

# Can you measure the development of students' entrepreneurial skills?

Yes, and you can measure the short-term impact of entrepreneurship education through self-evaluation. There are many different tools to measure the impact of entrepreneurship education on students' confidence in their own abilities to perform entrepreneurial activities.

Entrepreneurial competences comprise different cognitive as well as non-cognitive skills. Cognitive skills (for instance financial and strategic skills, e.g. converted to business plans) are easy to assess through traditional evaluation methods.

It is not so easy to assess non-cognitive skills (for instance creativity and managing uncertainty). Therefore, several tools have been developed to assess non-cognitive entrepreneurial skills. One way is to use self-evaluation, that is, to have the student evaluate his or her own skills.

In the assessment of entrepreneurship education during the last decades, the focus has been on factors which predict future behaviour but which can be assessed in the short term. The last couple of years, researchers have developed user-friendly digital tools that teachers, students and school leaders can use on their own to evaluate teaching programmes in entrepreneurship and innovation. Some tools also allow assessment of teachers' and educational institutions' development in the field.

## Self-evaluation tools are effective

Danish research shows that self-evaluation tools can effectively assess students' self-confidence in their own non-cognitive entrepreneurial skills.<sup>1</sup>

## International evaluation tools

### OctoSkills

In 2014, a European research project has developed and validated an international evaluation tool, ASTEE, which teachers at different education levels can use. The tool is based on Albert Bandura's social learning theory and Kåre Moberg's research. The tool measures dimensions such as entrepreneurial self-efficacy (confidence in one's own entrepreneurial abilities), entrepreneurial attitudes, intentions and social capital as well as school engagement, motivation for learning and relations to teachers and classmates. The tool has since then been converted to an app, OctoSkills.<sup>2</sup>

### Entrepreneurial Skills Pass (ESP)

JA Europe has in collaboration with the Danish Foundation for Entrepreneurship, 22 European countries and 15,000 participating students developed the tool Entrepreneurial Skills Pass (ESP). The tool contains a questionnaire that measures entrepreneurial

skills and a test that measures and certifies Company Programme students' knowledge about entrepreneurship. Today, the tool exists in 16 languages.<sup>3</sup>

### LoopMe

Swedish researchers have developed the app-based tool LoopMe. LoopMe allows students to register the activities they perform and the feelings they experience in connection with these activities. The student can send a report to his or her teacher through LoopMe, and the teacher can answer the report. This allows the possibility of formative feedback. It also allows an effective evaluation, because the programmes can be compared on the basis of the frequency of different activities performed. At the same time, LoopMe provides a good starting point for qualitative evaluation.<sup>4</sup>

### Measurement Tool for Enterprise Education (MTEE)

Finnish researchers have developed Measurement Tool for Enterprise Education (MTEE), which is a self-evaluation tool for teachers. When answering a questionnaire, the teacher receives an answer about his or her performance compared to other teachers who have filled in the questionnaire. The following dimensions are measured: The respondent's entrepreneurial... 1) development, 2) planning, 3) activities, 4) pedagogy and 5) culture. By repeating the questionnaire later, the teacher can follow his or her own development. The tool can be used for evaluation of teacher training and entrepreneurship teaching in schools and institutions.<sup>5</sup>

### HEInnovate

HEInnovate was developed by the EU and OECD and is an online tool that measures how entrepreneurial a higher education institution is, based on management and strategy, organisational capacity (economy, competences and incentive structure), activities for entrepreneurial teaching and entrepreneurial support, as well as internationalisation.<sup>6</sup>

### Assessment and evaluation of teaching in entrepreneurship and innovation at university

An anthology made by the Danish Foundation for Entrepreneurship in collaboration with UNIEN (Universities' Network for Innovation and Entrepreneurship Education) provides many examples of how entrepreneurship education at the higher education institutions can be assessed and evaluated and gives teacher recommendations about how to assess students' entrepreneurial skills.<sup>7</sup>

<sup>1</sup> Moberg, S.K. (2014). Assessing the Impact of Entrepreneurship Education: From ABC to PhD. PhD thesis, Copenhagen Business School.

<sup>2</sup> Moberg et al. (2014). How to assess and evaluate the influence of entrepreneurship education. Report for the ASTEE project – Assessment Tools and indicators for Entrepreneurship Education.

<sup>3</sup> Moberg, S.K. (2016). Innovation cluster on Assessment. Report for the Innovation Clusters in Entrepreneurship Education (ICEE) project.

<sup>4</sup> Lackeus, M. (2014). An emotion-based approach to assessing entrepreneurial education. *International Journal of Management Education*, 12(3), 374-396.

<sup>5</sup> Ruskovaara, E. & Pihkala, T. (2014). "Developing a measurement system for entrepreneurship education in universities of applied sciences. A case of co-creation". UIIN Good Practice Series 2014, Case studies on engaged and entrepreneurial universities 2014. Entrepreneurial Universities Conference, 2014, p. 163-171, ISBN 978-94-91901-08-9

<sup>6</sup> Hofer, A. & Dimitrov, G. (2014). Promoting Innovation and Entrepreneurial Mindsets through Higher Education. HEInnovate Reviews. Bulgaria.

<sup>7</sup> Wick et al. (2016). Bedømmelse og evaluering i innovations- og entreprenørskabsundervisning på de danske universiteter.

