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Teacher ICT skills: Evaluation of the information and communication technology (ICT) knowledge and skills levels of Western Australian government school teachers

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In recognition of the need to integrate technologies with teaching and learning practices the WA Department of Education and Training commenced a Learning Technologies Project for Government schools in 1998. Underlying the aim of integrating and improving the use of ICT by students is an assumption that teachers themselves are competent and confident in the use of ICT in terms of teaching and learning. This evaluation was conducted to provide an assessment of the level and nature of ICT knowledge and skills among WA government school teachers and to establish to what extent teachers are integrating their ICT knowledge and skills in classrooms.

A conceptual framework that represents factors of importance in understanding and measuring the ICT competence of teachers was developed following analysis of existing literature and current research work in the area. The evaluation methodology comprised of an ICT teacher survey to enable teachers to self-report their levels of ICT knowledge and skill, the ways in which they use ICT and the extent to which they promote the use of ICT in student learning and to identify any factors that impact on each of these; and an Objective online test of teacher ICT competence to test the actual ICT knowledge and skills of teachers. Rasch analysis was used to develop item maps of ICT competence and integration and also to statistically validate the ICT Teacher Survey results against the outcomes of the objective online test of ICT skill. Structured equation modelling was used to analyse the relationships between ICT skills and knowledge, ICT integration within learning, and the other factors identified in the conceptual framework.