

VOCATIONAL AND TECHNICAL SCHOOL TEACHERS' USE OF DIGITAL TECHNOLOGY

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Vocational school teachers need to keep pace with technological development in order to transfer the most recent knowledge and to develop skills expected by employers of the 21st century. Thus, developing digital literacy has become as important as reading skills in recent decades – especially in vocational education and training, where digital technology could be a good instrument to break apathy or to bring the curriculum closer to unmotivated learners and disadvantaged students in the classroom (Seufert & Scheffler, 2016; Schrum & Levin, 2015). However, according to Bingimlas (2009), factors which can block the use of ICT in the classroom can arise at the level of school and at the level of teachers as well. The aim of this study is to explore vocational school teachers' access and use of ICT in vocational secondary schools and vocational technical schools, and to examine teachers' attitude towards ICT, to explore differences by age and gender. Overall, 1,819 (700 male and 1,119 female) teachers participated in our study from 38 Hungarian state-owned vocational technical schools and vocational secondary schools, which were selected by nationwide systematic representative sampling. The research was carried out on-line in June of 2017 with a questionnaire comprised of self-constructed and adopted items. The first part was related to the professional background of teachers; these were followed by an adopted 5 point Likert-type questionnaire scale, the Computer Attitude Scale (Kluever et al., 1994). The reliability (Cronbach's $\alpha=.92$) and structural validity ($\chi^2=2955.39$, $p<.01$; CFI=.938, RMSEA=.096) of the questionnaire was verified. The last questions were related to the accessibility of different ICT tools in the classroom, and to the familiarity and usage of ICT tools and educational applications. We found a negative correlation between teachers' age and attitude towards ICT ($r=-.129$, $p<.01$). Male teachers are significantly more confident in using ICT ($t=8.97$, $p<.01$) and less anxious about computers ($t=2.72$, $p<.01$) than their female colleagues. Using SEM, we analyzed which teacher and school related factors determine vocational teachers' use of ICT in the classroom. According to standardized regression coefficients, school related factors (.78) such as accessibility (.37) have a major effect on teachers' use of ICT. Furthermore, ICT competence (.81) and attitude (.77) are the determining components within personal factors, while age only has a weak effect (-.16). The model fitted well ($\chi^2=67.234$, $p<.01$; CFI=.973, RMSEA=.053). Since teachers of vocational and technical schools need to prepare their students for the new age of digital technology, results of this research can be used to focus on different aspects of future infrastructural developments in vocational schools. It also promotes the higher effectiveness of in-service teacher training programs and highlights the importance of the ICT attitude instead of the age of the teacher.

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