Supporting Teachers to Utilise Learning Analytics in Their Teaching

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Teachers and students participated in many online learning and teaching (L&T) activities which generated huge amount of data

Learning management system
- Blackboard

Online conferencing tool
- Bb Collaborate Ultra
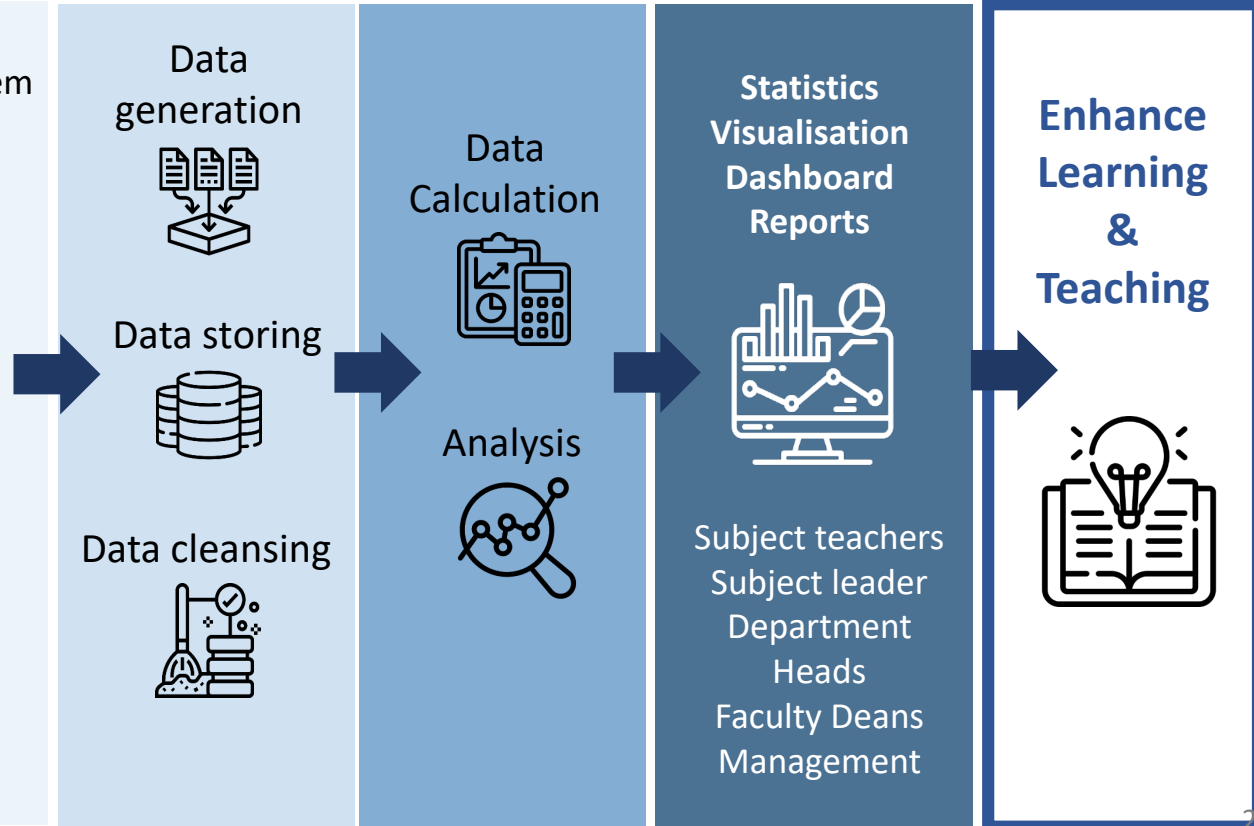- Microsoft Teams
- Zoom

Video management system
- Panopto

Student performance

Student views on learning

Data generation

Data storing

Data cleansing

Data Calculation

Analysis

Statistics
Visualisation
Dashboard
Reports

Subject teachers
Subject leader
Department Heads
Faculty Deans
Management

Enhance Learning & Teaching

What we do…

- Promote LA to teachers
- Disseminate guidelines or latest information
- Provide professional development to teachers
- Develop tools for conducting LA
- Generate reports for stakeholders
- Provide consultation or suggestion
- Conduct research or projects

Newsletter

Guidelines

Trainings, Hands-on, workshops and Seminars to staff

- Introduction of LA
- LA initiatives promotion
- How to conduct LA at subject and lesson level
- How to enhance L&T using LA
- Teachers' sharing

Generate reports to stakeholders

Management

To understand overall how students and teachers use Institutional platforms for online learning and teaching

Faculty Deans/ Department Heads

To understand what happens in their Faculties/ Departments and support or actions required

Subject teachers

To understand what students do in their courses and actions or enhancement that need to be taken

Projects

The effect of the LMS training on teachers' online teaching

use LMS data to investigate what teachers do differently after attending LMS-related training. It will also examine what effect the training has on participants' online teaching.

Enhancing Learning Outcomes for Students through a Data-driven Review of the 4-year Curriculum (PolyU, HKBU, CUHK)

analyse the experience of graduates to identify factors that impact on student success in the 4-year curriculum (4YC) and to use this information to provide better support to current students.

LA for Enhancement of Virtual Teaching and Learning (VTL) at Subject Level: A Gap Analysis with Follow-up Training

aims to find out what data and reports are available, what data and reports are being used by teachers currently, and whether these are enough for teachers to carry out evidence-based improvements in VTL data.

Self-Service Portal for Different Stakeholders to Access Teaching and Learning Reports or Dashboards

established for staff to access interactive customised reports and dashboards drawing on learning and teaching (L&T) data.

Communities of Practices (CoP) – Learning Analytics

1. to expand the community of PolyU staff in applying LA for enhancing L&T;
2. to provide a platform for sharing experience and good practice in applying LA at PolyU;
3. to provide advice to the University on matters related to the use of LA and to support the University's initiatives for L&T; and
4. to exchange and share PolyU LA practices and experience with local, regional and international educators and researchers in the higher education field.

Consultation to Teachers

- How to conduct LA
- How to extract data
- What should teachers look for
- How to analyse the data
- How to interpret the results
- What should teachers do with the numbers
- What skills are needed to do LA

Develop tools for teachers to conduct learning analytics

- Develop from teachers' perspective
- Easy to use

Online Activity Analysis Tool (OAAT)

an Excel add-in which empowers teachers to extract and analyse data from the learning management system to understand students' online behaviours, improve their teaching and assist students to be successful in their studies.

ChatAnalyser

an Excel add-in which produces a formatted chat history from online conferencing tools, generating useful figures, summaries and tables for teachers to understand students' engagement in the chat and further enhance their teaching.

Program Review Tool (PRT)

an Excel add-in which uses LA to convert students' academic records from a programme into outputs to address programme review questions for academic decision-making and internal and external reporting requirements.

Online Activity Analysis Tool (OAAT)
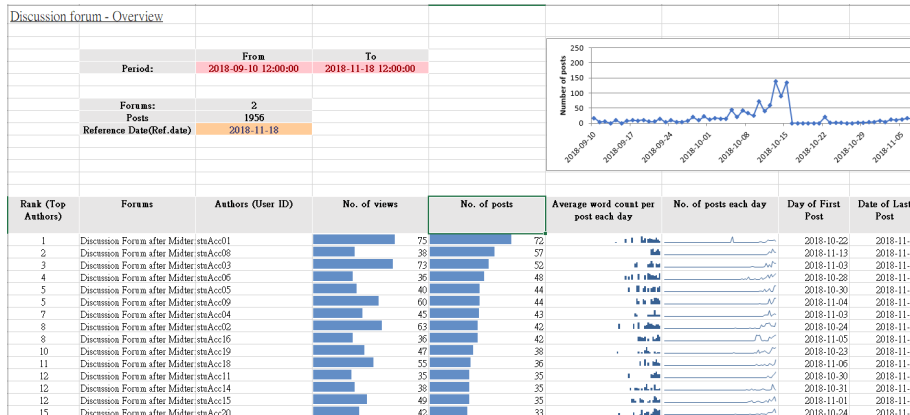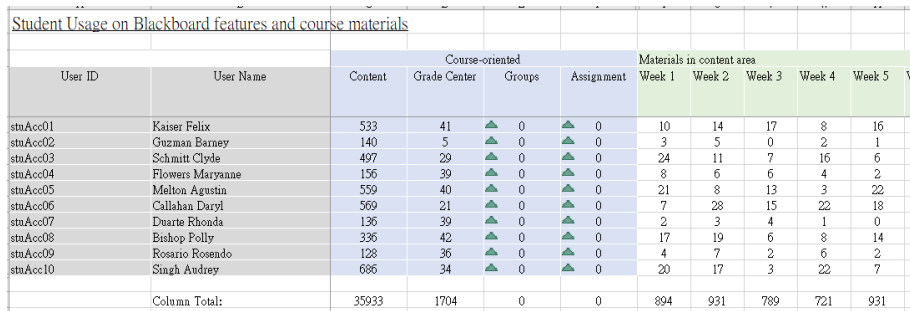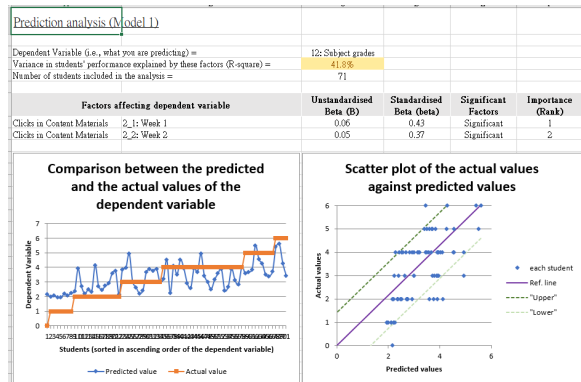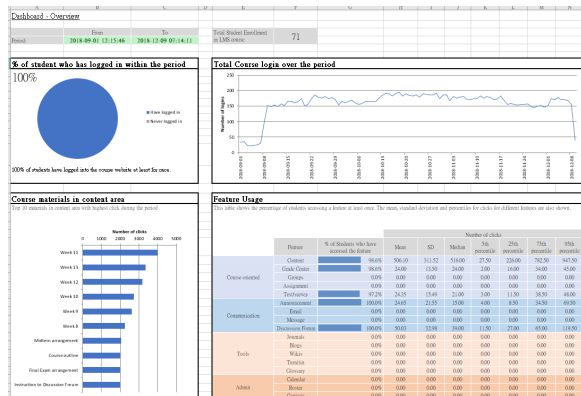
ChatAnalyser

No. of participants 111

No. of authors 60

Participation rate 54% — Good

Total no. of posts 559

Posts per author 9.3

Chat time (minutes) 113 — One post in every 0.2 mins

Word count 653

Word count per post 1.2

Questions asked 9

More...

Who posts most frequently? (Top 10)

Student	No. of posts
Student 40	76
Student 49	39
Student 73	25
Student 57	24
Student 5	22
Student 87	22
Student 92	21
Student 32	21
Student 26	17
Student 93	15

More...

At what times do people chat?

No. of authors — No. of posts
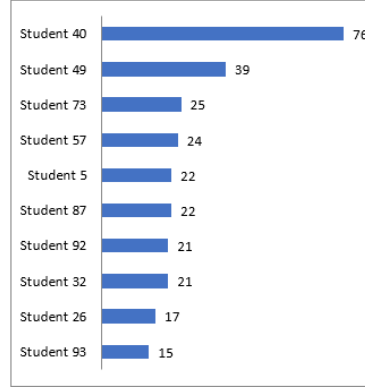
How do people interact?

Person A   Person B   No. of interactions

Summary of each class

Participation of each student
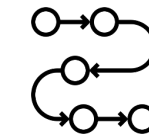
Understanding of correlation between resources

Learning Analytics Platform (LAP)

- For teachers, programme leaders, Heads/Deans, Management

- One stop online platform

- Reports and statistics for different institutional online platform and student learning experience surveys

- To provide a holistic picture of students' learning in the subjects

Online survey results about how PolyU teachers use data to enhance L&T in 2021

January – April 2022
(n=178 staff with teaching duties, 11.2%)

75%+

To enhance L&T, respondents read:
- Student performance data
- Student feedback questionnaire
- Usage of LMS
- Usage of IN-class activities

64%+

Purposes of reading those figures:
- Get immediate feedback
- Evaluate teaching performance
- Enhance students' satisfaction with learning experiences

Online survey results about how PolyU teachers use data to enhance L&T in 2021

January – April 2022
(n=178 staff with teaching duties, 11.2%)

75%+

Respondents agreed that:
- Using LA would improve my teaching performance
- Using LA would enhance my effectiveness in teaching
- Overall, I find LA useful to my teaching

70%+

Respondents agreed that:
- I intend to use LA in the next 3 months
- I plan to use LA in the next 3 months

To sum up...

At university, department and programme level

✓ promote using LA to enhance L&T ➜ Aware and Use

✓ bring the diverse data together and allow stakeholders to access ➜ Convenience

☺ Quality of data, technical issues (e.g. multiple L&T platforms)

At teacher level

✓ Promote using LA to enhance their classes ➜ Aware and Use

✓ Develop tools and reports ➜ Convenience

☺ Different subjects have different learning designs, which require different LA

☺ Different levels of analysis: *advanced analysis vs descriptive statistics*

☺ Different levels of skills: *by themselves vs more guidance*

Future

- **Further enhance our support (e.g. tools, reports and the online Learning Analytics Platform)**

- **Extend the promotion of LA to faculties & Departments**

- **Design and develop new workshops/trainings**

- **Share good LA practices**

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