TO WHAT EXTENT DOES THE SOFTWARE PROVIDE OPPORTUNITIES FOR (PEDAGOGICAL) DESIGN ADAPTABILITY?
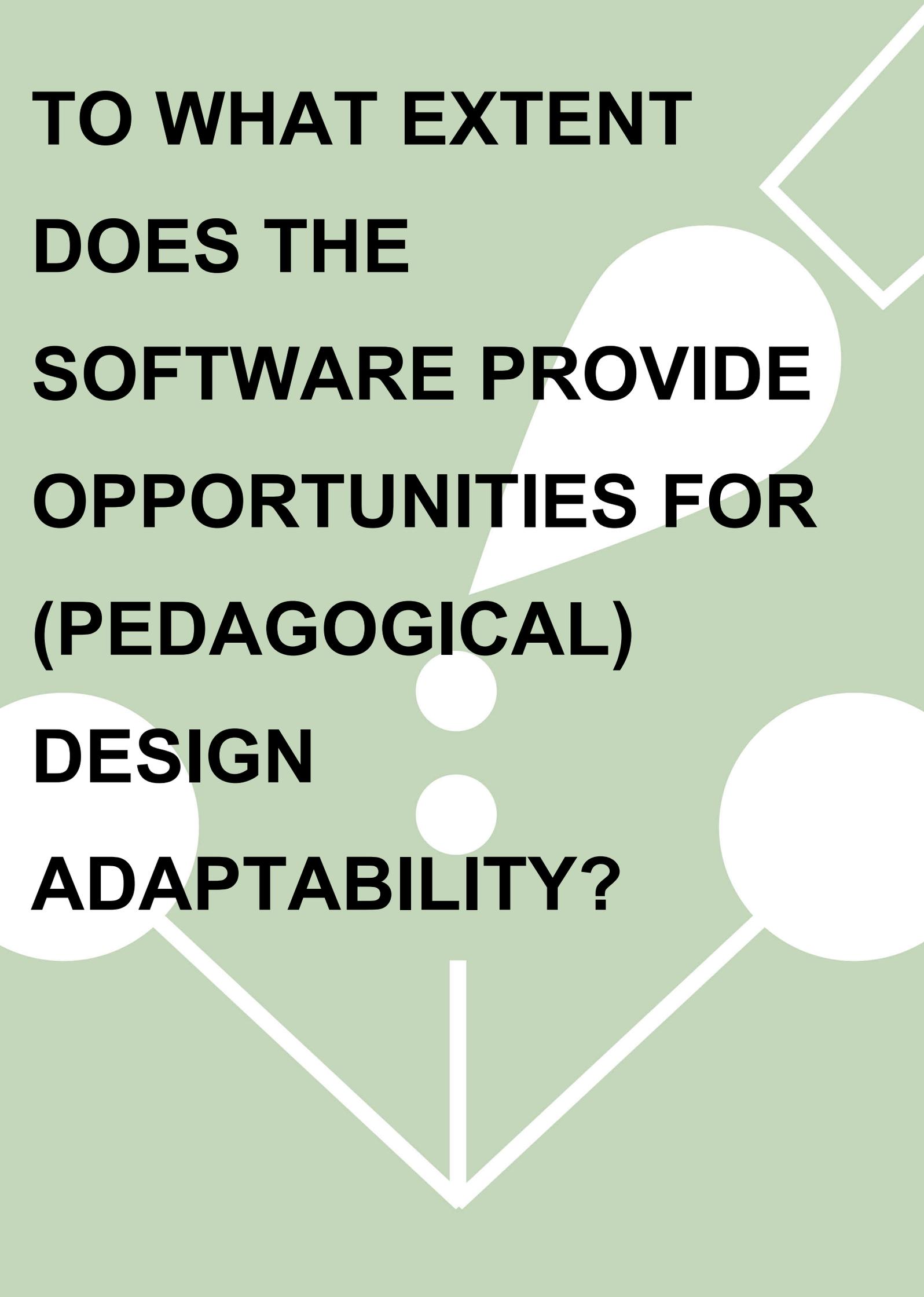
Design Adaptability ⟹ Education

Ms Meier uses the school wide learning platform for her lessons. She uploads materials, texts and exercises for her pupils to the platform. Using the monitoring function, she can now track which pupil completes which exercise when, for how long and in which format. A dystopia of surveillance or a utopia of personalised learning?

Profiles of requirements

The extent to which a software's design is adaptable to different needs significantly contributes to its usefulness in educational institutions and should always be taken into account when considering purchasing educational software. Particular attention should be paid to the software's technical functionalities and how flexibly these can be en- and disabled depending on pedagogical requirements. Already in this seemingly "merely technical" modelling of the software / platform, concrete concepts of education take effect (for example when measuring learning success). Therefore, an encompassing transparency and the option to situationally adapt these settings are crucial.

Nearly every software / platform includes the possibility for tests and exams. In pedagogically complex systems, the test function can be used for formative as well as summative evaluations, depending on the teacher's requirements. If the students are supposed to pay attention to their own learning process and progress, an appropriate function can be activated (see fig. 1). If the students are supposed to be tested on what they have learned at the end of a learning unit, settings such as an unlimited time period for the test, the number of attempts and additional assistance can be adapted.

Fig. 1: A software / platform's test function settings.

Some learning platforms can easily be tailored towards individual needs. What is important here is that monitoring and tracking of a system's use can take place on different levels – for an entire school, a classroom or individual profiles. Thus, it can, for example, be used for a student's reflection on their own time management. Students' own sense of time when learning frequently differs from the actual time spent on the task. Therefore, monitoring can contribute to a successful self-reflection and autonomy of students (see fig. 2).

Fig. 2: Time monitoring on a software / platform.

⟹ Questions

- Can the selection, the structuring and the level of difficulty of provided contents and materials be adapted to different demands and objectives?
- Does the system provide opportunities for individual differentiation and support?
- Are learning and testing settings clearly distinguishable from each other?
- Can different levels of feedback (self-assessment, peer-review, teacher, etc.) as well as of peer support be added?
- Are learners able to select exercises and contents to work on, set their own goals and determine their learning speed?
- Does the system allow for different options of (cooperative) work (individual, partner or group work, etc.)?
- Can user interfaces be designed in a target-group-specific manner?

Literature and References

Allert, H. (2020). Algorithmen und Ungleichheit. In: merz. Zeitschrift für Medienpädagogik, 03. https://www.merz-zeitschrift.de/alle-ausgaben/pdf/algorithmen-und-ungleichheit/

Jornitz, S. and Leser, C. (2018). Mit Antolin punkten oder: Wie sich mit dem Leseförderprogramm der Bock zum Gärtner macht. In: Pädagogische Korrespondenz, 57 (2018), p. 55-73. http://nbn-resolving.org/urn:nbn:de:0111-pedocs-211006

Jornitz, S. and Klinge, D. (in press). „Bildung" as a forgotten aspect of algorithmic technologies. In: M. Parreira do Amaral und C. Thompson (eds.), Geopolitical Transformations in Higher Education. Imagining, Fabricating and Contesting Innovation. London: Palgrave.

Selwyn, N. (2018). The Promises and Problems of Learning Analytics. The 8th International Learning Analytics & Knowledge Conference, Sydney, 08.-10.03.2018.
www.youtube.com/watch?v=rsUx19_Vf0Q&list=PLOF7tBP24lAd6eRYKrKfk5oY9zMSl5WEX&index=22

Yeung, K. (2017). 'Hypernudge': Big Data as a mode of regulation by design. In: Information, Communication & Society, 20 (1), p. 118-136.
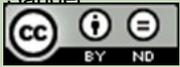
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