**Titel:** Future skills of journalists and artificial intelligence in education

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**Abstract**

The transformation of journalism as a profession became irreversible. Journalists and media are continuously searching for new possibilities, such as:

- new business models (branded content or Blendle (Marron, 2014, Tsourvaks & Riscos, 2018)),
- new narrative forms (animation and virtual reality (Jacobson, Marino, & Gutsche, (2016), Young (2015)),
- new forms of gathering news (for example, data journalism (Bradshaw, (2014))
- new platforms (such as Facebook, Instagram and Snapchat).

These changes in journalism are likely to take place more rapid in the coming years. Therefore, specialists are needed who not only have modern journalistic skills and creative potential, but are also ready to take risks to develop and try out new concepts.

As a result, education has the difficult task to outline the necessary knowledge and skills of future professionals at all levels and in all disciplines. According to Meijer (2017) modern society needs professionals who have TEC (Technology, Entrepreneurship and Creativity) skills.

To succeed in defining and developing TEC skills, one needs to go beyond one discipline and unite the efforts of all media participants. All media participants (commercial companies, public sector, educational and research institutions) face similar problems and challenges and can only benefit by joining their forces. Consequently, new initiatives are arising. For example, an initiative like MindLabs (The Netherlands), which goal is to bring together the work of professional education (Fontys School of Journalism), academic universities (Tilburg University), the government and media holdings (De PERSGROUP). Their task is to create a cooperation between students, teachers, scientists and media organizations to investigate the field of human and artificial minds and to stimulate an innovative mindset (Goodnough, 2010; Roberts, 2008; Wenger, 1998).

An example of the MindLabs studies is the experiment of using artificial intelligence in the educational process. The aim of this study is to create models and, later on, prototypes with the ability to track TEC skills. Then, these models would be trained to recognize TEC skills in texts, define

the level of these skills of an individual and predict the future learning program for their development. Furthermore, it aims to answer the question: "To what extent can artificial intelligence replace the human ability to evaluate and predict similar tasks? Given the enhancement of cognitive sciences and successful research in the field of artificial intelligence and data science, this task is not science fiction but a scientific fact (e.g., Jurafsky & Martin, 2014; Louwerse, 2018; Manning & Schutze, 1999).

Thus, the main question of this research is how data science and artificial intelligence can contribute to modern education aimed at identifying and developing talents of students. This study mainly uses the development of advanced mathematical, statistical and linguistic models, with which you can perform automated text analysis (analysis of unstructured data). This study focuses on the following issues:

• Can we make predictions based on text data?

• Can we build a computational model for human cognition and behavior?

This project will be executed with cooperation of MindLabs, commercial organizations and the local government authorities. Scientists, teachers and students will join their forces to reach the goals of this research.

The results of this study can be used in various disciplines, for example, in education (an analysis of potential student skills to be able to give a better advice on choosing an individual learning programme) or journalism (to be able to examine if an article applies to the interests and/or needs of a particular audience).

The first results are expected at the end of this academic year (2018-2019).

**Key words:** journalism, education**,** future skills, artificial intelligence, data science, cognition

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