Numeracy as a UN Sustainable Development Goal: Some personal reflections on what this may mean for adults learning and using mathematics in a Digital Age and for their educators

Diana Coben

University of East Anglia & King's College
London, UK
d.coben@uea.ac.uk

In this session I will offer some personal reflections on what the inclusion of "numeracy" for the first time in the United Nations' ambitious Sustainable Development Goals (SDGs), adopted in 2015, may mean for adults learning and using mathematics in a Digital Age and for their educators. The SDGs aim to end poverty, promote prosperity and well-being for all and protect the planet by 2030. SDG Target 4.6 states that "By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy". I am a member of the expert group convened by UNESCO's Institute for Lifelong Learning to consider how to monitor progress towards this target. The intention is to produce a conceptual framework to enable comparison of results across countries and a concrete definition of "proficiency levels". I shall present my reflections on work in progress on this complex and challenging task.

Introduction

For the first time, "numeracy" is specified in the United Nations' Sustainable Development Goals (SDGs) adopted in 2015. The SDGs replace the UN Millennium Development Goals 2000-2015 and Education For All (EFA) and aim to complete what they did not achieve.

The 17 SDGs are a hugely ambitious statement of aspirations, voluntarily agreed by all UN Member States, not a binding treaty. The SDGs aim to end poverty, promote prosperity and well-being for all and protect the planet by 2030. SDG 4 aims to "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". Within that, SDG Target 4.6 states that "By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy" and SDG Indicator 4.6.1 states that "Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex".

The UNESCO Institute for Lifelong Learning (UIL) has convened experts to address measurement issues in producing data for SDG Indicator 4.6.1 in support of the Global Alliance

to Monitor Learning (GAML). The intention is to produce a conceptual framework to enable comparison of results across countries and a concrete definition of "proficiency levels". I am a member of the Expert Group.

Method

In this session I will offer some personal reflections on what this may mean for adults learning and using mathematics in a Digital Age, and for their educators, and consider how to monitor progress towards SDG 4.6.1, given that 48 percent of people worldwide use the internet, according to 2017 statistics (Rosling, Rosling & Rönnlund, 2018), so "the proportion of people with access to the internet is not large enough to represent the whole population" (Rönnlund & Rosling, 2018).

I shall draw on reports of expert deliberations and discussions convened by UIL, together with other sources. Key proposals of the Expert Group's meetings to date are as follows:

- To adopt the UNESCO working definition of literacy (2005) for indicator 4.6.1;

- To use the PIAAC conceptual framework as a basis for developing a global framework for indicator 4.6.1;

- To measure literacy and numeracy separately;

- To focus on reading as the domain for global comparability for literacy. Writing, which was considered as an integral component of literacy skills, could be assessed at the national level;

- To develop global reporting frameworks to cover the lower levels of the literacy and numeracy skills spectrum (below PIAAC level 1 as a reference point).

Findings/Expected findings

I shall present my reflections on work in progress on this complex task; it is premature to speak of findings or expected findings.

References

Gal, I., Coben, D., Jeantheau, J.-P., & Miyamoto, K. (2018). *Monitoring Adult Numeracy for Indicator 4.6.1: Numeracy Core Group tentative recommendations for GAML5. Final draft: 29 September 2018.* Hamburg: UNESCO UIL. Retrieved from http://gaml.uis.unesco.org/wp-content/uploads/sites/2/2018/12/4.6.1_10_Monitoring-Adult-Numeracy-for-Indicator-4.6.1.pdf

OECD. (2016). *Skills for a Digital World.* Paris: OECD. Retrieved from https://www.oecd.org/els/emp/Skills-for-a-Digital-World.pdf

Report of the Secretary-General (2017) Progress towards the Sustainable Development Goals, E/2017/66. New York, NY: United Nations. Retrieved

from https://sustainabledevelopment.un.org/content/documents/18541SG_SDG_Progress_Report_2018_ ECOSOC.pdf

Rönnlund, A. R., & Rosling, O. (2018). *Detailed Notes for the book FACTFULNESS. Version 3*. Stockholm, Sweden: Gapminder Foundation.

Rosling, H., Rosling, O., & Rönnlund, A. R. (2018). *Factfulness: Ten Reasons We're Wrong About the World - and Why Things Are Better Than You Think*. Stockholm: Factfulness AB.

Sachs-Israel, M. (2018). *Monitoring Adult Literacy and Numeracy for Indicator 4.6.1. Progress on indicator 4.6.1 and recommendations. Task Force 4.6 co-chair Margarete Sachs-Israel, UIL GAML5, Hamburg, October 2018*. Hamburg: UNESCO UIL. Retrieved from http://gaml.uis.unesco.org/wp-content/uploads/sites/2/2018/10/Methodological-progress-and-development-of