Are we assessing 21st century skills based on 20th century standards?

We need fundamentally different assessment tools

by Juuso Henrik Nieminen
April 8, 2019

National curricula around the world emphasise the acquisition of ‘21st century skills’. There is a broad consensus that learners and future employees need competencies such as ‘critical thinking’ and ‘collaboration’; rarely do today’s educational curricula call for more rote learning and memorisation. While societal changes lead to shifts in ‘core skills’, however, the culture of educational assessment largely lags behind.

We know how profoundly assessment influences learning and studying. So the first thing we should do to help students acquire 21st century skills is to modify assessment methods. For the most part, that has not occurred. Indeed, assessment has been identified as ‘one of the weakest points in efforts to integrate 21st century competencies into school curricula’.

“The problem is that it is not easy to translate competencies like ‘critical thinking’ into numerical values.”

Why haven’t our assessment methods changed to meet the needs of modern societies? Assessing 21st century skills is a challenge. Indeed, a great deal of research has looked at how to measure the development of these skills in valid and reliable ways. The problem is that it is not easy to translate competencies like ‘critical thinking’ into numerical values.

There have, however, been many attempts. For example, the Assessment and Teaching of 21st Century Skills (ATCS) project, sponsored by Cisco, Intel and Microsoft, aimed to ‘develop new kinds of psychometrics’ for ‘educational and psychological assessments’ of 21st century skills. Various technological solutions have tried to find ways to make assessment more effective and efficient. Still, the methods currently used in schools fail to assess 21st century skills, since they were originally designed to measure explicit knowledge.
A brief history lesson is helpful in understanding the difficulty of changing educational assessment methods. Over the past hundred years, assessment has emphasised validity and reliability, seeking to ensure that results are comparable. The idea is that knowledge and skills can be divided up into separate units, and these units can then be measured quantitatively. Starting in the early 20th century, psychometric assessment methods were developed to compare individuals and schools, and ultimately for the purpose of social sorting. The key issue was how to convert knowledge and skills into numbers through testing. This was by no means a new idea, as tests have been used for assessment as far back as the 14th century.

“The primary purpose of modern assessment is still to sort people into social strata.”

Although educational systems have arguably taken a leap forward, assessment culture remains much the same as in past centuries. Still, assessment methods have become more diverse in recent decades. A simple Google search for ‘innovative assessment’ yields information on assessment rubrics, formative and authentic assessment, self- and peer assessment, nested assessment, portfolio assessment and much more. Recently, the assessment for learning movement has been calling for assessment methods that are aligned with learning objectives, thereby supporting learning.

And yet I would argue that the core principles of assessment have remained largely unchanged. The primary purpose of modern assessment is still to sort people into social strata. If that sounds harsh, let me elaborate. There are high-stakes assessments (e.g. matriculation exams) as well as low-stakes assessments (e.g. self-assessment, portfolios). What I often see in schools around the world is the alignment of such learning goals as the acquisition of ‘21st century skills’ with low-stakes assessment. However, the high-stakes assessments that determine a student’s educational trajectory generally take the form of individual exams.

“The main purpose of assessment has to change from comparing students to supporting learning.”

This dichotomy is likely to promote the view that 21st century skills are soft skills. In the end, high-stakes assessments communicate what our societies truly value – or at least that may be how the situation is perceived by students. Assessment practices at various educational levels also remain largely teacher-led – as they have for a long time.

If our educational systems are truly to promote 21st-century skills, the main purpose of assessment has to change from comparing students to supporting learning. Otherwise we will be assessing the goals of the 21st century based on the standards of the 20th century.

“It is highly doubtful that we will ever succeed in educating critical thinkers by relying on teacher-led assessment!”

Measuring a student’s 21st century skills is desirable only if the information gleaned from that assessment is used primarily to support the acquisition of those skills. However, there may not be
a satisfactory way to operationalise intercultural skills or collective intelligence. Instead, we should devote our energy to designing new kinds of assessments that are better suited to that purpose.

But beware: the results could shake the foundations of today’s assessment culture. Maybe we will have to wrestle with the principles of validity and reliability. Or maybe – horrors! – we will even have to give agency to the students themselves and allow them to participate in designing these assessments. After all, it is highly doubtful that we will ever succeed in educating critical thinkers by relying on teacher-led assessment!

EARLI 2019

The European Association for Research on Learning and Instruction (EARLI) is an international networking organisation for junior and senior researchers in education. Representing over 2000 members in more than 60 countries, EARLI is the biggest educational association in Europe.

In times of constant change, the future is a moving target – difficult to predict and prepare for. Yet, education is doing just that. At the 18th Biennial EARLI Conference and the accompanying 23rd Conference of the Junior Researchers of EARLI, researchers in learning and instruction from all over the world come together to discuss current research findings. In order to think tomorrow’s education and education research, it is crucial to relate new findings to what we already know and elaborate how this will help foster sustainable learning processes and navigate what is yet to come. EARLI 2019 will take place in Aachen, Germany, from August 12th to 16th, 2019. More information at EARLI.org/EARLI2019.

This article was published on BOLD, the Blog on Learning and Development. If you would like to share it with others, please do not use this PDF but instead link to the original post at https://bold.expert/are-we-assessing-21st-century-skills-based-on-20th-century-standards/.