

## Call for papers – Special issue

### *Learning Analytics: Implications for Higher Education*

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## Background

The increased use of digital systems to support learning and teaching in higher education goes along with the increased possibility to collect data on students' behaviour in those systems. It is now possible to gather data unobtrusively on when and what students contribute to a discussion forum, when they open a webcast lecture, when and how they take an assignment or test. The term 'learning analytics' refers to the use of such data for educational purposes. A commonly used definition (FERGUSON, 2012, p. 305) is: "Learning analytics is the measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimising learning and the environments in which it occurs."

The abundance of learning-related data has resulted in a diverse set of research questions and research approaches (for an overview of pertinent issues: GRELLER & DRACHSLER, 2012). Specifically for learning analytics and in line with the definition proposed by SIEMENS (2010) ("Learning analytics is the use of intelligent data, learner-produced data, and analysis models to discover information and social connections for predicting and advising people's learning.") the focus is on the use of data to optimise learning based on specific computational methods and tools. Some advocate a bottom-up approach encouraging the use of 'data mining techniques', others argue that those educational data sets only become meaningful when using a good learning theory. We believe that a combination of both ingredients is most desirable and promising.

Substantial efforts have been invested in making data available to learners, designers and decision-makers. At least two questions emerge in this respect: what information to provide, and, how to present it (e.g. ALI, HATALA, GASEVIC & JOVANOVIC, 2012). Current discussions about learning analytics do also pertain to ethical issues (SLADE & PRINSLOO, 2013). These are concerned with the sharing and exploitation of educational datasets for wider use within and outside HE institutions, among other things for research or commercialisation purposes. Ways to make learner data more accessible without jeopardising personal privacy and independent learner control over their own learning are questions that are still awaiting viable solutions.

Additionally, institutional ownership of learner data from the delivery systems and learning platforms also offer new ways for HE institutions to evaluate their learning services, success rates and student support requirements, and may help in reducing drop-out and failure. Learning analytics has the claimed potential for 'evidence-based' decision taking and a data-based business culture. However, this still needs intensive further research and would also include the large array of cloud services now available and in use by learners and providers alike.

## Themes for contributions

Institutional stakeholders, developers, teachers and trainers are expected to react to these fundamental contemporary challenges for learning analytics and develop or offer modern approaches to higher education that meet the zeitgeist of learners considering the latest pedagogical innovations and developments in technology. This call for papers wants to respond to the need for institutional solutions in the pedagogic provision as well as in the area of institutional policy development to support a fuller implementation of learning analytics in higher education:

### (1) Focus on the learner:

- How can learning processes be adapted based on the analysis of learning-related data?
- Which possible (positive) effects on learner performance can we expect from using learning analytics and/or educational data mining approaches?
- What are suitable indicators for predicting learning success/failure?
- Which principles and approaches can or should guide the usage, processing and presentation of analytics results based on person-related data?

### (2) Focus on courses and learning design:

- What can learning analytics reveal regarding the use of learning resources, interactions and participation of learners?
- How to assess if the activities of students are in line with expectations derived from pedagogical design principles (e.g., LUST, ELEN & CLAREBOUT, 2013)?
- Does learning analytics offer interesting new information to enhance course evaluation?
- Are teachers ready for exploiting learner data in order to optimise learning (“teachers as data scientists”, see DILLENBOURG, 2015)?

### (3) Focus on the institution:

- What are conditions and/or indicators for learning analytics “readiness” of HE institutions?
- Can learning analytics help take decisions on when to plan courses and how to structure programs (e.g., MACFADYEN & DAWSON, 2012)?
- What are the conditions for sharing learner data within different parts of a university?
- What measures are necessary at institutional management level to maximise benefit of learning analytics and what are the potential benefits?
- In what ways can predictive analytics influence future student cohorts?

While the potential is there, it is also clear that this field is still in its infancy and students, designers, educational managers, and researchers need ideas and discussions on how to integrate these new possibilities in their research and practice (FERGUSON, 2012). A major issue remains what data to collect and how to interpret them. The special issue hopes to contribute by launching and inspiring those discussions. Contributions might be made at all three levels (student, course, institution) and from a more practical (what is currently being done and how are these initiatives experienced, evaluated) or more research-oriented (how do studies affect our theoretical understanding) perspective.

The editors welcome previously unpublished articles, reports and other contributions which will further the understanding of learning analytics in all variants of education relating to this call for papers (including subject domain specific contributions).

## References

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## Guidelines regarding the journal

The ZFHE is a peer-reviewed online journal that publishes scientific contributions of practical relevance concerning current higher education development issues. The focus is on didactical, structural, and cultural developments in teaching and learning. Topics that are innovative and still regarded as open in respect of their design options are preferred.

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## Submission information

English contributions may be submitted in two possible formats:

**Scientific contributions:** Scientific contributions within and beyond the main theme should comply with the following criteria: The contribution...

- presents innovative perspectives, arguments, problem analyses etc. on the key topic;
- focuses on essential aspects of the key topic;
- is theoretically supported (i.e. it offers a clear connection to the scientific discourse of the topic under discussion);
- provides scientific insights with added value at least in some parts;
- clearly elucidates the methodology used to acquire knowledge;
- follows the relevant citation rules consistently (APA style, 6<sup>th</sup> edition);
- comprises up to 33,600 characters (incl. spaces, as well as cover page, bibliography and author information)

**Workshop reports** comprise the instructional presentation of practical experience, good practice examples, design concepts, pilot projects, etc. Workshop reports should comply with the following criteria:

- demonstrates potential for knowledge transfer;
- describes illustrative aspects and factors for the purpose of theory formation;
- systematically and transparently presented (e.g., no incomprehensible clues to details in an area of practice);
- follows the relevant citation rules consistently (APA style, 6<sup>th</sup> edition);
- up to 21,600 characters (incl. spaces, as well as cover page, bibliography and author information).

## Submission and review schedule

### **30 June 2016 – Submission deadline for complete articles:**

Please upload your contribution(s) to the ZFHE journal system (<http://www.zfhe.at>) in the corresponding section (scientific contribution, workshop report) of ZFHE 12/1 issue in anonymous format. To do so, you must first register as an author in the system.

**26 August 2016 – Feedback / Reviews:** Scientific contributions and workshop reports are evaluated in a double-blind process (see below).

**30 September 2016 – Revision deadline:** Where necessary, contributions may be revised according to feedback and recommendations from the reviews.

**Spring 2017 – Online publication:** In Spring 2017, the finalized contributions are published under <http://www.zfhe.at> and also made available in print.

## Review Process

All submitted contributions will be examined in a double-blind peer review process to guarantee scientific quality. The editors of the current issue propose the reviewers for the respective theme and allocate individual contributions to the reviewers; they also determine which contributions will be accepted. The selection of reviewers and the review process for each thematic issue are always supervised by a member of the editorial board.

## Formatting and submission

In order to save valuable time with the formatting of the contributions, we kindly ask that all authors work with the template from the beginning. The template can be downloaded from the ZFHE website under the following link:

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Since we must be able to edit the texts, they must be submitted unlocked/unprotected in in Microsoft Word (.doc), Office Open XML (.docx), Open Document Text (.odt) or Plain Text (.txt) format. Please do not submit any PDF files! Submissions in the “Scientific Contribution” and “Workshop Report” categories must first be made in anonymous format in order to guarantee the double-blind review process. Please remove all references to the author(s) of the document (including in the document properties!). Upon a positive review result, this information will be re-inserted.

## Questions?

If you have any questions regarding the content of the issue, please contact Wolfgang Greller ([wolfgang.greller@phwien.ac.at](mailto:wolfgang.greller@phwien.ac.at)).

For technical and organizational questions, please contact Michael Raunig ([office@zfhe.at](mailto:office@zfhe.at)).

## We look forward to your submissions!

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