Datafying education: How digital assessment practices reconfigure the organisation of learning

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Datafication of (social) life

• Increasing trend to capture social life in numbers
• Data for sense-making, accounting, and evidence-based decision making affect e.g. in education:
  • the organisation of teaching and learning,
  • school choice,
  • recruitment,
  • educational governance
  • policy discourses
Datafying education

• Schools as ‘data platforms’ (Williamson 2015)
  • Assessment and ranking activities have become key aspects of national and international educational policy-making (Selwyn 2015)

• Rankings
  • ‘do more than simply describe a setting but [...] also intervene within a situation’ (Pollock, 2012, p. 94).
  • ‘are reactive because they change how people make sense of situations’ (Espeland and Sauder, 2007, p.10).
Data practices

• Data do not just exist but rather data are ‘generated’
• ‘Data need to be imagined as data to exist and function as such, and the imagination of data entails an interpretive base” (Gitelman and Jackson 2013, p.3).
  • Process perspective: Data help to frame a phenomenon by demarcating boundaries in space and time.
  • Interpretations of data as representation of e.g. learning outcomes elicit particular social imaginaries of learning and teaching, and are as such deeply normative and political.
Case #1: Student assessment and digital data practices
Case #2: Teacher value-added

Los Angeles Teacher Ratings

About 11,500 Los Angeles Unified elementary school teachers and 470 elementary schools are included in The Times’ updated database of “value-added” ratings.

Most third-, fourth- and fifth-grade instructors who taught at any point during the 2004-05 through 2009-10 academic years were given ratings in the Times analysis. Most district elementary schools are included. Test scores for most charter schools were not available.

A teacher’s value-added rating is based on his or her students’ progress on the California Standards Tests for English and math. The difference between a student’s expected growth and actual performance is the “value” a teacher added or subtracted during the year. A school’s value-added rating is based on the performance of all students tested there. Small differences in ratings are not statistically significant, particularly for those rated near the average.

Although value-added measures do not capture everything about a teacher or school’s performance, The Times decided to make the ratings available because they bear on the work of public employees who provide an important service, and in the belief that parents and the public have a right to the information.

Find a teacher... Search

Or, find a school Search

Amy P. Miller
A 5th grade teacher at Park Western Place Elementary in 2010

These graphs show a teacher’s “value-added” rating based on his or her students’ progress on the California Standards Tests in math and English. The Times’ analysis used all valid student scores available for this teacher from the 2003-04 through 2009-10 academic years. The value-added scores reflect a teacher’s effectiveness at raising standardized test scores and, as such, capture only one aspect of a teacher’s work.
Case #2: Teacher value-added
Case #3 IBM Watson not only description but prescription

https://www.youtube.com/watch?v=hwJc_B9_6sI
Materiality

- Barad’s (2007) apparatus offers a useful concept for understanding the sociomaterial dynamics of digital assessment practices in education:
  - material-discursive, boundary-drawing practices; specific material reconfigurings through which “objects” and “subjects” are produced’ (p.148).
- Data practices and associated information infrastructures produce different learning and teaching subjects
Analysis

• In case #1:
  • Results are not mere representation but invite teachers to reflect about their work; they become an engagement tool that is only meaningful when embedded in a teachers’ web of work practices such as observations and conversations; this leads to new teaching practices (e.g. ‘bubble kids’)

• In case #2:
  • Data are detached from these practices; data are not mere representation of students’ performance but also of the teachers work; this leads to new teaching practices (e.g. teaching to the test)
Analysis

• In case #3:
  • Teaching subject is configured as an association of the embodied and physically present teacher entangled in a web of smart devices and algorithms to facilitate the ‘ideal learning outcome’.
  • Learning subject is constituted through algorithms: the individual student is rendered as a learner that is observed and observable throughout their education, and each account builds on the previous.
Conclusion

• The very systems meant to improve schooling have become effective control instruments (‘infrastructures of accountability’)

• These ‘technologies of governance’ transform the classroom from a physically bounded place into a transparent and visible space.
  • Classroom activities seem to be ‘represented’ in the digital realm but in fact they become reconfigured: e.g. the learning subject is rendered predictable and passive

• Important ethical and political consequences as such evaluation technologies are not value neutral