Using an E-portfolio With Learning Analytics: The Perceptions of Teachers

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Introduction

The importance of feedback

The use of e-portfolios (Van der Schaaf, Stokking & Verloop, 2008; Bok et al., 2012)

Benefits of e-portfolios

- Powerful tool for capturing student learning (Butler, 2006)
- Provides a seamless and holistic review process (Wray, 2007)
- The possibility to work in different environments (Wray, 2007)
However…

Challenges of the e-portfolios

• Implementation may be a complex process (Granberg, 2010)
• Need for the digital technology skills (Wray, 2007)
• Students need to be instructed and supported in the implementation of new technology (Woodward & Nanlohy, 2004)

Learning analytics
Context of this study

Republic of Estonia

Member of European Union

Fusion of Northern European and Eastern European cultures
The context of the study

- The WatchMe project: https://www.project-watchme.eu/

# The bases for the e-portfolio system

<table>
<thead>
<tr>
<th>Professional roles</th>
<th>Tasks</th>
<th>Level 0</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
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</thead>
<tbody>
<tr>
<td>Designer, supervisor and evaluator of learning activities (subject knowledge and supervisor of the learning process)</td>
<td>1. Sets learning goals for the lessons and knows the learning goals of the curriculum</td>
<td>The teacher sets learning goals for the lessons and knows the learning goals of the curriculum.</td>
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<td>2. Chooses or designs appropriate learning materials and methods according to the learning goals</td>
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<td>3. Plans the execution of learning activities</td>
<td>The teacher plans the execution of learning activities.</td>
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<td>4. Carries out the learning activities</td>
<td>The teacher carries out the learning activities.</td>
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<td>5. Evaluates the pupils’ accomplishment of the learning goals and gives them feedback</td>
<td>The teacher evaluates the pupils’ accomplishment of the learning goals and gives them feedback.</td>
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<td>Designer of the learning environment</td>
<td>6. Is interested in pupils as individuals and as a group, building a supportive relationship</td>
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<td>7. Directs the communication processes in the group</td>
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<td>Supporter of the child’s development</td>
<td>8. Supports the development of the pupils as persons</td>
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<td>Member of the professional community</td>
<td>9. Carries out tasks beyond the lesson and the subject</td>
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<td>10. Collaborates with colleagues (including support specialists) and parents</td>
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<td>Manager of own professional development</td>
<td>11. Analyses and improves his/her professional activities and knowledge</td>
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<td>12. Carries out research on teaching and learning</td>
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The automated feedback module
The visualisation module
The aim of the study

The aim of this study is to explore the perceptions of teachers who used the e-portfolio that is enriched with learning analytics applications.
Method

- 7 pre-service and 13 in-service teachers
- Age between 22 and 58 years ($M=38.8$, $SD=9.7$)
- Only one participant has prior experiences with e-portfolios

- Questionnaire on 5-point Likert scale (adapted from Venkatesh, Morris, Davis & Davis, 2003):
  - **Job-fit** (the extent to which an individual believes that using a technology can enhance the performance of his or her job)
  - **Complexity** (the degree to which a system is perceived as relatively difficult to understand and use)

- Focus group interviews
Teachers’ perceptions about the e-portfolio

Job-fit ($M=3.9$, $N=15$, $SD=0.6$)
- The evaluations are rather positive
- Good overview of the criteria

Complexity ($M=3.7$, $N=20$, $SD=0.9$)
- Modern, user-friendly and comprehensible
- Decrease in paper
- Feedback in one system
- Some suggestions about the design
- Implementation of the e-portfolio
Teachers’ perceptions about the automated feedback module

Job-fit (M=4.0, N=17, SD=0.6)
• Supports the development of the professional activities

Complexity (M=3.8, N=17, SD=0.5)
• Perceptions were contradictory
Teachers’ perceptions about the visualisation module

Job-fit (M=3.9, N=17, SD=0.7)
• Supports the development of the professional activities

Complexity (M=4.0, N=17, SD=0.6)
• Scores should be visualised per subject
• Some components were difficult to understand
To conclude

• The e-portfolio enriched with learning analytics supports teachers’ professional development
• The e-portfolio system was easy to use
• Implementation is a complex process
Thank you!

Questions, comments?

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http://www.project-watchme.eu/
References


