qualitative data reuse

Uncovering Patterns in Educational Research Data Reuse

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OVERVIEW

- Research is expensive and the public investment is large, the US government spent ≈ $70 billion (U.S. Department of Education)[1] on research in fiscal year 2016.
- In spite of mandated data sharing and management plans, most data remain inaccessible to potential reusers. The benefits of data reuse are:
  - Make research budgets go further
  - Improve efficiency
  - Generate new or different findings
- We focus on data reuse in the field of education involving digital video records of practice – that is, "detailed documentation of teaching and learning" (Bass et al., 2002, p. 79)[2] – especially digital videos
- To effectively use digital video, data reusers often need additional information, complementary data, to interpret and reuse the data. Complementary data includes:
  - Lesson plans
  - Demographic information on students and teachers
  - Seating charts
  - Student work

RESEARCH QUESTIONS

- How do complementary data support the selection and reuse of records of practice for research and teacher education?
- What are the patterns in data reuse with respect to complementary data and how might these patterns inform how repositories might make improve their collections, systems, and services for future reusers?

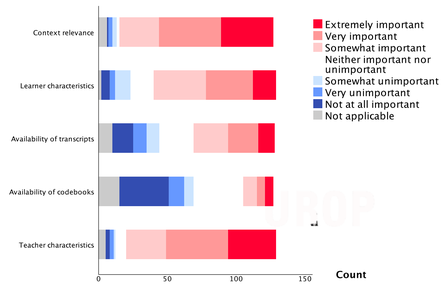
METHODS

- Surveys: 3 repositories, 138 repondents (110 using for research or/and teaching)
  - Data collected in Qualtrics and analyzed in SPSS
  - Analyses: Descriptive statistics and visualizations
- Interviews: 44 interviewees
  - Coded in NVivo
  - Analyses: Ran reports of the node "Complementary data" and the subcodes under it. Then read through reports to identify main themes.

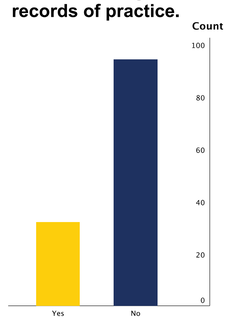
FINDINGS

Most survey respondents consider different types of complementary data important when choosing digital records of practice. 65% of respondents stated that contextual relevance was an important selection criteria. Context comes both from the video records of practice as well as from complementary data. Learner and teacher characteristics, transcripts, and codebooks were used to select data.

When searching for digital records of practice, how important are each of the following selection criteria to you?



I combine other types of data with digital records of practice.



"I think that depends a great deal on what the specific research questions are."

— QDR_004

		Lesson plans	Transcripts
Research goals	Test the feasibility of certain research questions or analytic frameworks	65%	50%
	Train or practice for data collection/analysis	65.4%	53.8%
	Analyze for patterns and/or study as cases	66.7%	53.8%
	Illustrate research findings	68%	52%
	Verify research findings arrived by studying other data sources	66.7%	77.8%
	Other	33.3% (1of 3)	66.7% (2 of 3)
Teaching goals	Show examples/exemplars that establish common ground with learners	84.1%	34.8%
	Launch larger activities or problems for the class	79.4%	58.8%
	Create opportunities for learners to practice or perform a particular skill	81.6%	44.9%
	Engage learners in reflecting on teaching and/or learning	79.2%	38.9%
	Other	0% (0 of 2)	50% (1 of 2)

"[Transcripts] It's kind of a very detailed roadmap... you can locate things that you [want to] say right in the moment..."

— QDR_001

"I think the lesson plans are crucial... it can be confirmatory, 'Oh, these were the goals that the teacher set for that day.' "

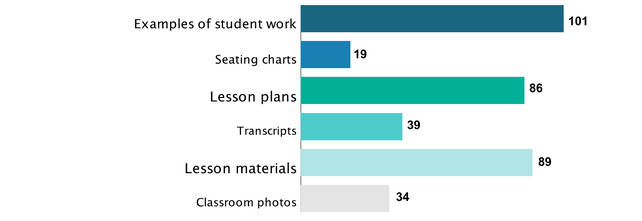
— QDR_003

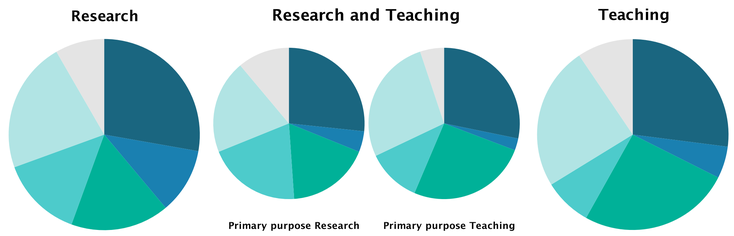
"It's really dependent on how I'm using the video."

— QDR_026

According to the interviewees, what types of complementary data they have used depends on their purposes. However, based on the survey data, examples of student work and lesson materials turned out to be the most commly used complementary data whenever researching or teaching.

Types of complementary data used with digital records of practice





Researchers tended to use transcripts more often while teacher educators used lesson plans more. Transcripts and lesson plans provide information about the videos and help data reusers navigate through them. Lesson plans are more popular among teacher educators because they shed light on teaching goals and teacher thinking – important things for studying teaching. Also, these lesson plans can serve as examples for their students to discuss. However, researchers tend to want transcripts, which provide detailed and explicit information about vebal exchanges that can be coded and used for further analysis.

REFERENCES

[1] https://www2.ed.gov/about/overview/budget/budget16/summary/16summary.pdf

[2] Bass, H., Usiskin, Z., Burrill, G., National Research Council (U.S.), Mathematical Sciences Education Board, & United States National Commission on Mathematics Instruction (Eds.). (2002). Studying Classroom Teaching as a Medium for Professional Development Proceedings of a U.S.-Japan Workshop. Washington, DC: National Academy Press. Retrieved from http://www.nap.edu/catalog/10289.html

WHAT'S NEXT

- How does the availability of complementary data influence the behavior of data reusers?
- How can repositories make improvements accordingly?

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LG-06-14-0122-14

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