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Turning Education Upside Down

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For students to be successful in the 21st century, they need to have the right education skills.

21st century education comprises specific learning environments, professional development, curriculum and instruction, standards and assessments, core subjects (reading, writing, arithmetic and 21st century basics), life and career skills, media and technology skills, as well as learning and innovation skills including critical thinking, creativity, communication and collaboration.

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Personalised learning will also benefit students as the traditional 'one-size-fits-all' approach to education inevitably results in achievement differences. This is because the traditional approach entails everyone learning the same content at the same pace under the same conditions, despite learning differences, dynamic learner states, and other contextual/environmental variables. The traditional approach is now becoming increasingly outdated in many educational environments as new research and technology identify more effective leaning methods to replace them.

However, a student's performance is also highly correlated to their level of engagement and therefore an affective state is important. Creating an affective state recognition system in natural settings is a complex challenge. In order to make it possible the context (content) needs to be taken into account. To be effective it also needs to be personalised to the user, based on long term observation, and be multimodal allowing for many diverse forms of input.

Instead of traditional learning, adaptive learning should be favoured to improve student performance. The advantages of this type of learning compared to traditional learning, according to participants of a 10-week long pilot programme, are that it creates a better learning experience overall as the approach is dynamic, student centred, and learners learn by doing-which will result in higher levels of student success.

However, participants also viewed that this approach can be boring due to a lack of human interaction, is subject to increased technical difficulties, and it is distracting to be watched by cameras. Therefore it can be deduced that, although better, there is still room for improvement with this approach.