles warrant the best scenario for fruitful peer-to-peer connections, and for obvious reasons, connectivity is at the core of connectivist learning.

While the desirability of these principles is hardly questionable, putting them into practice seems to be problematic. It can be expected that an educational environment based on these principles attracts learners. This is, however, only half-true. As Rita Kop (2011) and Katy Jordan (2015) indicate, enrolment is often extremely high in MOOCs – but so is the dropout rate, with incompletion above 99 per cent, in many cases with a median value of 87.4 per cent (Jordan 2015). Most registered (but not-for-credit) learners are just "lurking", merely watching and listening from the sidelines without contributing anything and thus only passively taking part in the collaboration. The vast majority give up the course after the first few weeks and even the active learners' activity significantly decreases in time. It seems that connectivist principles attract enrolment but do not attract completion.

Hence, *motivation* is a central problem for MOOCs: an extreme proportion of registered learners usually do not finish MOOC-style courses. A solution is introducing motivation techniques into MOOCs. An increasingly popular way to do so is extending MOOCs with multimedia resources and summative (evaluative end-of-course) assessment:[1] multimedia intend to keep up interest during the course and final exams keep up interest in finishing the course. This is what Siemens (2013) terms *extended* MOOCs (xMOOCs), distinct from the original MOOCs based on interactivity as a central principle of connectivist pedagogy (cMOOCs). A third related category is *quasi*-MOOCs, or qMOOCs. They are asynchronous educational

[1] *Formative* feedback (or assessment) refers to an ongoing process, while *summative* feedback (or assessment) only occurs at the end of a course (see esp. Scriven 1966, 1991; Black and Wiliam 1998; Cowie and Bell 1999).

environments where only access to educational resources is provided and, hence, they are technically not courses but collections of learning material.

In the case of xMOOCs, the interactive, connectivist environment is extended primarily with video lectures and summative assessment. Their pedagogical framework emerged from motivational problems with early MOOCs. However, in effect these extensions make a backward step to e-learning 1.0 techniques.[2] A distinction between two types of knowledge networks (originated from Weller 2007) is helpful in understanding this problem:

> [i]n e-learning, two major traditions have been prevalent: one where connections are made with people and the other where they are made with resources (Kop 2011, p. 19).

Establishing access to resources was a typical aim of e-learning 1.0. In e-learning 2.0, learner contribution and learner–learner interactivity came to the fore (Downes 2005b; Karrer 2006).

Due to technological limitations, video lectures are collaborative and interactive to an even lesser extent than traditional lectures: instant verbal and nonverbal formative feedback from learners to the lecturer is practically impossible. The "uploading documents"-style education reduces the educational values of online education, similarly to qMOOCs, to those of an online (video) library service: though uploading documents provides *access* to learning material, it does *not* support and monitor understanding by *proper feedback*. Whether documents contain multimedia elements (as in the case of xMOOCs) or not (as in the case of qMOOCs) is not relevant for human–human interactivity. However, it is that interactivity which is essential for MOOC-like educational environments building on the advantages of a massive number of participants. Furthermore, a lack of interactivity also disregards community-building aspects of education and it involves learners much less actively in the educational process.

Summative assessment, the other extension of xMOOCs, can ideally motivate learners to finish courses. But research has shown that completion rates are also extremely low in MOOCs providing certificates. Moreover, those learners who do persevere and obtain their certificates tend to be located in economically advanced countries (Reich and Ruipérez-Valiente 2018), the reason for this being that certificates are not included in the free course package. It seems that summative assessment alone is not a sufficient incentive for increasing completion rates. Hence, xMOOCs as an attempt to solve the motivational problem in cMOOCs are not particularly successful, and they are also not compatible with the original idea behind cMOOCs.

[2] In use from about 1993 to 2000 (Winstead 2016), *e-learning 1.0* refers to the most "primitive" platform, where learners merely read online content without being able to interact with either the material, their course instructor or fellow learners. Technological developments in the first decade of the 21st century enabled learners to contribute input by writing and sharing ideas – this era (c. 2000–2010) is referred to as *e-learning 2.0.* Meanwhile, *e-learning 3.0*, in use since c. 2010, is characterised by "[s]emantic web and active user engagement. The focus is on the individual learners, their behavior and response to educational content" (Winstead 2016).

The central task of this article is to find a more viable alternative. In the course of my argument, I suggest that formative (rather than summative) assessment, supported by ideas borrowed from *massively multiplayer online role-playing games* (MMORPGs), may be a motivating educational tool that could make cMOOC completion rates more acceptable.

In a nutshell, users who engage (in some cases for a subscription fee) in MMORPGs connect and play on a global scale with a vast number of fellow players in a themed virtual world (e.g. fantasy or science fiction). They assume a character role and then participate in societal interaction with their fellow players, complete tasks, trade commodities etc. One of the main incentives for players is having control over the development of their character, which becomes measurable as they gather points in the game's inbuilt character progression system. Some games also facilitate the inclusion of player-generated content. Even though the purpose of the game is being actively involved in building a virtual world, the characteristics of the progression system are similar to those of ongoing, low-stakes (formative) assessment for monitoring purposes in a learning enviroment, and player-generated content is the outcome of collaboration. Thus, MMORPGs and cMOOCs have some things in common, while at the same time, the former also offer some extensions to the latter. These (dis)similarities are discussed in more detail later in this article. Prior to that, I establish a general framework to explore their association in terms of motivation.

In order to make use of some elements of MMORPGs as a possible solution for the motivation problem with cMOOCs, five premises must be accepted:

(1) formative assessment is motivational;
(2) MMORPGs offer a suitable form of formative assessment in a sense relevant for motivation;
(3) MMORPG ideas can be suitably applied to cMOOC-like educational environments;
(4) formative assessment is in accordance with connectivist principles guiding educational activities in cMOOCs; and
(5) possible problems that arise with formative assessment in cMOOCs can be solved so that the solution for the problem(s) does not generate other problems.

These premises will be discussed in the following sections in that order.

Motivation and formative assessment

Learner assessment is a central topic in the discussion about the educational perspectives MOOCs can offer (Mackness 2008; 2010; Peirano 2010; Mak 2011; Baxi 2012; Admiraal et al. 2014; Kulkarni et al. 2015). However, the claim that assessment is an effective means for motivating learners is controversial. Ken Masters argues that

> [i]n a [c]MOOC, assessment *does not* drive learning; *learners' own goals* drive learning (Masters 2011, p. 3; emphases added).

The main reason is that cMOOCs, as mentioned earlier, follow the most democratic form of education, based on the principles of autonomy, diversity, openness and interactivity (Downes 2010). For MOOCs to remain committed to these principles, learner autonomy must drive learning; fuelled by something called *intrinsic* rather than extrinsic motivation.[3] However, if course participants' motivation to enrol in a course is their pursuit of their own goals, dropping out before completion must mean that their learning experience at the beginning of the course did not turn out to be sufficiently useful for reaching their persoal goal.

The idea of learner assessment seems to be in conflict with the four principles highlighted by Downes (2010). In order to increase *autonomy,* grounds for measuring learners' knowledge must be decreased significantly. *Diversity* implies that to some (though certainly not all) questions, there are no automatic right-or-wrong answers, but that different perspectives can imply different "right" answers to the same question. *Openness* requires that MOOCs are accessible to everyone, without any entry requirements, and for the vast majority of learners, obtaining a final grade at the end of the course is not a purpose. Finally, *interactivity* makes it hard to identify what individual learners contribute to the learning outcome produced by the learning community. Assessing learning outcomes under these circumstances is difficult, if possible at all.

However, when assessment is discussed in the context of MOOCs, it typically occurs as summative assessment, especially in the form of taking final exams or tests (most explicitly considered in Mak 2012). Though recent tendencies have blurred the picture (Xiong and Suen 2018 discuss both kinds of assessment to some extent), much less has been said about formative assessment in the context of MOOCs and its relation to motivation. Since summative and formative assessment serve different purposes, possible effects of their application in MOOCs also differ potentially. It seems reasonable to complement the discussion of summative assessment by a discussion of formative assessment in MOOCs.

Formative, i.e. ongoing, assessment relates to motivation in three ways at least. First, it consists in providing feedback to learners during their learning process in order to support their development. The aim of feedback is to clarify weaknesses and possible ways of further improvement. Feedback helps learners to keep progressing, and progress is a motivating power. Setting up goals and then realising their achievement is one of the key factors in motivation (Malone and Lepper 1987).

Second, formative assessment helps the instructor revise educational purposes with respect to learner needs and progress. Via formative assessment, the instructor can focus on particular topics or methods within the course material in accordance with the needs, interests and/or strengths/weaknesses of learners.

[3] In a nutshell, *intrinsic motivation* is prompted by the learner's expectation of personal reward or satisfaction, while *extrinsic motivation* emerges from the learner's calculation that other people will be satisfied with her/him. For the application of the distinction to education, see esp. Malone and Lepper (1987).

Changing the focus in accordance with learners' interests (i.e. matching the goals they have set out to achieve) is also an effective way of motivating them to continue their learning process.

Third, and most importantly for the present purposes, formative assessment is fully compatible in its characteristics with motivation by gamification.[4] Monitoring constant progress by achieving gradually higher scores and milestones are gamified elements that can serve as key factors in motivating learners (Dichev and Dicheva 2017; Szabó and Szemere 2016, 2017). This, along with the other two aspects, implies that introducing formative assessment into cMOOCs would support learner motivation, especially in a gamified form.

MMORPGs and motivation

Gamification is a relatively new trend aiming to motivate learners in (typically but not necessarily) online educational environments. Including game elements in education is a possible way for motivating learners extrinsically until they develop an intrinsic commitment to learning (Szabó and Szemere 2016, 2017). Due to their massively multi-participant character, MMORPGs can serve as a blueprint for a particular form of gamification in education that has the potential of being compatible with cMOOCs. MMORPGs, like games in general, are motivational mainly due to their visual elements, storyline, interactivity, immediate feedback, experience points and a levelling-up system (Caponetto et al. 2014; Nah et al. 2014). While visuality and storyline are presumably able to make *external* additions to education, interactivity is essential for cMOOCs, and immediate feedback, experience points and a levelling-up system can be included in formative assessment, providing an *internal* addition to the environment.

MMORPGs, just as MOOCs, are based on the idea that the quality of interaction can be dramatically increased by increasing the number of participants. Offline role-playing is often applied to education traditionally, associated with Jacob L. Moreno's *psychodrama* and *sociodrama* (Moreno 1946). In Moreno's version, patients were asked to play improvisatory roles in a fictitious situation in order to learn handling psychic and social problems (Blatner 2009). Theories of learning via video gaming have also become popular recently (Papert 1998a, b; Prensky 2001; Gee 2003; Aldrich 2009), including the idea of gamification in education.

In MMORPGs, the massive number of participants makes room for diversity, a central principle for connectivism. Participants are represented by "characters" or "avatars" they generate. Due to the role-playing idea, characteristics of these characters do not necessarily represent the characteristics of their owners, but they represent predefined roles, owner decisions and the owners' progress in engaging with

[4] *Gamification* refers to "[t]he application of typical elements of game playing (e.g. point scoring, competition with others, rules of play) to other areas of activity, typically as an online marketing technique to encourage engagement with a product or service" (OUP n.d.).

other participants as well as their skills development measured by their completion of quests.

Due to the rule-governed nature of human–human interactivities within the game, MMORPGs naturally create a platform for organised, pseudonymous discussions and hence they are extremely useful for educational activities based on the principle of collaboration, even in the absence of instructors (Steinkuehler 2004, 2006). Though a complete absence is not necessarily a purpose in running successful cMOOCs, it is essential in educational environments with an extremely low instructor–learner ratio to make the instructor's task more manageable.

MMOPRGs as a framework for discussion seminars

A cMOOC educational environment can be best described as a virtual discussion seminar in which learners bring in their own background knowledge and any resources they find about the course topic in order to share and discuss them with their peers. This section aims to show briefly how ideas from the world of MMORPGs can contribute to such an environment by increasing motivational potential.

A full characterisation of MMORPGs and their relevance for education is beyond the scope of this article. Some of their features, like storytelling, visual elements or avatars that are relevant for motivation can also be distracting in education. Hence, exploiting these characteristics could be dangerous. Analysing how serious this danger is is also beyond the scope of this article. The present task is rather focusing on those characteristics whose application is likely to offer advantages (and advantages only) in online education.

At least three such characteristics of MMORPGs are directly relevant for motivation, and they are completely absent from MOOCs. Progress in MMORPGs is measured mainly in these terms and at least two of them can be seen as formative assessment tools. These characteristics are as follows:

(1) character generation;
(2) experience point and levelling-up system; and
(3) interactive progress via user-defined goals.

(1) is motivational because of identity construction and trying out different roles; (2) is motivational because of constant progress monitoring and instant feedback; and (3) is motivational because of a high level of social interaction. These motivational factors are discussed below one by one.

(1) *Character generation* Playing a MMORPG begins with character generation. This is a process of allocating different attributes to the player's character (see Patisup 2007 as an example); the process is analogous to filling in the registration form in a social media application. Social media profiles normally (though not necessarily) represent their owner. MMORPG characters do not represent their owners but the role the owner intends to "play out". Role-playing is highly motivational because role-players can try out different roles without too much investment and a long-term

commitment to those roles. Identity construction is a key factor in MMORPGs' popularity (Lee and Hoadley 2006).

Character generation does not determine only the appearance of the avatar and the information provided about the user (in social media profiles), but the in-game skills and abilities of the character as well. This is done in accordance with user preference on the one hand, and a random generator (imitating a dice roll) to set up some measurable characteristics like the character's level of "dexterity" or "wisdom".

This structure thus allows an expression of preferences (e.g. learner's interests or opinions relevant to the course) and an indication of the level of learner skills/experience regarding particular topics. The character is subject to constant development via activities within the game, just as learners are supposed to constantly develop in education. In this framework, the first task the learner is expected to carry out after entering the game (the course) is to set up a profile, committing her/himself to a set of characteristics according to predefined scales. Some characteristics can be chosen, others are predefined by the instructor, or are subject to the development of the character. In a discussion seminar, for example, learners are expected to take up and defend positions the instructor (or a random generator) assigns to them, and they can choose from possible topics and arguments that help them in defending their predefined position.

Pseudonymous profiles potentially increase diversity, exemption from prejudices (as in-game characteristics are clearly isolated from real-life characteristics), open-mindedness, and hence empathy towards others in different positions, situations and with different backgrounds. They also help learners understand strengths and weaknesses of theoretical positions they do not accept or consider seriously, but need to understand as they role-play virtual commitments, in order to progress further.

(2) *Experience point and levelling-up system* MMORPGs, as most games, monitor in-game progress by setting up challenges for the player, and if s/he succeeds, "experience points" can be received as a reward. Experience points are not only measurements of progress, but also a resource of novel opportunities: after reaching certain predefined amounts of experience points, players can "level up". By levelling up, they gain new in-game skills by which they become able to successfully tackle more interesting and difficult, higher-level challenges. Short-term goals defined as challenges or quests always motivate activity: since the goal is more easily achievable than an abstract final aim of all activities together, and short-term success results in easily gained rewards, motivation can be maintained by a series of short-term feedback on success.

The system of experience points and levelling up (as well as its supplements like progress bars, leaderboards, scoreboards, etc.)[5] gives instant and constant feedback, and could even also be a means for grading. It is suitable for supplementing

[5] *Progress bars* are visual representations of individual characters' progress, e.g. in terms of experience points gained, levels reached, tasks completed, etc. *Leaderboards* (sometimes also referred to as *scoreboards*) indicate characters' rankings according to various game aspects and statistics (highest levels and highest number of experience points, most quests completed, most battles won, prestigious titles won for specific quests, etc.).

cMOOCs with a possible form of formative assessment and motivational resource due to constant progress monitoring and instant feedback. The levelling-up system could be adapted for recognising course completion (even without paid certificates), opening up in-game possibilities (e.g. higher-level learners could at some point become group leaders, teaching assistants, tutors, etc.). Levelling up can introduce a sort of hierarchy into the environment that is based on internal achievement. (The importance of this aspect will become apparent in a later section of this article, where hierarchical peer-to-peer assessment is introduced as a solution to the extremely low instructor–learner ratio in MOOCs.)

(3) *Interactive progress via user-defined goals* The main stage of MMORPGs offers potentially unlimited, open-ended directions to progress further. A high level of collaboration defines this phase, as quests often cannot be tackled by single characters with insufficient capabilities or one-sided specialisations. Hence, players are expected to form groups and attune their short-term purposes so that they can progress further. At this stage, MMOPRGs can be understood as very complex multiple choice questions: a massive amount of multiple choices in collaborative challenges with multiple directions to progress further, thereby determining the course of the plot. Each choice to be made is not about the right answer but about one of the available paths suitable for further progress (though within the particular quests, there can also be a place for right-or-wrong answers).

MMORPGs provide options from which participants can choose: quests, challenges that are set up by the instructor. In cMOOCs, learners are also supposed to set up their educational goals. However, due to the democratisation, learners in cMOOCs often lack guidance. If tasks and challenges guided them (rather than instructions where to progress further), democratic principles of connectivism would not be hurt *and* learners would have predefined options from which they could choose so that they could see that the direction they intend to follow is a viable one.

In a virtual classroom discussion, character generation and development should consist mainly in developing competence in relevant interpretive, systematising and argumentative skills as well as an understanding of the rules of discussion; having an understanding of the main problems of the field; having a landscape view of different positions regarding the matter and the main arguments for/against them; developing the learner's own views; and relating those views to other positions in the light of possible arguments and counter-arguments at different levels. All of these skills can be constantly developed by formative assessment.

However, assessment was originally missing from early cMOOCs. One likely reason for this is that connectivism seems to be incompatible with assessment: as mentioned earlier, it seems to be in conflict with the four democratic principles formulated by Downes (2010). Though these worries have been addressed above, the idea of formative assessment also seems to be in conflict with the eight connectivist principles of Siemens (2005). The next section intends to harmonise connectivism with the idea of formative assessment by distributing assessment tasks among peers.

Formative assessment and connectivism

Insofar as cMOOCs are grounded in connectivist pedagogical principles, even if assessment could be helpful in overcoming motivational problems, it cannot be applied if it is incompatible with connectivism. Yao Xiong and Hoi K. Suen (2018) argue that an important difference between cMOOCs and xMOOCs is that the latter can build on assessment whereas the former cannot. But as indicated above, xMOOCs do so for the price of giving up connectivism (and also disregarding some important requirements of e-learning 2.0 in general). A more suitable solution would therefore be finding a way to balance the two ideas and providing an understanding of formative assessment that is compatible with connectivism.

There are (at least) four methods of assessment: teacher assessment, self-assessment, automatised assessment and peer assessment. *Teacher assessment* in MOOCs is impossible due to the low teacher–learner ratio: there is no teacher capacity to give formative feedback for everyone in a course with a massive number of participants.

Self-assessment is not suitable for connectivism, because the latter requires intersubjective interaction (sharing and discussing knowledge). This does not entirely exclude self-assessment from connectivist environments; it merely means that for a connectivist pedagogy, self-assessment must be supplemented with other forms of assessment.

Automatised assessment is applicable mainly to topics in which questions with predefined right-or-wrong answers are dominant, because this form of assessment is well-suited to being automatised. But connectivism is generally more suitable for discussing complex topics with no preliminary set right-or-wrong answers. Since connectivist learning is much more about exploring novel directions than memorising answers to questions, it is at least challenging to use automatised assessment effectively for measuring progress. The question here is not only whether this is even possible, but also whether it is cost-effective.

For similar reasons, Xiong and Suen (2018) argue that xMOOCs need to feature *peer assessment*. Because it involves peer-to-peer interactivity, peer assessment is also the most compatible with connectivist ideas compared to the other three assessment methods. Xiong and Suen argue that assessment is "difficult" in cMOOCs because generating and sharing knowledge, defined by Siemens (2005) as core activities in cMOOCs, are hard to assess. But an extended analysis of Siemens's eight principles (ibid.) mentioned at the beginning of this article, can demonstrate that the incompatibility between connectivism and formative assessment is only superficial. Four of the eight tenets seem to be the most problematic: (1), (2), (4) and (8). They are discussed in some detail in the following paragraphs.

(1) *Learning and knowledge rests in diversity of opinions* implies that there is no universal set of right answers. While this may be not applicable to learning material about factual questions, connectivist pedagogy does imply that knowledge is produced rather than acquired by learners, and that learning is successful if it goes beyond the scope covered by predetermined learning material. For reasons mentioned above, peer assessment seems to be the only viable form of assessment in MOOCs. But what are peers expected to assess if (at least in some cases) there are

no right-or-wrong answers? Rather than reproducing learning material, they can assess learner–learner connections, generating and sharing knowledge content, since these are the most important educational aims in a connectivist learning environment. It is not a problem if assessment does not reflect on progress in acquiring knowledge in terms of predefined expectations, because in this context, the main purpose of assessment is motivation rather than measuring learning outcome.

(2) *Learning is a process of connecting specialised nodes or information sources* implies that making connections among knowledge items is essential for connectivist learning. Whether a connection established between two items is "good" (and in what sense) is measurable by applying standard social media techniques (making "friendships", commenting and "(dis)liking" others' profiles and posts, etc.), by which learners acknowledge the contribution of their peers to knowledge generation. Sharing and commenting on content can also provide instant feedback and support for further development. Even if assessment in this form is less suitable for measuring the quality of content generated and shared, it is suitable for measuring its relevance in terms of peer needs and interests.

(4) *Capacity to know more is more critical than what is currently known* suggests that the knowledge already gained is of secondary importance to knowledge of which one is capable. But future knowledge is unmeasurable in advance, and what learners are capable of knowing in the future is also hard (if even possible) to measure. However, once again, this is problematic only if assessment measures learning outcome in terms of knowledge content gained and reproduced. This is precisely what Siemens's fourth principle accords secondary importance to knowledge capability that can be increased by collaboration which *is* measurable as argued above.

Finally, from (8) *Decision-making is itself a learning process,* it follows that selection of learning material by the learner rather than the instructor is essential for connectivist learning. As a consequence, the learning material often consists of resources that are not selected by standards of relevance and quality. Even if measurability of the extent to which learners know the material were good, these measures would say nothing about the extent of knowledge they really gained but only about what portion of the unselected material they processed. That is why summative assessment hardly indicates anything important in cMOOCs. But what *is* measurable is how that material was discovered, processed and shared, and on what grounds it was found relevant, interesting and reliable.

These factors are also relevant for (4): if learners receive support and feedback on how to get to relevant, interesting and reliable resources, that makes them capable for generating future knowledge. By learning how to select resources, they presumably learn skills that are far more important for generating future knowledge than any particular piece(s) of knowledge that can be learned in a course, given that there is an enormous amount of easily accessible but unselected and often unreliable information on the Internet.

Hence, even if these four principles of connectivism make measuring learning outcome in connectivist learning environments like cMOOCs problematic, measurability of learning outcome *in the traditional sense* is not necessary for assessment. Given that connectivism is not a traditional educational theory either, the evaluation of its outcome may be grounded in connectivist rather than traditional measures.

Insofar as an introduction of formative assessment to cMOOCs aims at increasing motivation rather than measuring learning outcome, measurability problems with learning outcomes are irrelevant.

In xMOOCs, as well as in traditional, "offline" education, learning outcome is mostly assessed by the depth of learners' knowledge and understanding of predetermined content. In cMOOCs, learning outcome can be assessed by the diversity of shared knowledge material by evaluating the quality of peer-to-peer connections *and* the knowledge produced and shared via peer-to-peer activities. A connectivist reinterpretation of the role of formative assessment in the educational process does not exclude the possibility that formative assessment can also serve as in-progress feedback. On the contrary: peer feedback can be evaluated in terms of peer-to-peer connections, and hence *providing feedback* is also measurable in connectivist terms.

Distributed assessment

I have argued above that despite its disadvantages, peer assessment is the most viable possibility in cMOOCs. However, this does not preclude supplementing peer assessment with computer-driven methods like multiple choice questions (MCQs). The idea of MCQs does not necessarily reduce assessment to measuring learners' acquired level of grasp of knowledge content. MCQs can be developed to a *dialogic* way of argumentation, "encourag[ing] students to explore different possible interpretations of a key [philosophical] passage" (MacDonald Ross 2008). "Writing [or thinking] in dialogue [while you read] means that you can imagine a character who is likely to disagree with the position you have come to, and speculate as to the sort of objections they might raise" (ibid.). In practical terms, MCQs are

> linked to an important but ambiguous passage in the text. […] the passage referred to remains [visible on the learner's screen] all the time. [Underneath], there is a set of very short web pages, with interlinks. These pages are at three distinct levels. At the top level, there is a list of possible interpretations of the passage. The student clicks on one of these interpretations, and is then given a second-level page, with a number of reasons for and against that interpretation. Finally, clicking on one of these reasons will bring up a third-level page, in which [the instructor] comment[s] on the validity or otherwise of that reason (ibid.).

The purpose of developing these dialogically conceptualised MCQs would not be to measure the learners' knowledge in terms of right-or-wrong answers to questions with predetermined answers. Their responses to the latter type of questions can be assessed easily in any case (even free online MCQ applications like the game-based learning platform *Kahoot!* are suitable for assessing them – see kahoot.com). The real challenge is evaluating reponses to open-ended questions with no predetermined answers (e.g. essay-like tasks), and here's where dialogic MCQs come in. They present a divergent line of arguments in which learners, in accordance with Siemens's eighth principle, must make choices. Their choices determine the path they can follow on a complex "map" of views, interpretations and arguments, arriving at, maybe

not fully individual but nonetheless very specific, points of view on a certain matter. Computers are not tools of evaluation, but serve as tools of navigation for these techniques. Hence, no complex programming or advanced artificial intelligence is required. The task of computers is only to establish a connection between the learner and the (logical, associative or moral/practical) consequences of her/his choices from predetermined alternatives. Both the content and the connections are humanly generated; what the computer does is logging learner movements and assigning humanly generated evaluation of progress and further possible choices to each step.

In a complex system of MCQs, levels of knowledge and preferences are interwoven. Knowledge level is determined by the number of choices one has made on the map. The very same choices also demonstrate a learner's preferences in questions where judgment or opinion matters. This framework is therefore primarily suitable for deepening knowledge by following up the consequences of one's preferences. It does not exclude right-or-wrong answers (there can be wrong answers leading to "dead ends" on the map), even if it does not necessarily require them either. The direct aim of making choices is establishing learner-to-content connections by following different routes, with an indirect aim of creating peer-to-peer connections with peers who make similar choices at different milestones of the pre-established route.

Regardless of the computer assistance, developing a series of multi-track MCQs also requires an extended human contribution. In order to ease overload, a distribution of human tasks is necessary, and a viable way of doing this is further distributing assessment tasks to (advanced) learners. This is not, however, a theoretically *ad-hoc* movement: insofar as establishing content–content, learner–content and learner–learner connections is essential for connectivist learning, the enlargement of MCQ maps by advanced learners can be seen as an integral part of their learning progress, not merely an extra task to be done for the sake of environment development that should normally be part of the instructor's job.

MCQ maps provide a framework for establishing the conditions of getting entrance-level knowledge to the essential part of connectivist learning: collecting, sharing and discussing learning material in interest groups. Automatised assessment, along with peer feedback via comments and "(dis)likes" constitutes a score system that indicates the progress of learners.

By scorekeeping, the learner, the instructor and the community can monitor and assess the learning progress at individual and communal levels. There are different expectations set up for learners with different scores. In a virtual classroom discussion, beginners are expected to gain experience in understanding the basics of a discussion and the main problems of the field; competent learners are expected to defend their own views-in-progress; advanced learners are expected to be able to extensively argue for positions they disagree with; and expert learners (as well as instructors) are expected to evaluate arguments of others so that they can clarify controversial situations and make scorekeeping balanced in problematic cases.

Problematic cases may include the consequences of receiving "(dis)likes" due to factors other than contributing to generating knowledge, e.g. it is possible that learners may be exposed to cyber-bullying by their peers. However, the hierarchy of assessment warrants that peers giving scores are also assessed by higher-level peers

(whose score-giving carries more weight than theirs), and a factor in their assessment is how they give scores. Peers giving incorrect scores on a regular basis will be marked down in the long term and thus forced to progress more slowly. Unless there is a general problem with fairness, minor problems can be eliminated on a case-by-case basis. In the case of failure in collective assessment standards, the instructor can intervene. This may mean adding extra tasks to her/his workload, but this would still be lower than if s/he is expected to do all the assessment personally.

In order to have the best evaluation and feedback, a public hierarchy based on knowledge levels is a necessary component of peer assessment. If scores are public, even the less experienced learners can estimate the quality of comments in the light of the scores of commenters. (In order to avoid ethical concerns, all public information about learners, including their scores, must be pseudonymised, as it is normally done in MMORPGs.) Scores indicate progress, and hence high scores attribute greater authority to learners in communal activities that can be also built into the score system by weighting the (dis)likes given by the scores of the (dis)likers.

Conclusion

This article argues that adapting motivational tools from MMORPGs for formative, peer-to-peer assessment may offer a solution to the motivation problem from which many cMOOCs suffer. While assessment initially seems to be incompatible with connectivism, the background idea of cMOOCs, I have sought to demonstrate that this incompatibility can be dissolved if (1) formative rather than summative assessment is applied; (2) peer assessment is introduced; and (3) educational purposes of assessment are set in accordance with connectivist principles, aiming to motivate learners rather than trying to measure learning outcome.

After introducing different forms of MOOCs and connectivism as the background pedagogy behind cMOOCs, the most progressive form of MOOCs, I suggested the idea of looking to MMORPGs as a way of gamifying MOOCs. I have argued that MMORPGs offer effective formative assessment tools that potentially increase motivation. Addressing the commonly held concern that assessment is incompatible with connectivism, I have shown that the former can be harmonised with the latter if assessment is understood in a connectivist spirit. Finally, the challenge that peer assessment can decrease the quality of assessment is addressed by having a hierarchical distribution of assessment tasks among senior learners.

Introducing MMORPG ideas and methods into cMOOC environments is certainly not the only possible way of increasing the efficiency of MOOCs. My intention in the above argumentation is simply to show that this approach is at least one addition worth making in furthering the unexplored possibilities of MOOCs based on connectivist principles.

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István Danka is an Associate Professor at the Department of Philosophy and History of Science, Budapest University of Technology and Economics, and the Department of Management and Business Communication, John von Neumann University, Kecskemet, Hungary. He earned his MA at the University of Pecs, Hungary, and his PhD at the University of Leeds, UK (both in philosophy). Having engaged in teaching and research at the University of Pecs, LMU Munich, Germany, Research Institute for Philosophy, Hungarian Academy of Sciences, ELTE Budapest, Hungary, the Wittgenstein Archives Bergen, Norway, and the University of Vienna, Austria, his current research interests include the philosophy of online education, the teachability of argumentative skills and gamification in education.

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ORIGINAL PAPER

The potential of Accelerated Learning Programmes (ALPs) for conflict-ridden countries and regions: Lessons learned from an experience in Iraq

Moritz Bilagher[1] · **Amit Kaushik**[2]

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Abstract
Accelerated learning programmes (ALPs) provide a fast-track second-chance opportunity to complete formal education, enabling disadvantaged children and youth to catch up with their peers. In 2005, after a preliminary pilot phase, the Government of Iraq, in partnership with the United Nations Children's Fund (UNICEF) implemented an ALP initially in 10 of Iraq's 18 governorates with the intention of providing an estimated 50,000 out-of-school, often traumatised and disenfranchised children aged 12–18 years with an opportunity to complete the six-year primary cycle in three years. This experience generated some insights which may still be of practical use today in other conflict-ridden countries and regions. In order to highlight how the lessons learned just over 10 years ago are relevant to similar situations elsewhere today, this article discusses the findings of an independent evaluation of the programme in 2008. The available evaluation data imply that this ALP addressed a significant need and was appreciated by the target group, with 75 % of learners stating that they liked the ALP very much. Around 90 % of ALP graduates continued either in secondary education, or studying in other programmes, joined an apprenticeship scheme or found employment. Both survey and interview data suggest that this ALP did more than create educational opportunities for young persons; it also helped young people obtain a confident perspective for their own future. Consequently, this made them less vulnerable to participation in subversive activities (such as, for example, being recruited into militias). This is a lesson not just relevant to Iraq at the time, but to a wide range of unstable contexts across the world.

✉ Moritz Bilagher
m.bilagher@unesco.org

Amit Kaushik
Amit.Kaushik@acer.org

[1] United Nations Educational, Scientific and Cultural Organization (UNESCO), Paris, France

[2] Australian Council for Educational Research (ACER), New Delhi, India

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Résumé
Le potentiel des programmes d'apprentissage accéléré (PAA ou ALP/Accelerated Learning Programmes) pour les pays et régions déchirés par des conflits : les enseignements tirés d'une expérience en Irak – Les programmes d'apprentissage accéléré offrent une seconde chance à des enfants et des jeunes défavorisés de terminer rapidement leur scolarité formelle, leur permettant ainsi de rattraper le retard qu'ils ont pris sur leurs pairs. En 2005, au terme d'une phase expérimentale, le gouvernement irakien, en partenariat avec le Fonds des Nations unies pour l'enfance (UNICEF), mettait en place un programme d'apprentissage accéléré, initialement dans 10 des 18 gouvernorats du pays, en vue de permettre à quelque 50 000 enfants âgés de 12 à 18 ans, souvent traumatisés, privés de leurs droits et en rupture de scolarité de suivre le cycle d'études primaires en trois ans au lieu de six. Cette expérience a fourni quelques éléments peut-être encore utiles aujourd'hui sur le terrain dans des pays et régions secoués par des conflits. Afin de montrer dans quelle mesure les leçons qui en ont été tirées il y a un peu plus de 10 ans restent pertinentes ailleurs actuellement dans des situations comparables, cet article se penche sur les résultats d'une évaluation indépendante du programme, réalisée en 2008. Les données d'évaluation disponibles indiquent que le programme d'apprentissage accéléré dont il est ici question répondait à un besoin important et que le groupe cible l'a apprécié, 75 % des apprenants ayant indiqué qu'ils l'aimaient beaucoup. Quelque 90 % des diplômés du programme ont poursuivi leur scolarité dans le secondaire, ou dans le cadre d'autres programmes, ont commencé un apprentissage ou trouvé du travail. Les données ressortant de l'enquête et des interviews indiquent que le programme n'a pas simplement offert à des jeunes des possibilités de s'instruire, il les a aussi aidés à avoir confiance dans leur propre avenir, ce qui les rend moins susceptibles de se livrer à des activités subversives (par exemple en se laissant recruter par des milices). Cette leçon ne vaut pas uniquement pour l'Irak de l'époque, elle peut également s'appliquer à un vaste ensemble de situations instables dans le monde entier.

Introduction: why is the Iraq Accelerated Learning Programme (ALP) still important today?

While the fourth Sustainable Development Goal (SDG 4), which strives to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" (UN 2015, 2016), is now well into its fifth year of operation, the exclusion of certain groups of learners from quality education continues to be a serious issue. Among those excluded, we often find learners in or from (post-)conflict contexts, including migrants in and/or from Afghanistan, Somalia, South Sudan, Syria, Yemen and elsewhere. The scale of the problem is reflected in the Global Education Monitoring Report 2019 of the United Nations Educational, Scientific and Cultural

Organization (UNESCO), entitled *Migration, displacement and education: Building bridges, not walls* (UNESCO 2018). As those learners are excluded from education, there is a risk of their life perspectives becoming increasingly narrowed. This becomes an even greater threat to peace where young people – often men, but also women – become easy targets for recruitment into militias, which can destabilise nation states or even threaten civil society far beyond the borders of their own states. With conflict, migration and displacement becoming increasingly frequent and long-term features of our world, policymakers thus need to consider the potential impact of this situation far beyond the learners' countries of origin.

Fortunately, there exist – albeit only few – formally evaluated educational models that provide evidence-based tools to counteract this problem. One of these is the Iraq Accelerated Learning Programme (ALP), developed between 2002 and 2005/6 by the United Nations Children's Fund Iraq Support Centre in Amman (UNICEF ISCA),[1] and implemented from 2005 onwards. Under this programme, the usual formal primary education cycle (6 years) was condensed into a shorter period (3 years), thus offering aspiring learners a flexibility that suited their specific contexts. After completion, it enabled them to engage in secondary and continuing general education, post-primary technical and vocational and education and training (TVET), or work where a minimum of knowledge and skills – i.e. at least literacy and numeracy – was required.

Given the cultural similarity of Iraq with many of the above-mentioned countries where large numbers of learners are still excluded from quality education, we (the authors of this article) believe that significant lessons may be learned from the Iraq ALP experience, even though the intervention was evaluated around 10 years ago (2008). In fact, the current situation in some of these countries seems rather similar to that of Iraq a decade ago. To save these lessons for posterity, and provide current educational policymakers, planners and administrators with ideas for effective pursuit of SDG 4 in (post-)conflict settings, an objective which seems of ever-greater relevance, we offer the following findings from the 2008 Iraq ALP evaluation.

Accelerated education in crisis and conflict

So, what are accelerated learning programmes (ALPs), exactly? First of all, ALPs should not be confused with the field of *accelerated learning* (AL), a stream of neuro-scientific research which develops principles of multisensory learning that may or may not be used in ALPs (see Nicholson 2006). Rather, ALPs, sometimes also referred to as accelerated education programmes (AEPs), are education programmes that compress a formal curriculum by a certain "rate of acceleration" (see Longden 2013, p. 5):

[1] UNICEF ISCA was at the time located in Amman, Jordan, in line with the withdrawal of all United Nations (UN) offices from Iraq following a bombing incident in the UN complex in Baghdad in 2002.

> Accelerated Learning Programmes, ALPs, focus on completing learning in a shorter period of time. ALPs are a form of complementary education. As opposed to alternative education, they have the same end-point as a formal education system but reach it in less time. The ALP is complementary both in providing an alternative route and in matching its curriculum to the "official" curriculum, thus allowing learners to return to formal schooling at some stage (ibid., p. 4).

The Accelerated Education Working Group (AEWG), established in 2014 on the initiative of the UN Refugee Agency (UNHCR), proposed a definition according to which an accelerated education programme (AEP) is

> a flexible, age-appropriate programme, run in an accelerated timeframe, which aims to provide access to education for disadvantaged, over-age, out-of-school children and youth. This may include those who missed out on or had their education interrupted due to poverty, marginalisation, conflict and crisis. The goal of Accelerated Education Programmes is to provide learners with equivalent, certified competencies for basic education using effective teaching and learning approaches that match their level of cognitive maturity (AEWG 2017a, p. 7).

Through this approach, ALPs allow learners to "reintegrate into the formal schooling system, enter into skills-based technical and vocational education, or to enter directly into the workforce" (AEWG 2017b).

Large-scale ALPs have recently been implemented in *Zimbabwe* (ZALP, 2013–2016, sponsored by the United Nations Children's Fund [UNICEF]), *Sudan/South Sudan* (2015–2019, UNICEF with the United Nations Development Programme [UNDP]), *South Sudan* (2014–2018, sponsored by Oxfam); in *Uganda* for refugees from South Sudan (2018–2019, sponsored by a consortium led by Save the Children Netherlands) and many other contexts, including one ALP in Lebanon for refugee learners from Syria. A review (Burde et al. 2015) carried out by the Department for International Development (DfID) mentioned 31 countries in which ALPs had been implemented.[2] It is therefore striking that, so far, there is scarcely any academic literature on ALPs in an international development context.[3] The only exceptions we found to this rule, echoing the findings of the DfID review (Burde et al. 2015), were a – small – number of (recent) programme evaluations and reviews; in essence, grey literature.[4]

These include, for example, an evaluation of the Speed School Programme in *Ethiopia*. Between 2011 and 2017, some 120,000 out-of-school students aged 9 to

[2] Afghanistan, Angola, Bangladesh, Brazil, Burundi, Cambodia, DRC, Cote d'Ivoire, Ecuador, Egypt, El Salvador, Eritrea, Ethiopia, Ghana, Haiti, Honduras, India, Iraq, Jordan, Kenya, Liberia, Malawi, Maldives, Mali, Myanmar, Nepal, Sierra Leone, Tanzania, Uganda, Zambia and Zimbabwe.

[3] This is slightly different for ALPs in the United States, for which some research data are available, usually emphasising the positive results of instances of implementation of ALPs.

[4] The term *grey literature* refers to reports, working papers and other items not published by professional book or journal publishers. Items of grey literature are not usually circulated to (or known by) many readers beyond those affiliated to the institution that produced them, and therefore such items are at times difficult to track down.

14 years were enrolled in over 5,000 Speed Schools that follow the accelerated learning model. A University of Sussex evaluation of the programme found that Speed School graduates[5] performed better than their peers who had completed three years of education in their local public schools (Akyeampong 2018; Geneva Global 2017). In the *Democratic Republic of the Congo*, a study carried out by the United States Agency for International Development (USAID) on youth experience and perceptions of education and AEPs in the province of North Kivu found that AEPs tended to be underfunded and lacked qualified teachers and administrators (Hartwell 2016). An evaluation of an Oxfam ALP in *South Sudan* noted great local support, but a lack of suitable learning environments and extremely high dropout levels after Year 1 (Nicholson 2018). A more comprehensive review of AEPs noted some common challenges that such programmes tend to face: insufficient instruction time, funding constraints, lack of certified teachers and lack of robust monitoring and evaluation systems, including measurement of long-term outcomes, such as employment and wages (Menendez et al. 2016).

The DfID review found ALPs to be "effective in enrolling targeted overage and disenfranchised out-of-school youth" (Burde et al. 2015, p. 27; based on Johannesen 2005; Intili and Kissam 2006; Beleli et al. 2007; Coyne et al. 2008; Obura 2008; Nkutu et al. 2010; Manda 2011; Longden 2013; Petersen 2013) and "particularly effective in enrolling populations that are typically marginalized or stigmatized, such as girls and former child combatants" (Burde et al. 2015,p. 27; based on Intili and Kissam 2006; Beleli et al. 2007; Obura 2008; Manda 2011). The authors caution, however, that

> ALPs typically include multiple components such as smaller class sizes, teacher support, active learning, a steady supply of materials and infrastructure, relevant curricula and communities in "strong supportive roles" (Burde et al. 2015, p. 27; based on Nicholson 2006; Baxter and Bethke 2009; Longden 2013; Petersen 2013),

making it "difficult to disentangle which programme components are most important for increasing access" (Burde et al. 2015, p. 27). While it is not our intention to disentangle such factors in the case of the Iraq ALP per se, in this article, we do intend to highlight elements of ALPs that may increase their success in other instances.

[5] While the term "graduates" usually applies to attaining academic qualifications, we use it in this article to refer to those who have completed accelerated learning courses.

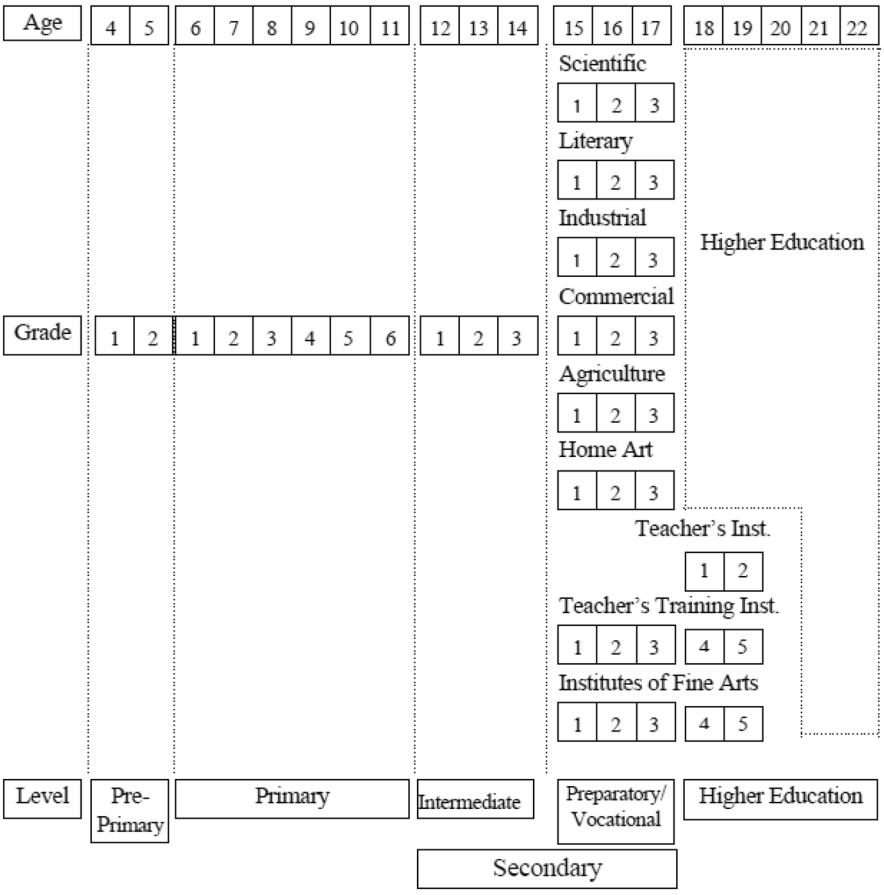

Figure 1 The education system in Iraq by age and grade. *Source*: Educational Research and Study Centre (2001)

Background (the context of the intervention)

Education in Iraq had historically been a high-performing area until the Iran–Iraq war of 1980 (MoPDC 2005a). Events thereafter, including the first Gulf War in 1991, the coalition-led invasion of Iraq in 2003[6] and the resulting insurgency all caused severe damage to education infrastructure and services, preventing children from participating in and completing their education. In particular, children between the ages of 6–12 years were affected, leading to interruptions in their completion of primary schooling. At the time, Iraq followed a school education cycle of 12 years,

[6] The coalition, formed among the United States, the United Kingdom, Australia and Poland, sent in a combined force of troops in an attempt to disarm Iraq of alleged weapons of mass destruction.

divided into six years of compulsory primary schooling, beginning at age six, and six years of secondary schooling, the latter further sub-divided into three years each of intermediate and preparatory education (Educational Research and Study Centre 2001). An additional two years of pre-primary schooling was also available (see Figure 1), but not widespread. Under the Provisional Constitution of 1970 (MoI 1971), the State had guaranteed the right to free education from primary to university level, with primary education being compulsory. Interestingly, the country continued to maintain a gross enrolment ratio at primary level of over 100 % almost up to the early 1990s (UNESCO 2003), indicating the high priority accorded to education by Iraqi society at the time.

By 2005, the situation had changed considerably. Depending on the source consulted, overall literacy rates ranged from 39.3 % (with female literacy rates of 23 %; UNESCO 2002), to 75 % (with female literacy rates of 66 %; MoPDC 2005b). Net enrolment ratios in primary schools had dropped nationally to 79 %, with 74 % for girls (MoPDC 2005c), and the number of out-of-school children in the primary school age group was estimated to be close to 800,000. Almost 24 % of children in rural areas were dropping out before completing primary education (MoE 2005).

With an annual budget of USD 2.5 billion in 1989, Iraq spent nearly 6 % of its gross domestic product (GDP) on education, incurring an annual per-student expenditure of USD 620 prior to the first Gulf War; by 2002, this expenditure had dropped to USD 47 per student (UN and World Bank 2003). The various wars had left Iraq's education infrastructure in a shambles, with one estimate indicating that 57 % of all primary school buildings needed substantial reconstruction (UNESCO 2003).

The Iraq Accelerated Learning Programme

Given these circumstances, in 2003, the government and development partners identified specific areas that needed attention. Among these was the situation of out-of-school children between the ages of 12–18, particularly girls, who had dropped out of primary school or never enrolled, in many cases due to the disruptions caused by war and civil unrest. It is worth recalling that Iraqi children in this age group, in those days, had almost no experience of a situation free from conflict. Sustained violence had left many of them with little or no family or community support, impaired their access to educational and health care facilities and increased their vulnerability to many forms of abuse. In order to provide learning opportunities to these older, yet vulnerable children, an accelerated learning programme (ALP) was therefore introduced on a pilot basis by the government in 2004, in partnership with USAID and UNICEF. Following the pilot phase, the programme was implemented in 10 of Iraq's 18 governorates in 2005, to initially cater for an estimated 50,000 children, who would be helped to complete the six-year primary cycle within three years. The programme was expanded to 13 governorates in the academic year 2006–2007 and to 15 governorates in 2007–2008.

The Iraq ALP was designed to allow enrolled pupils to complete the six-year primary cycle in three years, by scaling down the regular curriculum, in the expectation

that on completion and certification they would be able to opt for one of the following three alternatives:

(1) join the formal education stream by enrolling in the secondary education cycle;
(2) enrol in suitable vocational education courses; or
(3) acquire higher [than primary] levels of education through distance education or alternative education modes.

The programme was divided into three competency levels: Levels I, II and III, equivalent respectively to primary Grades 2, 4 and 6. The curriculum for each level was created by combining the curriculum for the two years in that level through the elimination of topics considered less relevant by a committee of experts and retaining only "core" concepts. This scaling down was expected to be accompanied by close coordination with the mainstream education system and by the training and sensitisation of teachers to deliver the compressed curriculum.

While USAID's involvement in the Iraq ALP ended in June 2006, UNICEF has continued to support the programme. In 2006, the programme had only been in operation for a few months, but overall response had been encouraging and nearly 12,000 children had been enrolled by then, as against a planned 10,000. It was at this time that the UNICEF Iraq Support Centre in Amman (ISCA) commissioned a consultant (the second author of this article), one of whose tasks was to review the progress made by the pilot ALP until then and create a draft strategy for the programme and its upscaling going forward.

The outcome of this was a strategy paper (Kaushik 2006), which was endorsed by the Iraq ALP Central Committee of the Iraqi Ministry of Education. It noted the importance of several associated activities for any such programme, including improvement of administrative and academic structures, programme-specific training of teachers, local community involvement and ownership, advocacy campaigns and timely distribution of textbooks to students. The paper further noted that the Iraq ALP was envisaged as a short-term measure, planned to be phased out or reduced considerably once a significant proportion of the identified target group had been catered for. Among other things, the paper recommended that the programme should be more closely supervised by the Ministry of Education, in partnership with the local communities, in areas of implementation.

Evaluation of the programme

In 2008, an evaluation study was commissioned by UNICEF ISCA, with the Iraqi Ministry of Education (MoE), which was undertaken by yet another consultant (the first author of this article). The objective of this evaluation (Bilagher 2009) was to assess where the Iraq ALP stood, at the time, mainly in terms of effectiveness in serving out-of-school children, with a view to scaling this up in the future. This request seemed to be a departure from the above-mentioned intention to phase out or significantly reduce the Iraq ALP, at least temporarily. In greater detail, the purpose

of the evaluation – which had characteristics of a mid-term review – as defined in the terms of reference of the assignment, was to:

> … review lessons learned to date and provide recommendations that will enhance the quality of ALP education. Recommendations will also enable UNICEF, MOE and other partners to improve educational planning, implementation and monitoring mechanisms for expansion of the accelerated learning modality (Bilagher 2009, p. 13).

In line with this purpose, the research questions of the evaluation were defined as:

(1) *How well is [the Iraq] ALP currently addressing the needs of its target group, over-age out-of-school children in post-conflict Iraq, in obtaining primary education qualifications, in terms of a number of quality dimensions (efficiency, coverage, etc.)?*
(2) *How can the programme be improved, so as to better serve the needs of the target group as defined?*

In this article, we are interested in showing how an initiative such as the Iraq ALP could be of use to provide education in contexts of emergencies to learners who are refugees or internally displaced persons (IDP). Below, we will therefore highlight data from this evaluation that are most informative in light of this purpose. This does involve, however, some limitations. One of these is that, unfortunately, it was not possible to collect learning outcome data for the purpose of this evaluation. We acknowledge that such data would have greatly strengthened our analyses below, especially given the unique nature of the Arabic language and its idiosyncratic script.

Based on the original research questions, the overall evaluation design was divided into two elements: one consisted of a medium-scale survey, implemented through an external consultancy firm, 4Points; the other element consisted of a generic qualitative study, based on semi-structured interview data. The survey employed questionnaires and structured interviews, which were usually translated from English into Arabic and back into English.[7] While the survey element was mainly descriptive, aiming to answer the first research question on the extent to which the Iraq ALP addressed the needs of its target group, the qualitative study had a prospective orientation, exploring what would be needed to improve and scale up the Iraq ALP. In terms of target groups, the survey addressed (1) learners, to examine their current perceptions; (2) graduates, to understand how useful the Iraq ALP had been to them; (3) out-of-school children, to assess their awareness of the Iraq ALP and how they could be brought in; and (4) parents, to assess the conditions under which they would allow their children to enrol.[8] The qualitative study targeted Iraqi government officials and representatives from technical and financial development partners.

[7] The reason for these back-and-forth translations was to ensure that no intended meaning was lost in the translation.

[8] Teachers and principals were also surveyed but, considering the focus of this specific article, their responses are not included here.

Table 1 Iraq ALP learner respondents by governorate

Governorate	*n*
Waset	144
Al-Najaf	101
Thiqar	86
Al-Basra	78
Al-Qadisea	68
Al-Muthana	68
Mesan	65
Babel	64
Arbil	60
Sulaimaniya	49
Karbala	42
Salah Adeen	39
Duhok	16
Garmian	12
Total	*892*

Source: Bilagher (2009, p. 16)

Before proceeding to present the findings from this evaluation, we should mention that the security situation in Iraq at the time (2008 and 2009) made access to research participants difficult. For example, the evaluator was located mainly in Jordan, at UNICEF ISCA in Amman, during data collection for the evaluation. While the initial plan had been for the Iraqi government to carry out the survey in practical terms (the evaluator trained a team flown in from Iraq for this purpose), this was later abandoned. Instead, 4Points implemented a survey developed by the evaluator. In addition, although the original decision had been to take the academic year 2007/08 as reference year for the evaluation, this was changed due to some delays experienced in study implementation. While the qualitative study was implemented in 2008, the main survey only went under way in the third quarter of 2009.

The overall evaluation approach was based on the philosophy set out in the Results Monitoring Plan 2007–2011 of the Quality Learning and Development (QLD) section at UNICEF ISCA, under whose auspices this evaluation was conducted. The plan observed, among other things, that "[e]valuations and special studies are ways in which the QLD team can complement routine performance monitoring efforts with more rigorous, in-depth analysis on topics of special interest" (UNICEF ISCA 2008). In the next section, we present the findings of the survey by target group, followed by the interview findings. We conclude the article by drawing lessons for similar circumstances elsewhere.

Evaluation findings: survey and interviews

Learner survey

The first target group of the survey element of the evaluation consisted of learners enrolled in the Iraq ALP at the time of the survey, to assess satisfaction with the current state of delivery of the programme. In line with this, the survey questionnaire asked how learners had heard of the Iraq ALP, whether they liked it and what they planned to do after graduating from the programme. There were 892 learners in the achieved sample from 14 governorates (see Table 1). Of these, 292 identified as female, with the rest (n=600) identifying as male. This represented, approximately, a 1 to 2-ratio. The minimum age of responding learners was 9, the maximum 25. However, most learners fell into the 16–18 age-bracket.

Asked as to where they had heard about the Iraq ALP, the majority of learners said they had heard of it either through friends (n=381) or parents or other family members (n=338). These two categories together covered over 80 % of participants.[9] This indicates that networks of friends or family were extremely important in disseminating awareness of the programme. A further 129 (around 14 %) of learners said that they had heard of the Iraq ALP via their old schools, whereas only 14 (1.5 %) reported they had heard about it via a local newspaper and 22 (2.5 %) indicated they had heard about it in some other way. This suggests that the media had not been an effective medium to disseminate information about the Iraq ALP, had this been the intention.

Asked as to whether they liked the Iraq ALP, an overwhelming majority of learners (n=680, or over 75 %) chose the most positive option, indicating that they liked it very much. A further 160 (over 18 %), said they "liked it", while only 6 learners (less than 1 % of respondents), reported that they did not like the Iraq ALP. Some 17 learners felt neutral about the Iraq ALP, while 8 did not have an opinion or did not know, and 22 learners did not provide an answer to this question at all. When comparing the appreciation of the Iraq ALP by gender, the difference is negligible: when calculating a score of appreciation, the difference in appreciation by gender is around 1 %. Overall, these results reflected great appreciation of the Iraq ALP on the part of the ultimate beneficiaries: the learners.

Asked as to what plans learners had after completing the Iraq ALP, it is striking that almost all of them said that they wanted to continue with secondary education. This was the intention of almost 95 % of learners. Only around 2 % of learners intended to work after graduating, while even fewer (1.5 %) planned to stay home, to work as a homemaker, or participate in an apprenticeship scheme. Of those intending to continue with secondary studies, a vast majority hoped to go on to university later. This corresponded to over 50 % of participating learners. A smaller proportion planned to go to work after finalising secondary education, while again smaller

[9] Unless indicated otherwise, the base of the percentages is the number of respondents with valid responses to specific questions.

Table 2 Iraq ALP learners' desired professions

Profession	*n*
Teacher	290
Engineer	218
Doctor	173
Lawyer	80
Driver	35
Butcher, baker	15
Nurse/paramedic	14
Homemaker/mother/father	13
Salesperson/vendor	11
Policeperson/Military	8
Tourism professional	5
None	5
Total	*867*

Source: Bilagher (2009, p. 17)

groups intended to either join teacher training courses or engage in technical or vocational education and training (TVET).

Finally, asked as to what work they would be interested in doing in the future, teacher was a clear favourite for Iraq ALP learners overall, followed by engineer or doctor. Manual professions seemed less preferred (see Table 2). When looking at this item through a gender lens, we see both similarities and differences emerge: more female than male learners aspired to become teachers (40 % females versus 30 % males) or doctors (24 % females versus 18 % males), while more male learners than female learners had the ambition to become engineers (27 % males versus 21 % females) or lawyers (12 % males versus 4 % females). Furthermore, many more male than female learners indicated that they would like to become drivers, while of those learners who indicated that they would like to become homemakers, all were female. Interestingly, proportionally more female than male learners hoped to join the police or the military.

These data suggest a positive perception on the part of those most directly concerned by the Iraq ALP, in a context of instability. But where did Iraq ALP graduates land in practice?

Graduates' survey

Apart from learners' perceptions, based on their responses when asked about their opinions while they were still engaged in the course, how effective was the Iraq ALP in supporting young persons in taking their next steps in life once they had graduated from the Iraq ALP? To address this question, a separate questionnaire was developed for Iraq ALP graduates. A total of 378 responded, of which only 94 were females. This resulted in a ratio close to 1 to 4, reflecting an even greater

disparity than among current Iraq ALP learners.[10] Data for this category of participants were available from only 11 governorates. The age range for this category was, as expected, wider than the one for learners, with an average (mean) age of 19 years, a maximum of 37 and – surprisingly – a minimum age of 12 in the case of one of the female graduates. Two other female graduates were only 13 years old. One wonders whether these learners should not rather have followed the regular track of education.

There was some good news about what Iraq ALP graduates were doing at the time of survey: a great majority (n=239, i.e. 63 %) was in secondary education. A smaller number (n=76, around 20 %) was working, with other graduates studying at an institute (close to 4 %) or participating in an apprenticeship scheme or in vocational training (both between 1 % and 2 %). In fact, only 15 graduates (4 % of respondents), were neither in employment nor studying. This suggests that the Iraq ALP really was an effective intervention to reintegrate young persons in a trajectory of educational development to help them advance in life. When asked how well the Iraq ALP had prepared them for what they were doing, a clear majority of graduates said it had prepared them "very well". A smaller number said they were "quite well" prepared, while only one learner identified as neutral in this regard. Seven Iraq ALP graduates, however, indicated that they felt the Iraq ALP had not prepared them very well. Interestingly, this last category of Iraq ALP graduates was concentrated in a few schools, which also received less positive evaluations by learners enrolled there at the time of the survey. This suggests that positive impacts from implementation of the Iraq ALP were not only due to the programme's concept, but also due to context and quality of its implementation.

Out-of-school children survey

With a view to expanding the Iraq ALP (on the strength of the evaluation, should it turn out to be encouraging), it was obviously of great importance to understand the perceptions of the target group of the programme. To explore these, an out-of-school children (OOSC) survey was administered.

In terms of potential transferability of the ALP approach to other conflict-ridden zones, it is useful to bear in mind that differences in national/regional context would be likely to imply differences in characteristics of the target group. However, we report our main findings from the evaluation here in as far as they may be informative for (post-)conflict contexts in general.

Some 1,451 out-of-school children participated in the survey, of which 563 were female respondents. These children were from all 18 governorates, including Baghdad, which accounted for the greatest number (n=456 or 31 %) of participants in this category. Almost half of the OOSC (n=681 or 47 %) worked outside the house; 334 (23 %) were helping out in the household, while a slightly larger proportion of the group, (n=359 or 25 %), was neither working inside or outside the house. A further

[10] To be clear, while this finding might be indicative, this does not necessarily mean that fewer females than males actually graduated from the Iraq ALP.

Table 3 Out-of-school children willing to enrol in the Iraq ALP

Response	Total	Female	Male
Maybe	85	51	34
No	101	32	69
Yes	352	105	247

Source: Bilagher (2009, p. 19)

20 (just over 1 %) said they were in an apprenticeship scheme, which technically would have disqualified them from being considered as OOSC. Having said this, the apprenticeship scheme was not clearly defined in this context.

Asked as to what they would like to do, the greatest proportion of respondents (n=799 or 56 %) indicated that they would like to go (back) to school. A smaller, yet significant proportion of OOSC said they would like to work (n=458 or 32 %), while 146 (10 %), indicated that they would like to stay at home. In relation to this item, it was notable that, while a similar proportion of female (53 %) and male (58 %) respondents said they would like to go back to school, a much larger proportion of females (22 %) than males (3 %) said they would like to stay at home and a much larger contingent of males (37 %) than females (24 %) would like to go to work. Of the OOSC who indicated that they would like to go (back) to school, a majority (just over 65 %) had not heard of the Iraq ALP, against 33 % having heard of it. In the latter case, friends and family seemed, once again, the main sources of information. Few had heard of the Iraq ALP via their old schools, via local newspapers or in any other way. The media thus appeared, once more, to be underused for instilling awareness of the option to study via the Iraq ALP.

Finally, the OOSC were asked whether they would consider enrolling in the Iraq ALP and which factors might contribute to their decision to do so. Table 3 shows the responses to the first of these questions, disaggregated by gender. Interestingly, females, although a smaller part of the overall group, outnumber male OOSC in the group responding "maybe". Having said this, of the participants who responded to this question, a majority seemed to be interested in joining the programme. They stood in a 3.5:1 ratio to those that did not seem to be interested in joining the Iraq ALP.

Responses to the second question, i.e. which factors would help OOSC decide to enrol in the Iraq ALP, were slightly surprising, in that security emerged as a relatively insignificant issue. Only nine (n=9) respondents indicated they would join the Iraq ALP "if it were safer", which corresponds to less than 1 % of participants and 2 % of those who responded to this question. This finding seems to ratify findings of similar studies, e.g., by Matthew Griffiths (2010) or Jeffrey Waite (2003). It is further interesting to see that the OOSC who identified safety as a priority came from two governorates only, Kirkuk (n=4) and Misan (n=5). The most popular response was "if I knew it were useful" (33 % of respondents), while other oft-chosen

responses included having financial means[11] and parental support (both 30 %). One response in which females (*n*=14) clearly outnumbered male (*n*=2) OOSC, in spite of their lower number of participants, was that of having single-sex schools as a factor that would increase their willingness to enrol in the Iraq ALP.

Parent surveys (ALP and non-ALP)

When asked whether they would consider enrolling their child in the Iraq ALP, a majority of parents (*n*=213, or 60 %) indicated that they did not know about the programme. This reinforced the finding for OOSC that many were unaware of the existence of the Iraq ALP. Of those who were familiar with the Iraq ALP, a majority (*n*=80) indicated that they would consider enrolling their children in it. Nevertheless, 55 parents indicated they would not. A correlational analysis was run to identify the association between importance attributed to education in general and willingness to enrol children in the Iraq ALP. As might be expected, there was a relatively strong positive correlation between the two (coefficient 0.4), indicating that parents/carers attributing importance to education tended to be likely to want to enrol their children in the Iraq ALP.

When asked why parents would not enrol their children in the Iraq ALP, 33 responded that they preferred their children to work, while another 17 indicated they preferred their children to stay at home. Even more revealing were other reasons given for not wanting to enrol children in the Iraq ALP, from which it became quite clear that economic motives were much more important than security concerns: many parents/carers cited "not enough money", "poverty" or "because of economic circumstances". In a follow-up question, in which parents were asked what could persuade them to send their children to the Iraq ALP, several parents responded along the lines of: "if he [*sic*] takes daily or monthly wages" or if the family were "provide[d with] money" (i.e. were given a cash incentive). Only a few respondents required separate (i.e. single-sex) schools to enrol their children in the Iraq ALP, while merely one respondent emphasised the importance of safety.

Government of Iraq interviews

In order to gauge their views of the Iraq ALP, a dedicated questionnaire was given to Iraqi government officials (*n*=5). Officers in the Iraqi government were purposefully selected from the MoE on recommendations of UNICEF ISCA staff. Among them, concerns pertaining to the Iraq ALP included its legal basis; the general problem of early school leaving, which was recognised as an important issue; eradicating illiteracy; and, of specific relevance to the Iraq ALP, the training of ALP teachers. The role of UNICEF in the Iraq ALP was acknowledged, but government respondents

[11] Besides *opportunity costs* (loss of potential earnings) arising, for example, when learners would give up work to attend ALP classes, some funds would normally also be needed to cover direct costs associated with participating in the programme, e.g. transport, stationery, etc.

claimed ownership of the programme. One specific problem raised was that of communications between different administrative regions. Communications with the North area were experienced as particularly difficult, although it was observed that there was also ample room for improvement in communications with the Centre and South areas. One respondent referred to the possibility of applying information and communication technologies (ICT) to this end.

Other observations included that further capacity was needed in the area of management and, in particular, the need for an Iraq ALP database. Ideally, the development of an *education management information system* (EMIS)[12] during 2008[13] should have addressed this need, by integrating Iraq ALP-related data. Further, a case was made for connecting the Iraq ALP with technical and vocational educational pathways. It was also requested that UNICEF should focus the programme to a greater extent on existing psychosocial needs of learners; other respondents stressed the need for publicising the Iraq ALP via multiple media channels.

Development partner interviews

A number (n=12) of semi-structured interviews were conducted with representatives of development partners in education in Iraq, including the International Labour Organization (ILO); the International Rescue Committee (IRC); International Relief and Development (IRD); UNESCO and the United Nations Population Fund (UNFPA), along with UNICEF staff members. The objective of these interviews was to gather views on where the Iraq ALP could and should go from where it stood, at the time, in 2008. In these discussions, several lessons emerged, which seem of value to implementations of ALPs in other contexts than that of Iraq around 10 years ago.

One theme that arose from the data concerned the management of the programme. It was felt that the programme had been centrally driven and imposed by the Ministry of Education from the top downwards, without involving lower structures in the planning for implementation. There was a feeling that micro-planning had not been undertaken as it should have been, leading to a situation where there was little or no control over the number of schools covered or the manner in which coverage was distributed. In particular, there was a concern that, occasionally, insufficient study places were available. One respondent noted that there was no buy-in from the Ministry of Education as suggested by the programme strategy (Kaushik 2006) and that the only reason the Iraq ALP continued to run was because UNICEF

[12] "An EMIS can be defined as 'a system for the collection, integration, processing, maintenance and dissemination of data and information to support decision-making, policy-analysis and formulation, planning, monitoring and management at all levels of an education system. It is a system of people, technology, models, methods, processes, procedures, rules and regulations that function together to provide education leaders, decision-makers and managers at all levels with a comprehensive, integrated set of relevant, reliable, unambiguous and timely data and information to support them in completion of their responsibilities'" (UNESCO 2008, p. 101; quoting Cassidy 2006, p. 27).

[13] An EMIS had in fact previously been established in Iraq (Waite 2003), but this was destroyed during, or possibly just after, the 2003 invasion.

funded it. Another respondent expressed the view that closer cooperation with other international agencies such as, say, UNESCO was important to improve planning and management.

In any event, the challenges in management and planning of the Iraq ALP were amplified by the widely held view that the Iraq ALP was a temporary solution, although it was thought that it should be scaled up significantly before being phased out. The programme was perceived as not operating on a sufficiently serious scale to address the issue of early school leaving in Iraq, given the considerable numbers of school-age children who were out of school. Even at its peak, the programme coverage was seen as only serving a small percentage of the OOSC population.

In the specific case of Iraq, the problems associated with management and planning of the programme were compounded by the fact that UNICEF supported the programme from Amman in Jordan. This distance from Iraq inevitably led to difficulties in effecting field operations and supervision, while cooperation with local organisations was challenging, imposing limits on the expansion of the programme. Demand was therefore sometimes left unaddressed. Other concerns expressed by respondents included strengthening the link between the Iraq ALP and mainstream skills development, to prevent youth from slipping into insurgency, and some raised the question of the number and kind of subjects taught.

Potential lessons for similar programmes elsewhere

The evaluation data from the Iraq ALP discussed above clearly suggest that a programme such as this one has the potential to have a significant positive impact on the lives of many young people in conflict-ridden countries and regions. This is borne out both by the learner survey data and the data from graduates, which indicate, respectively, that over 75 % of learners liked the Iraq ALP very much and around 90 % of graduates were subsequently either in secondary education, otherwise studying, engaged in an apprenticeship scheme or working. We know of no other evaluations that report on this outcome. These data suggest that the Iraq ALP, as an intervention, might be used in other, similar contexts, such as the ones mentioned at the beginning of this article, to provide young people with a confident perspective for their own future without their having to leave their home countries. This is the first major lesson learned from the 2008 Iraq ALP evaluation.

A second major lesson learned, however, is that to achieve these benefits, it will be important to take a number of points into account in setting up an ALP in other contexts. In the first place, awareness of the existence of such a programme as ALP is crucial. In the case of Iraq, the survey data suggest that such awareness was not always in place, that is to say, potential ALP participants and/or their family members often did not know that the Iraq ALP existed and/or that they could access it. The media seemed under-utilised to spread such awareness. However, the next fundamental requirement then is that sufficient study places must be available. In the case of Iraq, according to interview data, when awareness was in place, places were

at times not available. This aligns with lessons from *cash transfer* initiatives,[14] indicating that schools were, at times, overwhelmed (see Mundy et al. 2019) when such incentives were offered. Addressing this challenge requires high-quality management and planning of such a programme as the Iraq ALP.

A third lesson is that, if awareness is in place and places are available, obstacles must be eliminated that preclude enrolment and participation in a programme such as the Iraq ALP. In Iraq, survey and interview data indicate that the main obstacle to accessing the Iraq ALP did not seem to be security, but financial means. This suggests the need to reinforce instances of ALP with financial incentives, perhaps in the form of scholarships or aid programmes.

Although an overwhelming majority of learners in the Iraq ALP were very positive about the programme, there seemed to be some isolated issues of discontent in certain pockets. As suggested in the interviews, top teacher talent needs to be attracted into such programmes, and they should be well-trained, given the challenges posed in the circumstances under which ALPs operate. Iraq ALP graduates tended, mainly (i.e. in around 70% of cases), to continue studying, mainly in secondary schools. Future instances of ALPs, therefore, need to consider context, including skills needs, connections with mainstream secondary education and TVET institutes or other alternatives as may be appropriate. The scope of an ALP initiative must be evaluated on a case-by-case basis to determine whether it should stick to its core mission of providing conventional primary-level education, or venture into other areas of learning, such as non-violent conflict resolution.

Unfortunately, the lack of available literature, including programme evaluations of similar interventions implies insufficient critical mass to arrive at meaningful analyses of comparisons with other similar interventions. For example, in their 2015 meta-evaluation, the Norwegian Refugee Council (NRC) flagged that a 2010 evaluation of the Liberia Accelerated Learning Programme, aiming at getting young mothers into education, noted that "these classes were extremely effective in mitigating the stigma associated with early pregnancy" (NRC 2015, p. 20). Given the different set-up of the Iraq ALP, meaningful comparisons with such aspects of the Liberia ALP could simply not be made. This might have been different with the recorded instances where an ALP was applied in Lebanon, but we have been unable to locate any publicly available evaluations of this programme. Greater public availability of such evaluations could lead to interesting analyses, which could be very useful for the planning and customising of future ALPs.

In closing, on the basis of the available evaluation data, it seems that the Iraq ALP addressed a significant need. In hindsight, we can observe that this led to an expansion of the programme in 2008–2009 to include Baghdad, realising a significant rise in learners with over 10,000 new entrants into the Iraq ALP. It further appeared quite clearly from both the survey and interview data that the Iraq ALP did more than create "only" educational opportunities for young persons, or the human resources for an economy in a phase of transition; it helped young people obtain a

[14] A cash transfer programme is a kind of welfare programme, where beneficiary families are given monetary incentives to cover basic needs such as school books or to offset opportunity costs.

confident perspective for their future in their own country. Consequently, this likely made them less vulnerable to participation in potentially destabilising and subversive activities (such as, for example, being recruited into militias). This is a lesson not just relevant to Iraq at the time, but to a wide range of unstable contexts across the world.

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Moritz Bilagher is a Principal Evaluation Specialist at UNESCO's Internal Oversight Service (IOS) Evaluation Office. Prior to this, he was Head of the Monitoring and Evaluation Unit at the Global Partnership for Education (GPE); Programme Specialist at UNESCO Santiago; Statistical Advisor at UNESCO Nairobi; Research Manager with the British Educational Communications and Technology Agency (Becta); and Associate Expert (Research and Evaluation) with the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA). He evaluated the Iraq ALP as a consultant with the United Nations Children's Fund Iraq Support Centre in Amman (UNICEF ISCA). Moritz holds a Doctorate in Education from King's College London and an MSc-degree in Educational Research Methodology from the University of Oxford.

Amit Kaushik has a postgraduate degree in Economics and served as a civil servant with the Government of India from 1987 to 2007, including as Director in the Ministry of Human Resource Development (HRD), working on the development and implementation of policies related to the universalisation of elementary education, the Right to Education legislation, and India's international commitments on Education for All (EFA). He has been a consultant to UNESCO Paris, Nigeria, Iraq and Lebanon, as well as to UNICEF Iraq and Yemen, working on assignments related to literacy, planning for Education for All, non-formal education, accelerated learning and the Global Partnership for Education. He is currently CEO of the Australian Council for Educational Research (India).

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BOOK REVIEW

Antonio Gramsci: A pedagogy to change the world

Nicola Pizzolato and John D. Holst (eds). Springer International Publishing, Cham, 2017, 227 pp. Critical Studies of Education series, vol. 5. ISBN 978-3-319-40447-9 (hbk), ISBN 978-3-319-82103-0 (pbk), ISBN 978-3-319-40449-3 (eBook)

Zvi Bekerman[1]

Published online: 30 November 2019

For early 20th-century Italian Marxist philosopher and communist politician Antonio Gramsci, what was wrong with hegemony was its power to deceive us all into believing that its constructed (and negotiated) common sense is the natural order of things. For change to become available, he argued, the hegemonic negotiated construction needs to be collapsed so that a new struggle for what will substitute it can begin. Collapsing and rebuilding ingrained power structures is no easy task; we are in need of a profound understanding of the processes involved in their construction before we can begin to deconstruct them and then reconstruct them in our preferred image, hopefully a proletarian one. Things become even more difficult when we come to realise, as Gramsci did, that the hegemony of the bourgeoisie was achieved and sustained by an equilibrium between consent and coercion; making bourgeois power not only dependent on its domination of the structure, but of the superstructure as well. Gramsci's greatness and lasting educational contribution lie, in my view, in his profound grasp and exposure of the complex communicational (and thus educational, in an extended understanding of education) processes which shape our sense of "naturalness" and his analysis of the practices and technologies involved in the maintenance of education.

When hegemonic power is based on the work of complex relationships, and we regard all relationships as being pedagogical, we come to understand the impact of Gramsci's theorising power on educational thought. The book under review is a great critical contribution in this direction and offers its readers a variety of approaches to better understand Gramsci's work, not least by including Italian and Latin American voices, which are traditionally less known to the English-speaking public.

✉ Zvi Bekerman
zvi.bekerman@mail.huji.ac.il

[1] The Hebrew University of Jerusalem, Jerusalem, Israel

Edited by Nicola Pizzolato and John D. Holst, *Antonio Gramsci: A Pedagogy to Change the World* is a collection of essays on the educational thought and the pedagogical approach of Italian thinker Antonio Gramsci. It includes eleven chapters organised into three main parts: (1) Understanding Gramsci and Education; (2) Using a Gramscian Framework for Research; and (3) Key Gramscian Concepts and Pedagogy. All three together deliver an ensemble which is excellently suited to demonstrating the ongoing relevance of Gramsci's main theoretical concepts for those interested in the value of intellectual thought, and the relationship between theory and practice, society and the individual for social transformation through educational labour.

The editors use the first chapter to offer those less familiar with Gramsci's work and epoch an opportunity to understand how Gramsci's theoretical perspectives fit with the literary production and historical context of his time. Moreover, they do a wonderful job in reviewing Italian scholars' prolific evaluation of Gramsci's theoretical work and their emphasis on its strong connection to education; especially when education is not reduced to the institution of school, but understood as embracing multiple, if not all, social spheres of activity.

Peter Mayo's chapter, entitled "Gramsci, Hegemony and Educational Politics", is powerful in demonstrating the strong relationship in Gramsci's work between education and hegemony. Mayo seems to imply that when this strong relationship is realised, Gramsci's political project becomes an educational one which works both towards the dismantling of present hegemonic powers and towards the construction of new preferred ones.

Riccardo Pagano's chapter, "Culture, Education and Political Leadership in Gramsci's Thought", adds to the above-mentioned connection between hegemony and education, discussing concepts such as culture and politics. The chapter reveals the rich and complex matrix, as developed in Gramsci's prison notebooks,[1] which needs to become the focus of the work of "organic intellectuals"[2] in their struggle to dismantle the old culture while trying to disseminate a new one. Here again the centrality of education in Gramsci's project is underlined, and Gramsci's pedagogy is shown to aim at "a constant historicizing education, a construction of the human being and for the human being, but which is always revisable and changeable because it is concretely implemented" (p. 65).

Diego Fusaro's contribution, "The Pedagogy of Praxis and the Role of Education in the Prison Notebooks" closes the first part. It builds on previous chapters and helps to further substantiate the importance of education in Gramsci's political

[1] Gramsci was imprisoned from 1926 to 1935 by the Italian Fascist regime. While incarcerated, he wrote a vast number of essays which were not published in Italian until the 1950s. The complete English translation of the more than 30 notebooks, edited by literary scholar and translator Joseph Anthony Buttigieg II, was published in 1992–2007 in three volumes. Gramsci, A. (2011). *Prison notebooks,* vols 1–3. New York: Columbia University Press.

[2] Coined by Gramsci in one of his prison notebooks, the term *organic intellectuals* refers to intellectuals created by every new social class, while *traditional intellectuals* are members of the intelligentsia of the hegemonic upper class.

perspectives by creating a connection between a philosophy of praxis[3] and a pedagogy of praxis. It is through pedagogy that the masses will abandon their passivity so as to undertake revolutionary action; a new hegemony cannot be achieved without a pedagogy of the masses.

In three out the four chapters which compose the second part of this book, the reader is introduced to the ways in which Gramsci's work is viewed in Latin America. Chapter 5, authored by María Alicia Vetter and John Holst, takes a comparative look at the work of Gramsci and the work of Chilean political leader Luis Emilio Recabarren. Their ideas coincide in their understanding of the role of the proletariat in the achievement of socialism and on the educational role of working-class organisations in helping to develop and maintain a socialist society.

In chapter 6, Rebecca Tarlau offers an outstanding example of Gramscian pedagogy in practice as this is implemented by the Brazilian Landless Workers' Movement (MST). Present hegemony favours schools designed to support the capitalist economic system; the MST understanding that the seed for building a world outside of the hegemony needs to be planted in education attempts to enter the school system so as to transform civil society.

In chapter 8, Flora Hillert focuses on the ways in which teachers, given their ambivalent position as salaried workers, officers of the state bureaucracy, and/or as members of the middle class and intellectuals, locate themselves relative to these existing elites in Argentina. Using a Gramscian perspective, supplemented by theoretical ideas from Argentinian political theorist Ernesto Laclau, Hillert helps us understand how teachers and students live the contestation of hegemony in their day-to-day practice.

Alessandro Carlucci, writing from within an Italian context in chapter 7, focuses on the centrality of language in general, and more specifically of English as a second and global language as it is used in the reproduction of inequality through an ideology of meritocracy. The analysis draws on Gramsci's views on diversity and unification, on passive revolution and on linguistic hegemony and reflects on Gramsci's long-standing interest in language and linguistics.

The third and final section of the book opens with André Tosel's chapter, which considers the complex relationships between the individual and the social. Following Gramsci's lead regarding notions of hegemony and "historical bloc",[4] Tosel considers both spheres to be tightly connected and in many ways inseparable and suggests that the question of pedagogy allows us to consider how to establish forms of congruence between the individual and society.

[3] The term *praxis* (as it is used in educational contexts) was coined by Brazilian educator and philosopher Paulo Freire. It refers to "reflection and action directed at the structures to be transformed" (Freire 1970, p. 126). Freire, P. (1970). *Pedagogy of the oppressed.* New York: Continuum.

[4] Gramsci borrowed the term *historical bloc* from French philosopher Georges Sorel. Gramsci's use of it referred to the social forces which form the basis of consent to a certain social order, which produces and re-produces the hegemony of the dominant class through a nexus of institutions, social relations and ideas.

Next, Pietro Maltese reconsiders the concept of subalternity both within Gramsci's work and in later Subaltern Studies.[5] Moreover, Maltese discusses the potential pedagogical implications of the notion of subalternity, pointing at the centrality of "a maieutic" effort[6] already present in Gramsci's work.

The final chapter of the book was written by John Holst and Stephen Brookfield. Through a philological investigation of Gramsci's pre-prison and prison work, they define the *leitmotif* (recurrent theme) of Gramsci's theory and practice. Mainly, it reflects a struggle to achieve the political inactivity of the working class and the necessary interdependence of concepts such as intellectuals, civil society, state and hegemony. In their view, Gramsci's key contribution to further socialist transformation lies in his identification of educational institutions as channels through which the working-class struggle for independence can be supported and furthered by offering useful knowledge and skills.

In my view, the present volume is very successful in advancing our understanding of Gramsci's work and his vital contribution to educational theory as a system which is not confined to schooling and as an essential piece in the process of social change. The book also contributes to our better understanding of Gramsci's strategic approach when attempting to engage the state in transforming its public institutions, in particular its educational ones. No book can cover any subject in its entirety, and attempting this with Gramsci's diverse and not always systematic intellectual crop is even more impossible; yet, all those interested in Gramsci's work should praise the editors and authors for their important intellectual effort.

[5] Gramsci's use of the noun *subaltern* referred to peasants who were suppressed by capitalist rulers. The academic field of *Subaltern Studies,* which is related to postcolonial studies, is concerned with non-elites – subalterns – as agents of political and social change. Subaltern Studies scholars have a special interest in the discourses and rhetoric of emerging political and social movements, as against only highly visible actions like demonstrations and uprisings.

[6] The term *maieutic* denotes the Socratic mode of inquiry, which aims to bring a person's latent ideas into clear consciousness.

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BOOK REVIEW

World class: How to build a 21st-century school system

By Andreas Schleicher. Organisation for Economic Co-operation and Development (OECD), Paris, 2018, 296 pp. Strong Performers and Successful Reformers in Education series. ISBN 978-92-64-29947-9 (pbk), ISBN 978-92-64-30000-2 (ePDF). This book is also available in German, Spanish and Portuguese

T. Scott Murray[1]

Published online: 27 January 2020

Having spent over four decades working on data development and analysis for policy, I read *World class: How to Build a 21st-Century School System* by Andreas Schleicher with a mix of anticipation and trepidation. As a firm believer in the power of carefully designed and analysed data to precipitate and inform much-needed educational reforms, I am also painfully aware of what it takes to generate data that can support thoughtful policy responses to educational problems.

The book purports to provide educational policymakers with the benefit of insights gleaned from analysis of data from international comparative educational studies including the OECD's Programme for International Student Assessment (PISA), the Programme for the International Assessment of Adult Competencies (PIAAC) and the Teaching and Learning International Survey (TALIS). While PISA, PIAAC and TALIS have been carefully designed studies, their designs do not support the types of prescriptive conclusions reported here. One very simplistic observation is that none of these programmes are classroom-based and, therefore, unlike the studies conducted by the International Association for the Evaluation of Educational Achievement (IEA) – the Progress in Reading Literacy Survey (PIRLS) and the Trends in Mathematics and Science Study (TIMSS) – cannot directly support conclusions related to instructional practice.

My own work has taught me that policymakers will make decisions based on whatever information they have at hand, evidence-based or not. *World class* provides a set of truisms – for example, making education a priority, believing that all students can learn and achieve at high levels, setting and defining high expectations – that should make it more difficult for ill-informed policymakers to pursue courses of action that defy the available evidence.

✉ T. Scott Murray
dataangel@me.com

[1] Statistics Canada, Ottawa, ON, Canada

In this sense, it makes a useful contribution. Beyond this, the book makes a large number of sweeping generalisations that imply causal relationships that the available data simply do not support. Education systems are incredibly complex systems in which correlations that reflect average relationships among variables ignore significant variation in the distributions of relationships and, thus, can lead policymakers to promote overly simplistic recommendations for reform. The author's discussion of the dimensions associated with equitable outcomes – reconciling choice and equity, getting parents involved and celebrating diversity, for example – treats each dimension as if were independent rather than being deeply rooted in a system that is full of dependencies among variables that themselves vary among schools. The risk of overly simplistic recommendations is amplified by the fact that the PISA age-based sample design fails to capture important variation in relationships among classes. PISA, PIAAC and TALIS have been designed as indicator systems that identify avenues for exploration rather than the definitive prescriptions offered by the author. This reflection is supported by recent research published by the American Education Research Association that concludes that even rigorous, large-scale randomised controlled studies fail to identify meaningful effects of variables on learning outcomes (Lortie-Forgues and Inglis 2019).[1]

Three Canadian examples cited in the report further illustrate the limitations of indicator data systems for direct application to policy formation. On page 112, the author reports that Ontario's strategy for improving literacy and numeracy resulted in a shift in in the culture of Ontario schools at the classroom, school, board and ministry levels. Whatever evidence underpins this assertion, actual literacy and numeracy scores in Ontario have been falling with time – not, I think, the expected result.

On page 70, the author points to Ontario's "Student Success Initiative " as an example of positive measures taken to reduce dropout rates. While high school graduation rates did rise rapidly, from 68% to 79% in the reference period, analysis reveals that average literacy scores actually fell over the same period. One is left wondering about the value of a certificate when the certificate does not provide a reliable signal of the holder's literacy skill. More prosaically, Ontario kept more kids' bums in seats long enough to be granted a certificate, but failed to impart the skills needed to support education at the post-secondary level or to meet the literacy demands of the Canadian economy.

On page 274, the author reports on Ontario's efforts to foster classroom innovation without any discussion of the fact that knowledge generation is technically demanding and costly. At a minimum, measures are needed to avoid duplication and to mobilise and transmit user-generated wisdom throughout the system. The author then goes on to claim that teachers, school administrators and policymakers need to be able to use assessment data to create better opportunities for student learning, and claims that PISA makes information available to educators and policymakers so they can make more informed decisions. In fact, PISA does very little to transform

[1] Lortie-Forgues, H., & Inglis, M. (2019). Rigorous large-scale educational RCTs are often uninformative: Should we be concerned**?** *Educational Researcher, 48*(3), 158–166.

assessment results into a form that is accessible to teachers and that they can apply in their daily practice. We are left wondering how many of the examples from other countries might similarly misrepresent the underlying relationships.

Two other quibbles occurred to me after reading the book. The author goes to great lengths to describe the changes that are transforming the nature and goals of education, but fails to note that having adequate levels of the skills measured in the original PISA cycle – literacy, mathematics and science – will in large part determine the efficiency with which students acquire the so-called 21st-century skills, and will limit the level at which these new skills can be applied in work and life.

The author also reports that the OECD Programme for PIAAC grew out of PISA. This is not, in fact, accurate. The design and measures deployed in PIAAC can be traced directly to the comparative assessment of adult skills that began with the 1985 Young Adult Literacy Assessment (YALA) conducted by the National Center for Education Statistics (NCES) and the 1987 Survey of Literacy Skills Used in Daily Activities (LSUDA) conducted by Statistics Canada. These assessments led to successive cycles of the International Adult Literacy Survey (IALS) in 1994 and 1996, and the Adult Literacy and Life Skills Survey (ALL) in 2003 and 2005. The first cycle of PISA only took place in 2000. Thus, some of the statements and conclusions made in this book must be treated with caution.

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BOOK REVIEW

Gender – diversity – intersectionality: (New) perspectives in adult education

Martina Endepohls-Ulpe and Joanna Ostrouch-Kaminska (eds). Waxmann, Münster/New York, 2019, 215 pp. ISBN 978-3-8309-3883-5 (pbk), 978-3-8309-8883-0 (eBook)

Alan Rogers[1]

Published online: 12 December 2019

The important term in this book's title is the word "intersectionality". But the main theme throughout the book is gender, referring almost exclusively to women.

The argument as set out in the introduction is very clear. Gender is a construct: "Gender is understood as a process, and the meanings associated within are created in personal, political, historical, cultural and linguistic contexts" (p. 7). But every society is full of diversities – such as "sex/gender, age, ethnic and cultural background, disability, sexual orientation, religion, language, marital status and education" (p. 8) (to which we may add family responsibilities). Intersectionality is the point at which these come together to make gender norms, especially gender, race and class. But this point of intersectionality is itself very diverse and constantly changing, and this makes the analysis of gender constructs in any one context very difficult.

Some of the chapters in this book address intersectionality directly, others focus on gender seen more traditionally. For example, one chapter bases its research on publications that explore how (biological) men and (biological) women read different kinds of literature: "women rather read poems, novels, and short stories. Men in contrast reportedly prefer contemporary or political books, and when they read fiction, they tend to read novels with topics such as adventure, war or science fiction" (p. 38). Elsewhere, we read, "Avoiding doctor's consultations … is typical of all men" (p. 66). Diversity seems to have been forgotten here.

The chapters come from different contexts, but for some authors, the specifics of these contexts are lost in over-generalisation. From Portugal comes a study of women and household work and its effects on work and education – "the learned disadvantage". Contributions from Germany include a study of gendered reading

✉ Alan Rogers
rogalaprof@gmail.com

[1] University of East Anglia, Norwich, UK

and responses to it; and another study of apprenticeships. From Poland we find a paper on intimate relationships as narrated by women, and a chapter on performing masculinity (there is a nod here to the impact of religion on the Polish constructs of gender), from Italy two chapters on migration, internal and external, one of them reviewing the use of volunteers for assessing prior learning; from Kenya and Germany comes a comparative psychometric study of skills development among higher education students; from Canada a study of residential schools for indigenous peoples; from Bulgaria a review of integration programmes for Roma; from France a survey of the impact of training programmes for nursery professionals; and from Sweden a survey of staff development activities for Folk High School staff – a chapter noteworthy for its advocacy of *norm critical education*.[1] All these contributions are based on substantial detailed research, mostly qualitative but some quantitative. Two concluding case studies of critical gender analysis in adult learning through museums in the UK, Canada and other countries, including some in Africa, review action programmes.

The book suffers from two omissions. One is an index – which makes the book much less use to readers, academics and students – and this a pity. I wanted to find the scattered references to norm criticism and found I was not able to do so (in the printed copy). The other omission is a conclusion drawing together some overarching issues. Here the different elements to the theme of the subtitle, adult education, in all its forms, could have been drawn together. Three sets of questions face the reader: First, how far is adult education in any one context gender-constructed, facilitating or hindering both participation and performance, as shown in the case study from Portugal? Or are the major barriers race, ethnic, economic, class etc.? How can one assess intersectionality here?

Second, how far can adult education help the participants to see the nature of their particular forms of gender constructs? How can it become norm-critical adult education and indeed go further, helping with "the practice of resistance … conscious engagement with dominant, normative discourses and representations [through an] oppositional analytic" (p. 202)? How can adult education "give people the tools to analyse underlying systems of power that institutionalise and manipulate identities [especially gender] that justify oppression, discrimination and often violence" (p. 201)?

And third, can adult education in its many different forms (continuing professional development; adult basic cultural-socialisation programmes; community-based education; non-formal learning, through museums and other such institutions) help to create new gender constructs? How can we ensure that these new constructs are less unequal than the existing constructs? And "does this awareness foster the learners' agency to address the unbalanced power relations" (p. 173)? These are some of the questions these studies provoke.

[1] Norm criticism questions taken-for-granted norms concerning equality, diversity and discrimination. With regard to gender, "norm-critical education" (a term coined in Sweden) covers the same ground as a queer and feminist approach to education.

Focusing on specific gender constructs and how they have been made out of many diverse elements is important, but perhaps all that will happen is the replacement of existing norms with different norms which will include some and exclude others. It is not the gender constructs which are the problem – it is the inequalities which underlie them – and here adult education has a huge role to play.

This stimulating book is very welcome with its range of case studies from diverse contexts, prompting debate by provoking more questions than it answers.