



The background image shows a financial market dashboard with various stock indices and line charts. The dashboard is dark with blue and red highlights. Visible text includes "OMX25", "OMXRG1", "OMX18", and "OMXICELAND 8". Numerical values and percentage changes are scattered throughout, such as "10916.69", "10847.17", "984.13", "0.87%", "57.2180", "6025.9680", "5993.7030", "Buy", "1172.94", "0.88%", "599.40", "28289.06", "27956.04", "Buy", "1632.51", "-0.38%", "6230.9", "Sell", "1172.94", "0.88%", and "249.6".

Learning Analytics Research

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Overview



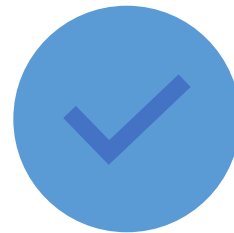
What is learning analytics (LA)?



Research using LA



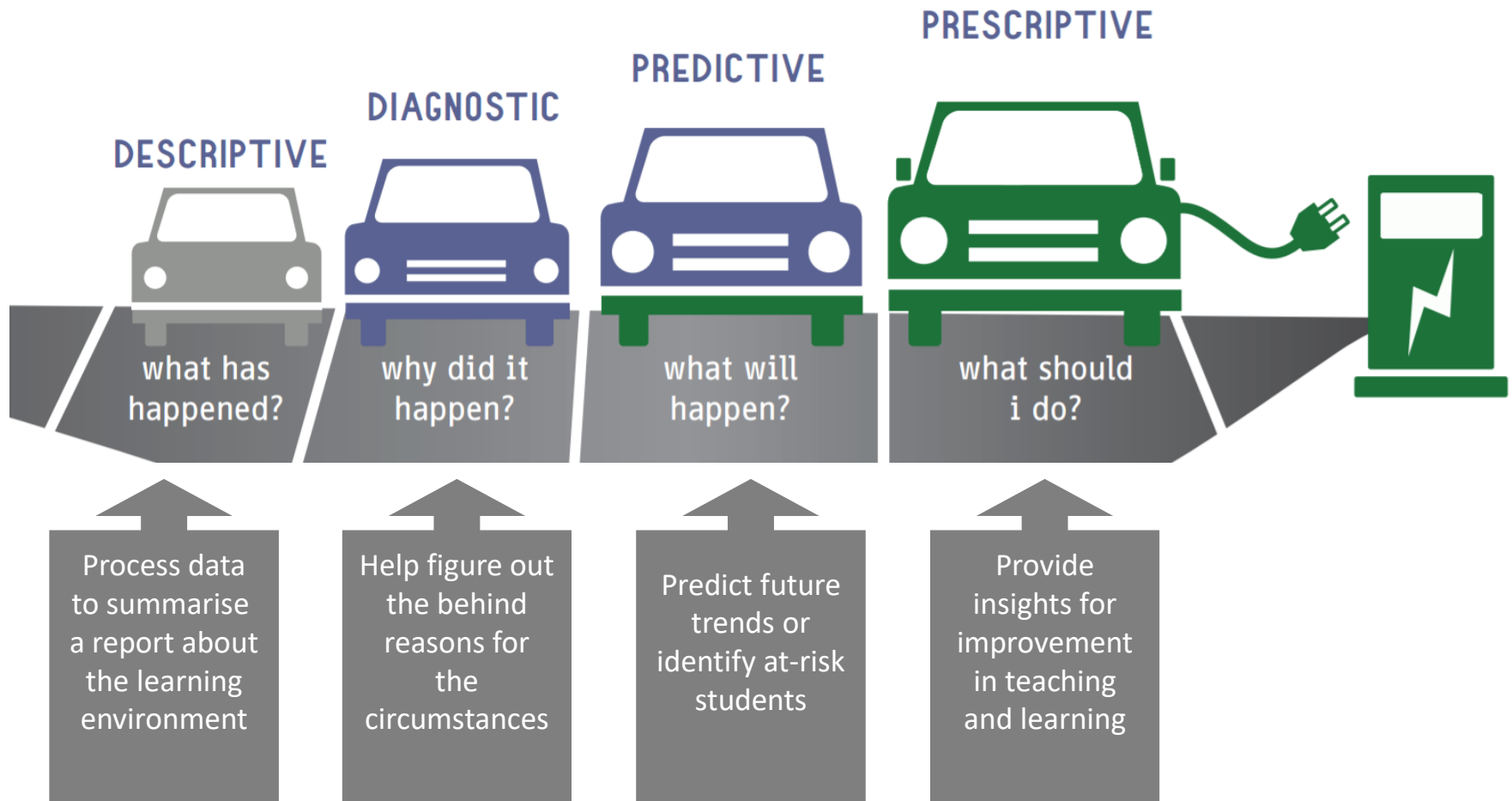
Publishing LA papers



Getting started

What is Learning analytics?

The measurement, collection, analysis and reporting of **information (data) about students and their environment** is called Learning Analytics.



Four levels of Analytics

Image from the infographic produced by the European Union Learning Analytics Community Exchange (LACE) project. Sourced from: http://www.laceproject.eu/wp-content/uploads/2014/10/Infographic_LACE.pdf

Learning Analytics Cycle

Learning Analytics is a **cyclical process** in which students generate data.

This data is first analysed, then an intervention takes place based on that analysis and after which the process repeats itself

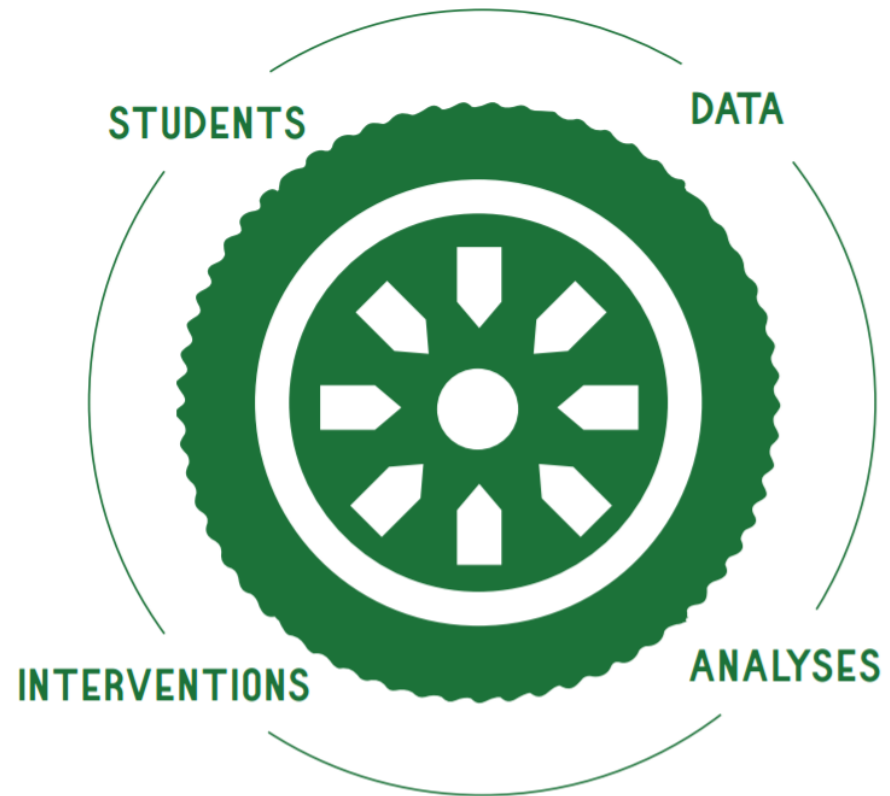
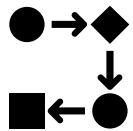


Image from the infographic produced by the European Union Learning Analytics Community Exchange ([LACE](http://www.laceproject.eu)) project. Sourced from: http://www.laceproject.eu/wp-content/uploads/2014/10/Infographic_LACE.pdf

Learning analytics can help...



Adaptive Learning

Students can choose their own ideal learning path. They can stop for additional practice or for more instruction and strong students can progress faster to more challenging things by choosing the shortest route.



Information about students' Learning progress

Teachers have more insight in the progress of individual students and can also determine the possible final outcomes. By following students' learning routes, the teacher can see if and where they can offer additional support.



Evidence-based enhancement in teaching and learning

By using the possibilities of Learning Analytics in a smart way, teacher can review and reflect their teaching (i.e., meet your expectation? Inadequacy?) and can make further enhancement

Papers that use LA



Journal of Learning Analytics

[Issue on measuring 21st Century skills using Learning Analytics](#)

[LAK2021 Conference Proceedings](#)

- Papers from business and accounting
 - McCaffery et al. “What can we learn about college retention from student writing?”
 - Langenhagen, J. “Predicting Student Performance in an Accounting Course with Usage Data from Gamified Learning App”

Example:
Investigating factors
impacting on business
students' performance in
capstone subjects

International Exchange Benefits

- Enables learning outcomes such as:
- Global outlook
- Critical thinking
- Understanding of equality & diversity

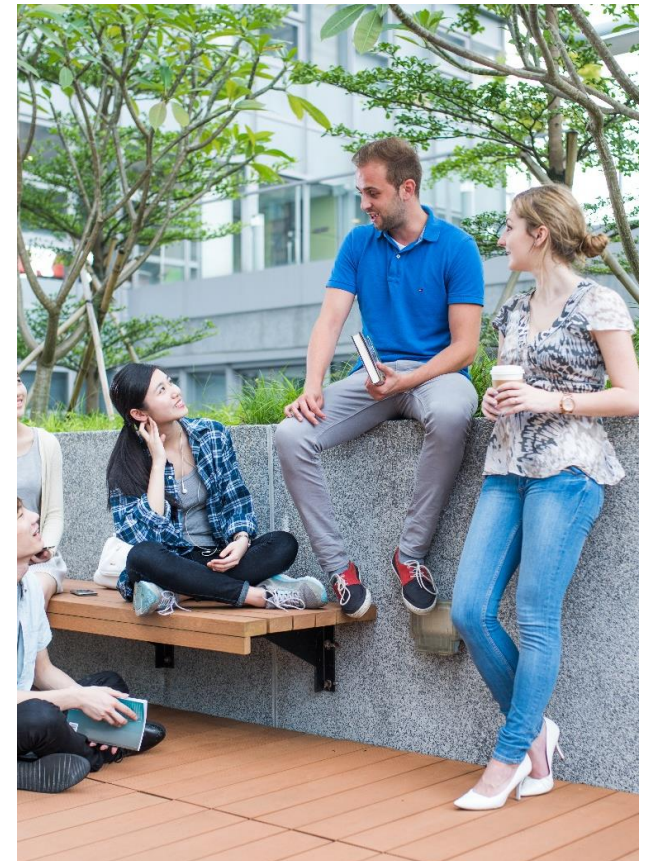
Jones & Killick, 2013

- Has positive effects for students in terms of their personal, academic and career development

Potts, 2016

- Improves linguistic and cultural competencies

Stebleton, Soria & Cherney, 2015



International Exchange for business education

- Internationalisation channel for many business schools
 - Mandated for accreditation of business degrees
 - Participants report increased:
 - Self-confidence
 - Autonomy
 - Sense of initiative
 - Communication skills
 - Cultural openness and sensitivity
- (Marcotte, Desroches & Poupart, 2007)



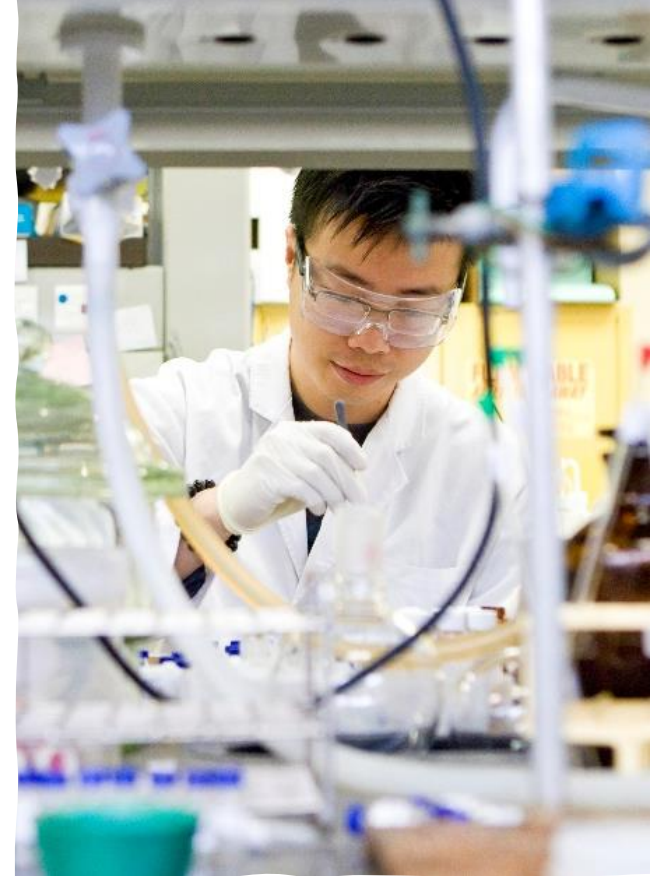
Capstone Projects

Final year projects that provide students an opportunity to undertake a major project that requires active, problem-oriented application of knowledge and skills. Requires integration and synthesis of knowledge and demonstration of key skills.

Requires:

- Independent learning
- Personal management
- Critical thinking
- Problem solving

(Thomas, Wong & Li, 2014)





About the students

- Students studying accounting and finance from 2 academic years
- Group projects with 3 members
- Mix of local and international students (mainland Chinese and other countries)
- 214 had participated in an international exchange experience

About the study

Regression analysis conducted to address:

- Whether students who have completed an international exchange do better in their Capstone projects
- The effect of group diversity on capstone grade – academic ability and nationality
- Whether groups with one or more members who have participated in an international exchange do better on capstone projects



Results

- Students who had undertaken an international exchange experience:
 - had a significantly higher GPA prior to taking the capstone project subject
 - achieved a significantly higher score on the capstone project than students who did not complete an international exchange
- For students in groups with one or more participants who have undertaken an international exchange:
 - Having a mastery orientation has a significantly larger effect on grade than it does for students in groups where there is no member who has undertaken international exchange
 - Having a mix of nationalities was a significant and negative predictor of grade on the capstone project

Implications

- High performing students appear to self-select to participate in an international exchange and that experience may not directly benefit their academic performance:
 - Although they achieved higher grades in the Capstone Project, they had a higher GPA prior to taking the subject;
 - For these students, being in a group with mixed nationalities was a negative predictor of grade, which is not consistent with development of intercultural awareness and sensitivity through international exchange

Conclusion

This case-study:

- illustrates the value of applying learning analytics to understanding students' choices in respect to non-compulsory aspects of their studies;
- Sheds some light on which students take up these opportunities and what the learning outcomes for them are;
- Helps gain a better understanding of which students participate in an international exchange, to make informed decisions about whether the way these are currently managed is appropriate and what changes might be needed for such experiences to function as intended in the curriculum;
- Demonstrates how learning analytics approaches can be used to address questions about students' extra-curricular experiences to determine their impact on learning

Papers from the study

Cheng, L., Armatas, C. & Wang, J. (2020). The impact of goal orientation, diversity and prior academic achievement on learning performance in group capstone projects. *Higher Education Research and Development*. 39(5), 913-925.

<https://www.tandfonline.com/doi/full/10.1080/07294360.2019.1699028>

Chen, L., Armatas, C. & Wang, J. (in press). The effects of Work-integrated Education and International Study Exchange experience on academic outcomes. *Journal of Teaching in International Business*.

Getting Started

- Formulating research questions
- Getting data
- Doing the analysis
- Writing the paper
- Finding a journal to submit to

