



Teacher Agency and Professionalism in the Context of Online Mathematics Instructional Platforms

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Research on digital technology in mathematics education is often concerned with measuring impact on learning or encouraging teacher uptake of technology. Research in the field of media studies, by contrast, critiques educational technology, such as online mathematics instructional platforms (OMIPs), as contributing to neoliberal ideology, individualises the learner, and de-professionalises the teacher (e.g., Ideland, 2021). Considering that OMIPs play a significant role in mathematics programmes of Aotearoa New Zealand (Darragh & Franke, 2021) and worldwide, it is important we examine their potential impact.

This paper drew from a wider study that examined OMIPs in Aotearoa New Zealand primary schools. OMIPs are platforms that purport to provide mathematics curriculum coverage, assess using learner analytics to create an individualised programme, and augment the teachers' instruction. We may take for granted agency and professionalism in our mathematics teaching, yet meanwhile the use of OMIPs may place it at risk. I took as a theoretical starting point Biesta's (2012) critique of *learnification* in education. Biesta argued that teachers matter, and they play a crucial role in developing *content*, *purpose* and *relationships*" (Biesta, 2012, p. 36). In order to explore the possible erosion of agency and professionalism, I examined 12 interviews with primary school teachers about their use of OMIPs in their mathematics classrooms and I presented three cases as examples.

The interview data as a whole supported two contrasting findings. On the one hand, OMIPs reduced teachers' agency and professionalism through the lack of control teachers had over the platform as well as the subtle undermining of the teacher role. For example, OMIPs sometimes limited teachers' choice of *content*, exercised a dubious *purpose* in the assigning of "maths age", and could at times undermine the teacher-student *relationship*. On the other hand, these impacts were minor intrusions into the teachers' overall sense of agency and professionalism, and the teachers generally expressed the flexibility of their mathematics programmes. However, Biesta's (2004) notion of "learnification" was evident in the teachers' responses, and their concern for individual student progress reflected the Ed-tech industry and neoliberal ideology (Ideland, 2021). Overall, the experiences of the teachers point to the importance of having a balanced mathematics programme that allows teachers freedom to experiment with a range of different pedagogies for the teaching of mathematics.

References

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