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Learning &
professional
development:
From innovative
research to
innovative
interventions



Book of abstracts of the
EARLI SIG14 2020
Conference

Professional learning & development: From innovative research to innovative interventions. Book of abstracts of the EARLI SIG14 2020 Conference.

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Title: Prediction and understanding of employee retention: a machine learning application.

Abstract:

The main objectives of this study were to develop accurate predictive models of “employee retention” and to understand the contribution of specific personal and organizational factors predicting this phenomenon. The participants were 993 employees (54.2% female) from different organizations in the private and public sector, age mean: 32 years old ($SD= 10.33$); seniority: 5.83 years ($SD= 6.7$). A socio-demographic questionnaire to collect personal background factors and an employee retention questionnaire were applied. Multilayer perceptron artificial neural networks (ANN) with a backpropagation algorithm were developed in order to identify employees with low intention to stay in the current organization (low 33%). ANN achieved a high accuracy in the training phase (77%), testing phase (100%), and validation set (100%) for the target group. A more accurate identification of those workers who have a low sense of belonging within the company, would allow a more targeted investment in personnel training.

Keywords: Machine learning, employee retention, neural networks, workplace.