

Is AI our new teacher: How does technology change the role and importance of teachers in the classroom

Stanislav Nemeržitski,

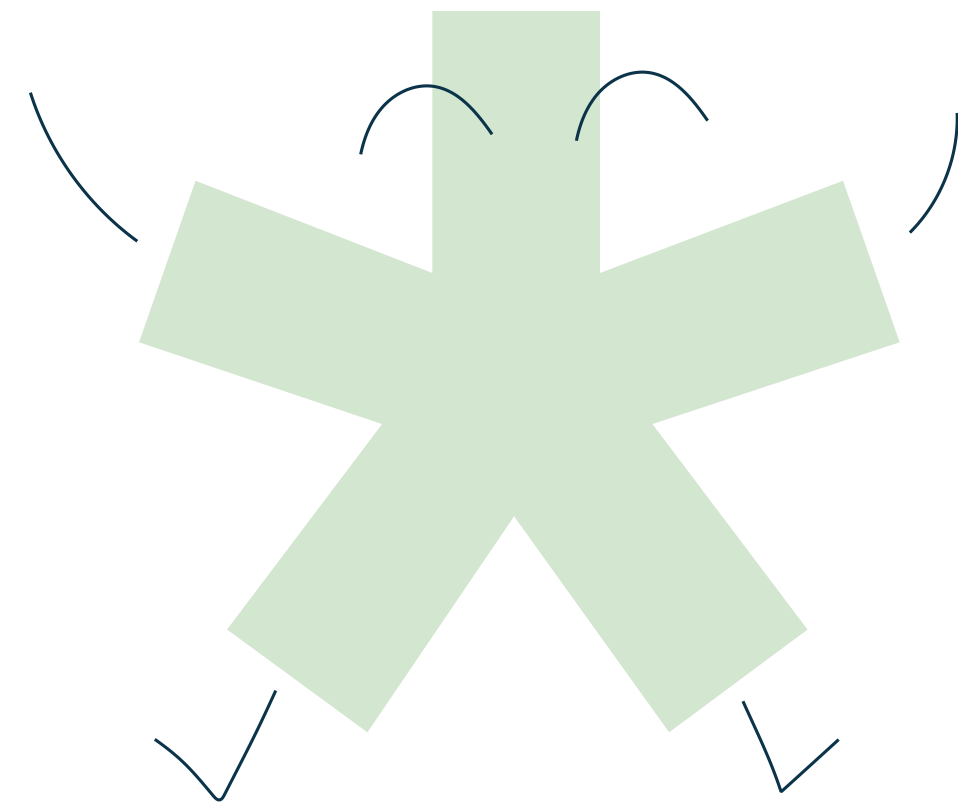
Eesti Haridusfoorum / Estonian Education Council

Eesti Keele Instituut/ Institute of Estonian Language



Different scenarios to describe teacher's role transformation in teaching and learning processes

Envisioning the near future (2035), based on Loogma, Erss, Ümarik & Aasa (2020) future scenarios of teacher professionalism





Basis for the scenarios model:

Identification of major factors affecting teachers' professionalism

EXTERNAL DRIVING FORCES

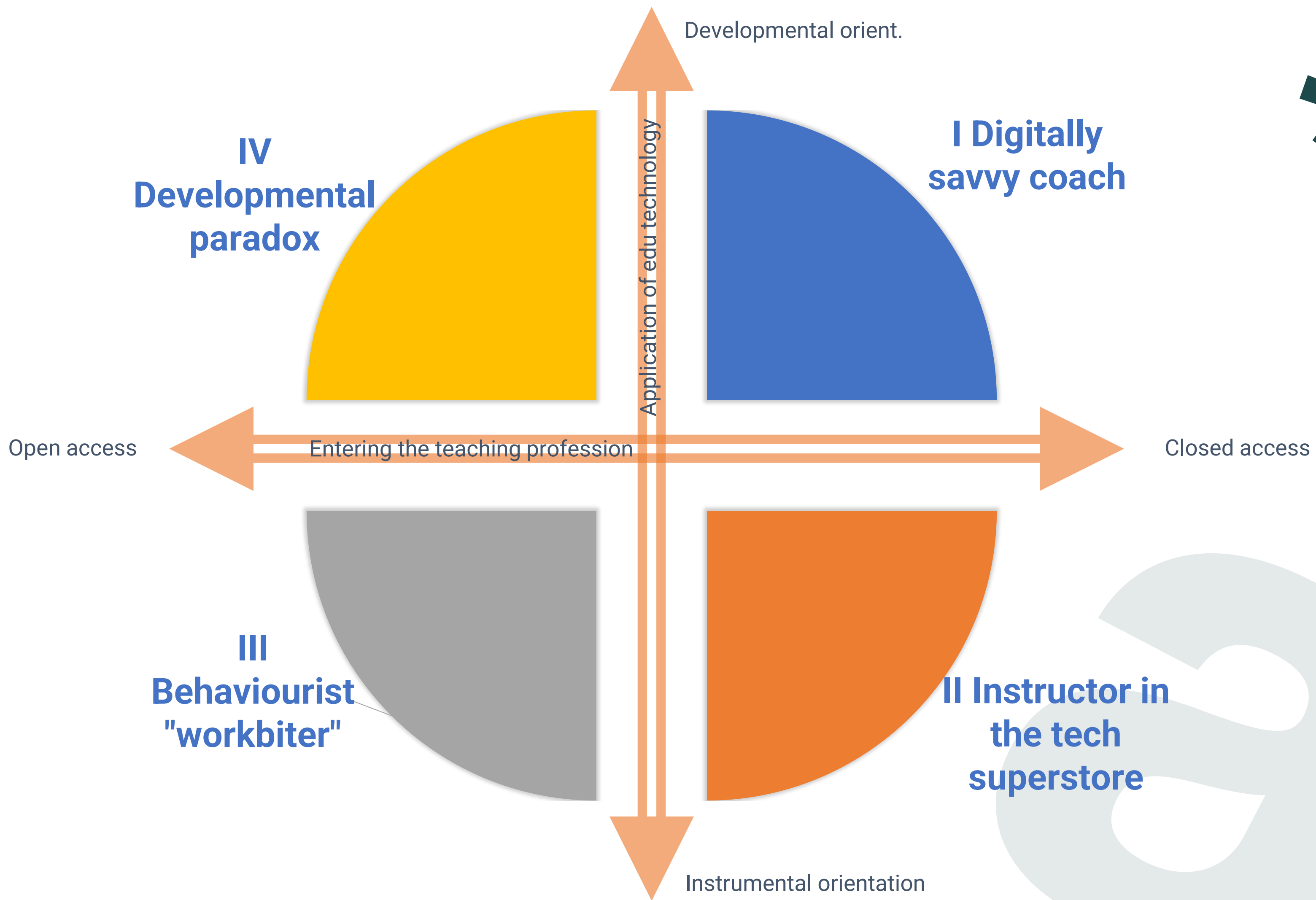
- Ideology
- Demographical processes
- Change of learning environments
- **Educational technology & AI**
 - The most global, influential, uncertain/ unpredictable force



INTERNAL DRIVING FORCES

- Teachers' salary
- Formal (and informal) requirements
- **Paths of entering teachers' profession**
 - Teachers' professional preparation, status in the society, structural deficiencies





DIGITALLY SAVVY COACH

- Developmental orientation of eduTech application
- Closed access entering the teaching profession
- Trust in academic education/ preparation
- Technology is critically reviewed, AI is used widely
- eduTech opportunities and use in teaching and learning
- eduTech to assist in counselling, social and creative skills
- Focus on general competences
- Deeper professional knowledge
- Teachers status in the society



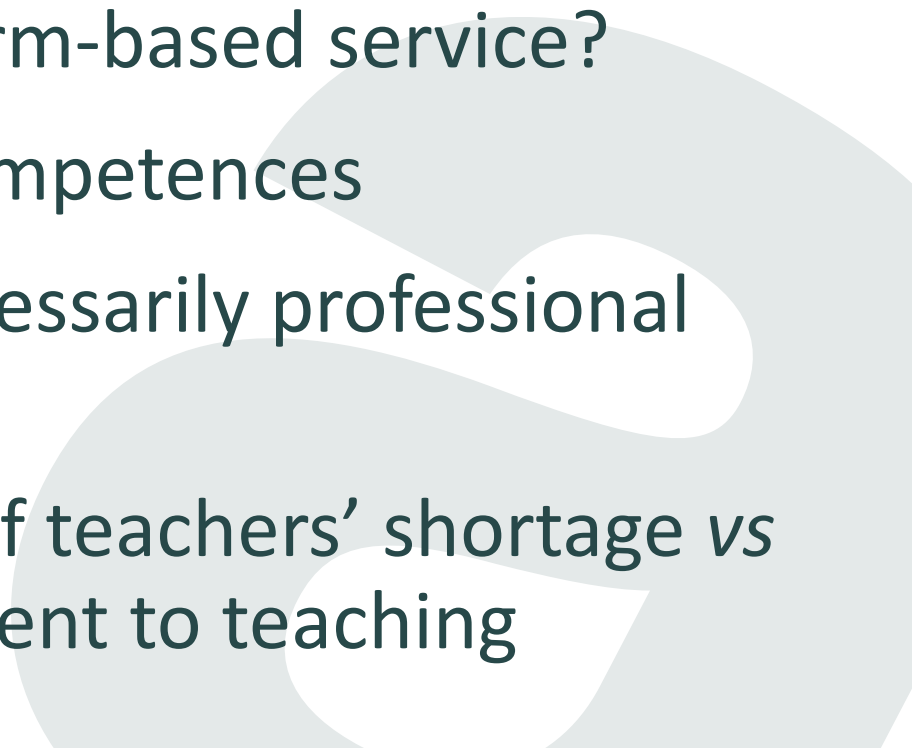
**I Digitally
savvy coach**



IV Developmental paradox



DEVELOPMENTAL PARADOX

- Developmental orientation of eduTech application
 - Open access entering the teaching profession
 - Tech creators along with edu experts
 - AI individualizes learning paths for students, personalizes feedback etc
 - Teachers who understand eduTech and value human skills
 - Teaching as a platform-based service?
 - Focus on general competences
 - Enthusiasts, not necessarily professional teachers
 - Emergency in case of teachers' shortage vs long-term commitment to teaching professionals?
- 



INSTRUCTOR ON TECH SUPERSTORE

- Instrumental orientation of eduTech application
- Closed access entering the teaching profession
- Loyal servants for state edu ideology
- Autonomy low, status may be high (power)
- Academic preparation
- eduTech development free market driven
- Workmarket and situational needs oriented
- Motivational risks for high-achieving teachers
- Digital inequity between schools



**II Instructor in
the tech
superstore**

III Behaviourist "workbiter"

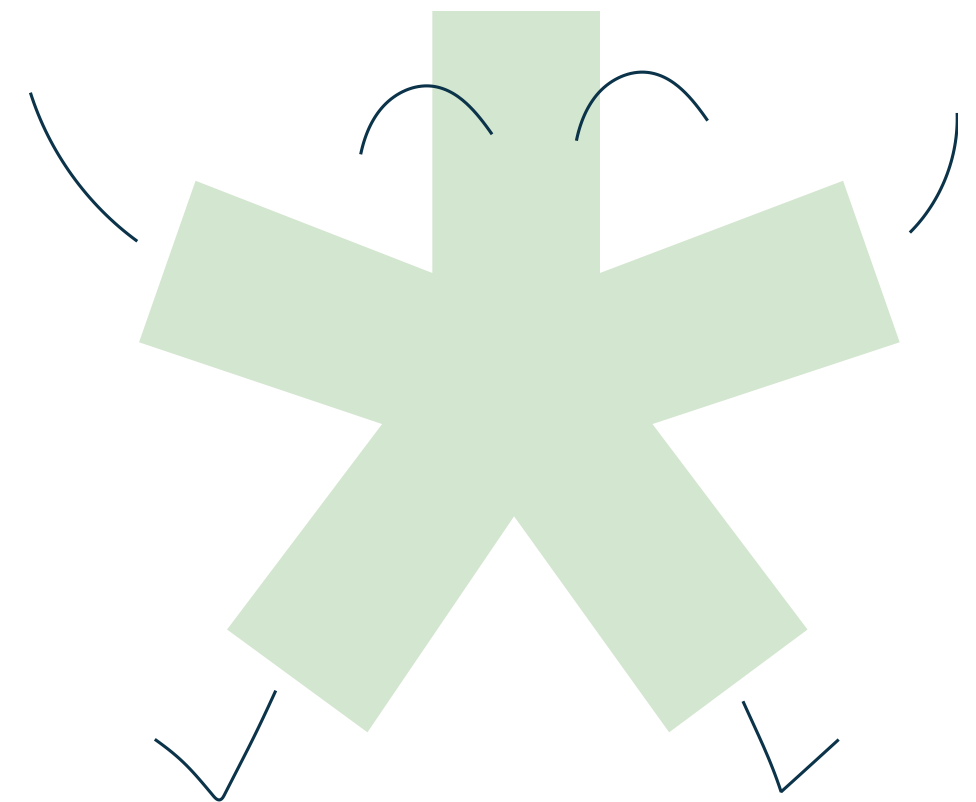
BEHAVIOURIST WORKBITER



- Instrumental orientation of eduTech application
- Open access entering the teaching profession
- Flexible entry to the profession
- AI to help teachers without qualification, workmarket based eduTech use
- eduTech opportunities and use in teaching and learning
- Teacher as learning environment holder/ admin
- Coping with use of eduTech problematic: lack of skills
- Use of eduTech as competitive and rewarding behaviour
- Shorter/ more shallow contact with students
- Understanding the complexity?
- Teachers' authority low, employee turnover high

AI and new **challenges** for teachers – beyond plagiarism

What is the main source of concern for education stakeholders:
challenges and ways to tackle them





AI and **challenges** for education

STUDENTS/ PARENTS

- **Structural inequity reproduction**
- Privacy & transparency concerns
- Displacement of relational interaction
- One-size-fits-all approach (structure)
- Additional workload for homes?
- **Digital inequity**
- **Cognitive overload (concentration)**
- Decrease in cognitive skills
- “Over-predictiveness”

SCHOOLS

- **Privacy and confidentiality issues**
- Data security systems issues
- Involvement of families
- **Finding teachers (new competences)**
- Coping with increased workload of teachers
- Information ownerships concerns
- School identity, culture, uniqueness?
- **Focus on market needs vs human potential development?**



AI and **challenges** for education

TEACHERS

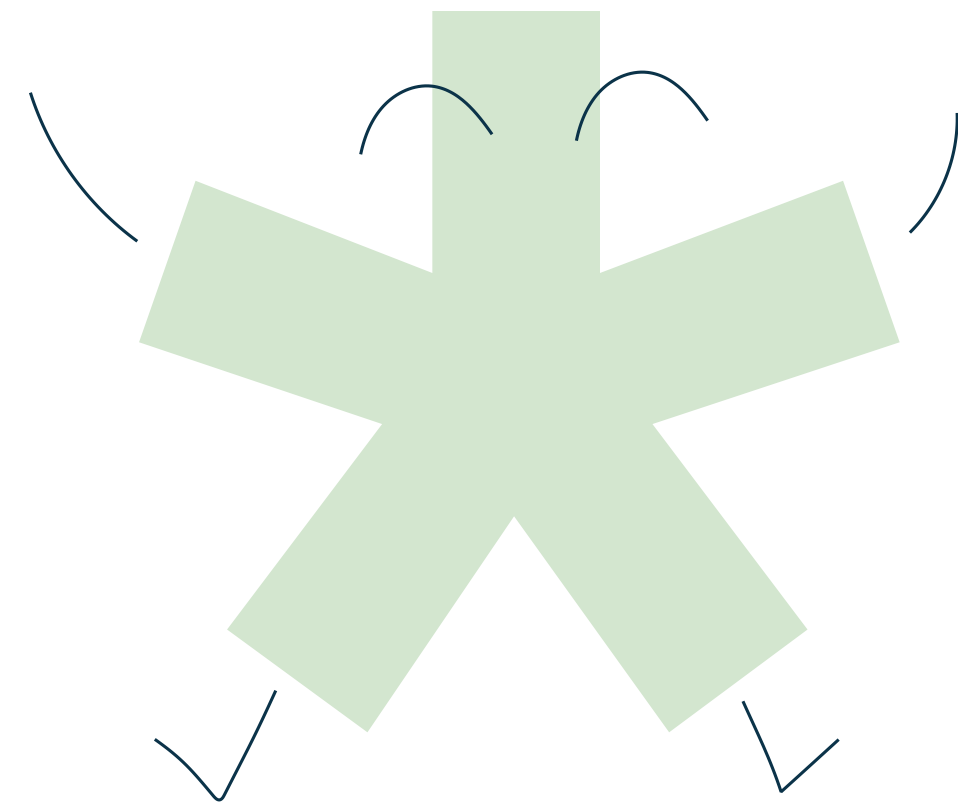
- What is and what is not AI?
- Generational gap
- **Inadequate/ insufficient digital skills**
- **Understanding eduTech and AI**
- Nice to have vs crucial?
- Being aware of biases
- Role division: live teacher vs AI
- Expectations vs guidelines
- Motivation for using the technology
- **Automatization → less authority?**

SOCIETY

- **What type of students is AI supporting: more able or less able?**
- **What about students with special educational needs?**
- Limits to differentiation in the classroom
- Ongoing standardization of educational process
- Discrimination concerns
- **Keeping the best teachers in schools**
- **Education: service vs gift?**

New challenges, yet also new **opportunities** – what skills AI can stimulate in teachers' arsenal

How can teachers and educators leverage on the growing use of AI/ technology in education – is there a win-win-win scenario?





AI and **opportunities** for education

STUDENTS/ PARENTS

- **Coping at school**
- New possibilities for human connection
- **Creativity and self-expression possibilities**
- Teamwork support (hypothetically)
- **Flipped classroom enhancement**
- **Intergenerational bonding**
- Pursuit of greater equity in school
- Focus on “soft skills”

SCHOOLS

- Accountability
- **Standardization of certain processes**
- Involvement of families and students – greater coverage
- **Self-learning system**
- Focus on human development within the whole organization
- Broader pool for new teachers
- **Integral use of educational technologies**



AI and **opportunities** for education

TEACHERS

- Agency
- Mediation: AI/eduTech and students
- **Differentiation during learning/teaching process and evaluation**
- **Focus on emotional and psychological support of students**
- Self-development (digital domain, digital literacy)
- **Greater competitiveness on the job market?**
- Motivation to grow & stay in school?

SOCIETY

- Comparability of results
- **Re-evaluation of human development and “soft skills”**
- Focus on 21st century skills
- Pursuit of greater equity
- **Developing alongside AI → digital literacy**
- Re-evaluation of teachers' role and mission
- **New type of knowledge**

Kevin Tan & Xiayu Summer Chen
(2023)

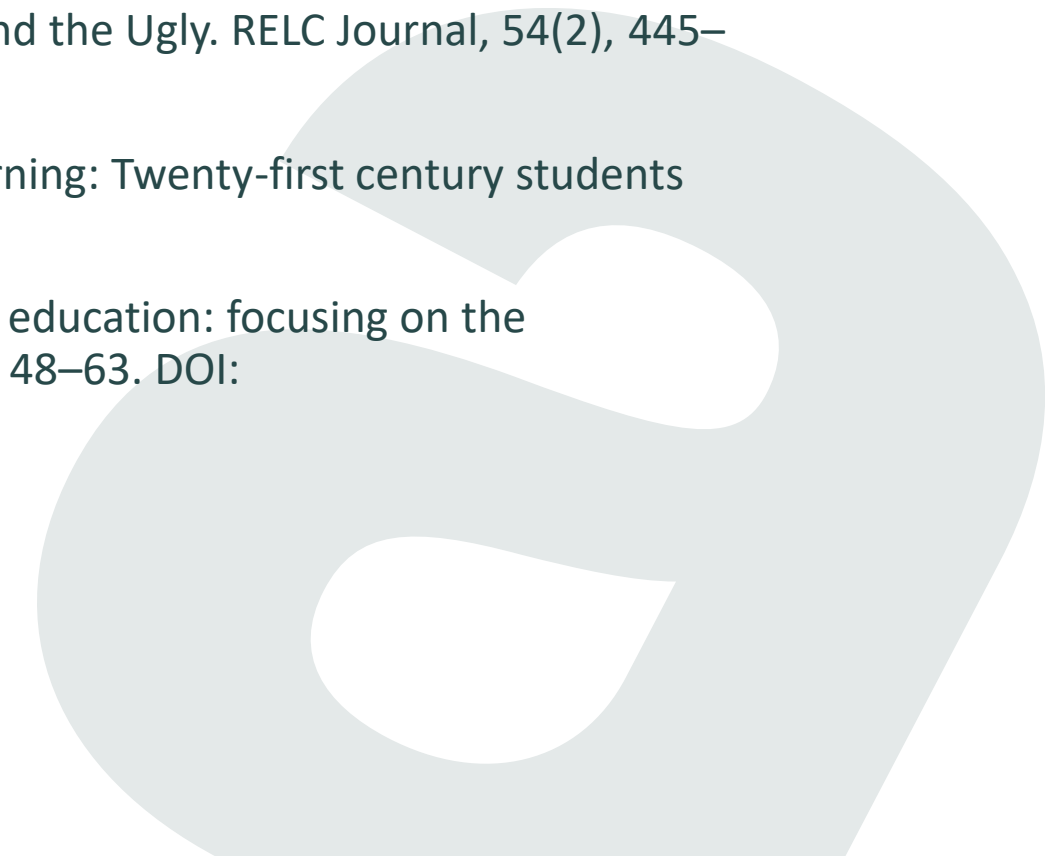
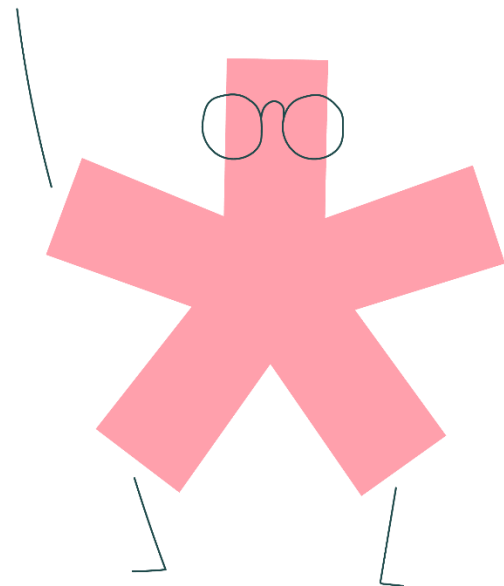
“It is critical that we do so [*leveraging on new technological tools to build rapport and interaction with young*] in ways that do not neglect the socioemotional development of our young or exacerbate existing inequities.”

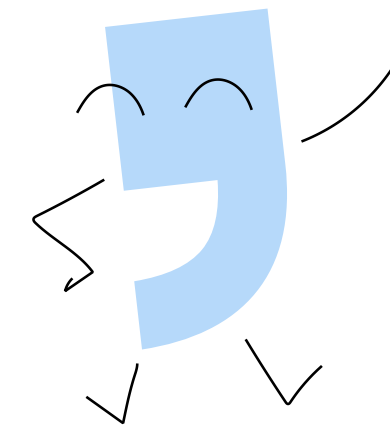




- Loogma, K., Erss, M., Ümarik, M., & Aasa, M. (2020). Õpetaja professionalism võimalikud tulevikustsenaariumid aastaks 2035. *Eesti Haridusteaduste Ajakiri = Estonian Journal of Education*, nr 8(1), 183–212. [Possible future scenarios of teacher professionalism for 2035]. Doi: <https://doi.org/10.12697/eha.2020.8.1.08>
- OECD (2016). *Innovating education and educating for innovation: The power of digital technologies and skills*. Paris: OECD Publishing. Doi: <https://doi.org/10.1787/9789264265097-en>
- Tuomi, I. (2018). *The impact of artificial intelligence on learning, teaching, and education*. Policies for the future. M. Cabrera, R. Vuorikari & Y. Punie (Eds.), Luxembourg: Publications Office of the European Union. DOI: 10.2760/12297
- Berg, J, Furrer, M., Harmon, E., Rani, U, & Silberman, M. S. (2018). *Digital labour platforms and the future of work: Towards decent work in the online world*. International Labour Organization. Geneva. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_645337.pdf
- OECD (2019). *How's life in the digital age? Opportunities and risks of the digital transformation for people's well-being*. OECD. Retrieved from https://www.oecd-ilibrary.org/science-and-technology/how-s-life-in-the-digital-age_9789264311800-en
- Tan, K., & Chen, X. S. (2023). Keeping Up with Technology: Socioemotional and Equity Challenges with Children and Schools. *Children & Schools*, 45(3), 127–130. doi: <https://doi.org/10.1093/cs/cdad014>
- Ng, D. T. K., Leung, J. K. L., Su, J. et al. (2023). Teachers' AI digital competencies and twenty-first century skills in the post-pandemic world. *Education Technology Research & Development* 71, 137–161. <https://doi.org/10.1007/s11423-023-10203-6>
- Hockly, N. (2023). Artificial Intelligence in English Language Teaching: The Good, the Bad and the Ugly. *RELC Journal*, 54(2), 445–451. DOI: 10.1177/00336882231168504
- Regan, P. M., & Jesse, J. (2018). Ethical challenges of edtech, big data and personalized learning: Twenty-first century students sorting and teaching. *Ethics and Information Technology*, 21(3), 167–179.
- Hyangeun Ji, I. H. & Yujung, K. (2023). A systematic review of conversational AI in language education: focusing on the collaboration with human teachers. *Journal of Research on Technology in Education*, 55(1), 48–63. DOI: 10.1080/15391523.2022.2142873

REFERENCES





Thank you for your attention!

