



Faculty of **Education**
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Learning Analytics and Learning Design: Empirical Studies and Future Plans

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CCMIR © HKU

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Ying Que



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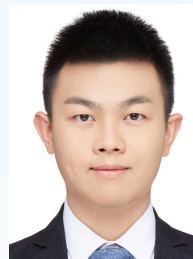
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Jianghong Su
Jin, Wang



<http://ccmir.cite.hku.hk>



<https://www.researchgate.net/ab/CCMIR-Xiao-Hu>



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大學教育資助委員會
University Grants Committee

- **LA, LD and the Connections**
- LA Projects
 - Collaborative learning analytics: Wikiglass
 - Maker learning analytics: LAVR/CLEVR
- IDEALS - Towards Successful Integration of LA & LD
 - An Example
- Future Opportunities and Challenges



Poll: Learning Analytics (LA)



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LA is for _____ learning.

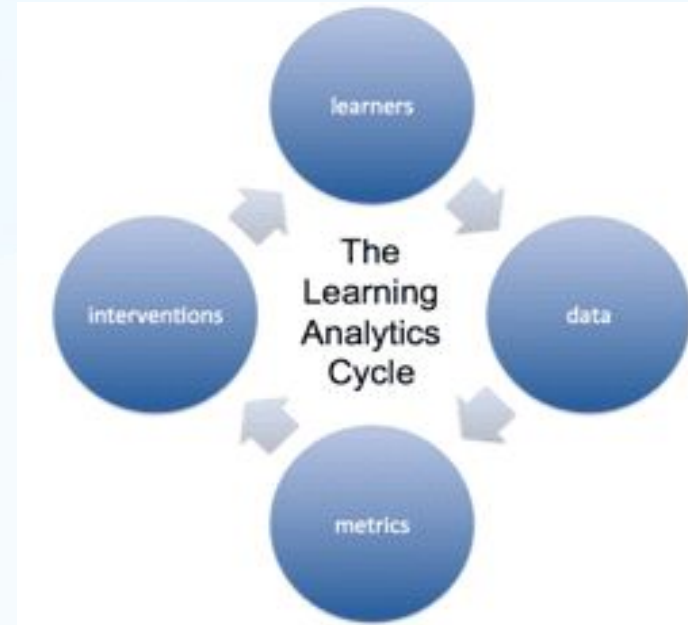
- A. “supporting”
- B. “understanding”
- C. “analyzing”
- D. “visualizing”
- E. All of the above

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.

LA and The LA Loop



- Two bases
 - Learners' data
 - Analytic methods
- Dual roles
 - Understanding learning
 - Improving learning
- (Untold) Underpinning
 - Learning theories
- Applications:
 - Student/teacher/admin-facing dashboards
 - Adaptive systems
 - ...



Clow, D. (2012). The learning analytics cycle: closing the loop effectively. *Proceedings of the 2nd International Conference on Learning Analytics and Knowledge*.

Subdomains in Learning Analytics



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- Visual analytics
- Writing analytics
- Predictive learning analytics
- Multimodal learning analytics
- Collaborative learning analytics
- Maker learning analytics
- ...

Koh, E. & Hu, X. (2023). Learning analytics for learning: Emerging international trends and case studies from the Asia Pacific. In *The Springer International Handbook on Educational Development in the Asia Pacific*. Springer.



Collaborative Learning Analytics

To enhance collaborative learning

Computer-supported Collaborative Learning (CSCL)



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- Support **knowledge co-construction** (Kwon et al., 2014)
- Enhance **interaction** skills and **critical thinking**
 - In line with **socio-constructivist** approach
- **Complex** (Chu et al., 2013)
 - Multi-levels: group, individual
 - Participation, contribution, interaction
 - Co-evolution across time

A Typical Wiki



5. When was this page last edited

4. Who last edited this Wiki page

达德维基



1. Sidebar
(for navigation)



2. Content

6. View
revision
history

3. Authors of this page

Wiki Revision Page



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“资料收集和分析”的版本历史

查看本页面的日志

浏览历史

截止年份: 2017 截止月份: 所有 标签过滤器: 仅已被删除

差异选择: 选出需要对比的版本, 按“回车键”或下方的按钮进行对比。

说明: (当前)=与最后版本之间的差异, (先前)=与上一版本之间的差异, 小=小编辑。

对比选择的版本

- (当前|先前) ● 2017年5月2日(二) 11:55 ... (讨论|贡献|封禁) .. (67,186字节) (+61,476) .. (回退1次编辑|撤销) (1个标签: 移动版编辑)
- (当前|先前) ● 2017年4月30日(日) 14:16 ... (讨论|贡献|封禁) .. (65,016字节) (+26,777) .. (添加图像至页面|移动版编辑)
- (当前|先前) ● 2017年4月30日(日) 14:16 ... (讨论|贡献|封禁) .. (63,198字节) (+26,777) .. (添加图像至页面|移动版编辑)
- (当前|先前) ● 2017年4月30日(日) 14:16 ... (讨论|贡献|封禁) .. (65,016字节) (+26,777) .. (添加图像至页面|移动版编辑)
- (当前|先前) ● 2017年4月19日(三) 12:10 ... (讨论|贡献|封禁) .. (63,198字节) (+26,777) .. (添加图像至页面|移动版编辑)
- (当前|先前) ● 2017年4月19日(三) 10:57 ... (讨论|贡献|封禁) .. (36,421字节) (+1) .. (撤销) (1个标签: 移动版编辑)
- (当前|先前) ● 2017年4月19日(三) 10:56 ... (讨论|贡献|封禁) .. (36,420字节) (-519) .. (改善资料中... 方) (撤销) (1个标签: 移动版编辑)
- (当前|先前) ● 2017年4月16日(日) 12:21 ... (讨论|贡献|封禁) .. (36,939字节) (+56) .. (添加图像至页面|移动版编辑)
- (当前|先前) ● 2017年4月16日(日) 12:21 ... (讨论|贡献|封禁) .. (36,883字节) (+2,471) .. (撤销) (1个标签: 移动版编辑)
- (当前|先前) ● 2017年4月6日(四) 09:53 ... (讨论|贡献|封禁) .. (34,412字节) (+34,391) .. (关于月亮的古诗词、传说、自然现象) (撤销) (1个标签: 移动版编辑)
- (当前|先前) ● 2017年3月29日(三) 13:01 Bs admin (讨论|贡献|封禁) .. (21字节) (+21) .. (以“资料收集和分析”为内容创建页面)

对比选择的版本

Select two versions for comparison

1. Date and time of a revision
2. Who did this revision
3. Latest word count
4. No. of words added/deleted in this revision

“Cancel” this version
(i.e., revert to an earlier version)

Learning Analytics in CSCL Environment



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- Scaffold student collaboration (Chu et al., 2013; Hmelo-Silver & Jeong, 2021)
- Monitor learning progress
- Provide sustainable feedback throughout the process



A pioneering learning analytic tool

© 2015 – 2023



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Wikiglass



Innovations in Wikiglass



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Target users:

- Teachers and students from
 - **Secondary schools**
 - **Primary schools**

Languages

- English
- **Chinese**

Wiki platforms

- PBworks
- BlueSpice
- Moodle Wiki
-

Wiki content

- Quantity
- **Quality**
- **Originality**

Two secondary schools in HK

Two primary schools in HK and mainland China

12 grades, 48 classes

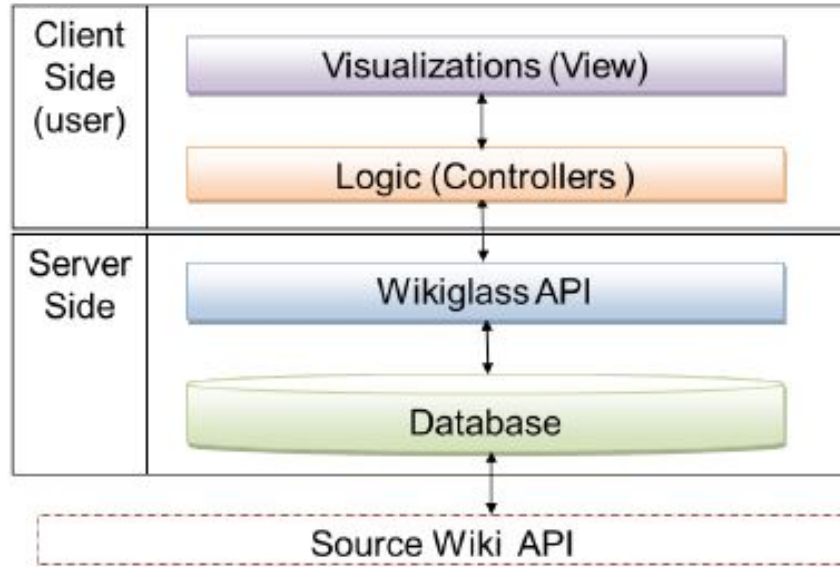
One university in HK

Video demonstrations: <http://ccmir.cite.hku.hk/index.php/wikiglass/>

System Architecture of Wikiglass



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Data Processing and Visualizations

Data collection and preprocessing

Raw data from Wiki:

1. **Student information**
2. **Page content**
3. **Revision record**

Hu, X., Ip, J., Sadaful, K., Lui, G., & Chu, S. (2016, April). Wikiglass: a Learning Analytic Tool for Visualizing Collaborative Wikis of Secondary School Students. In *Proceedings of the Sixth International Conference on Learning Analytics & Knowledge, LAK'16*, pp. 550-551. ACM.

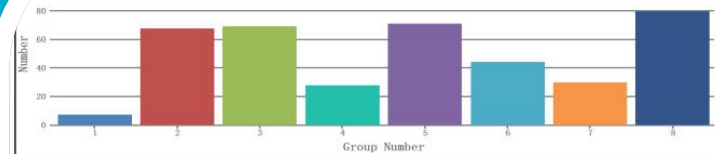


Statistics Mode

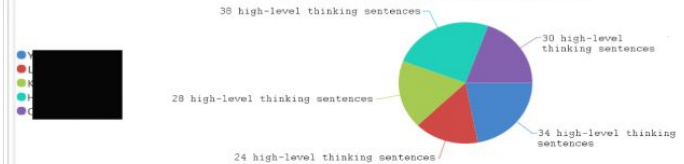
STATISTICS

TIMELINE

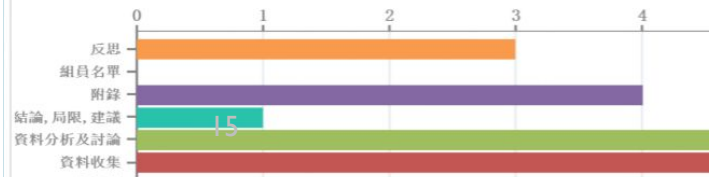
Sentences with higher order thinking in each group



Number of High-level Thinking Sentences by Each Student



Number of higher order thinking sentences in each page



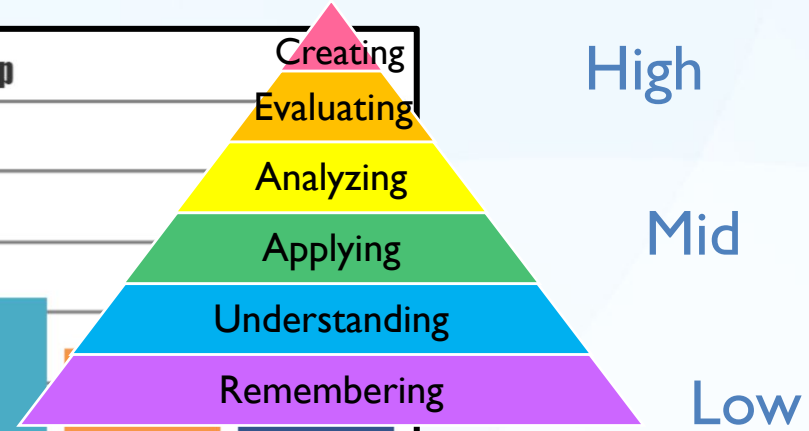
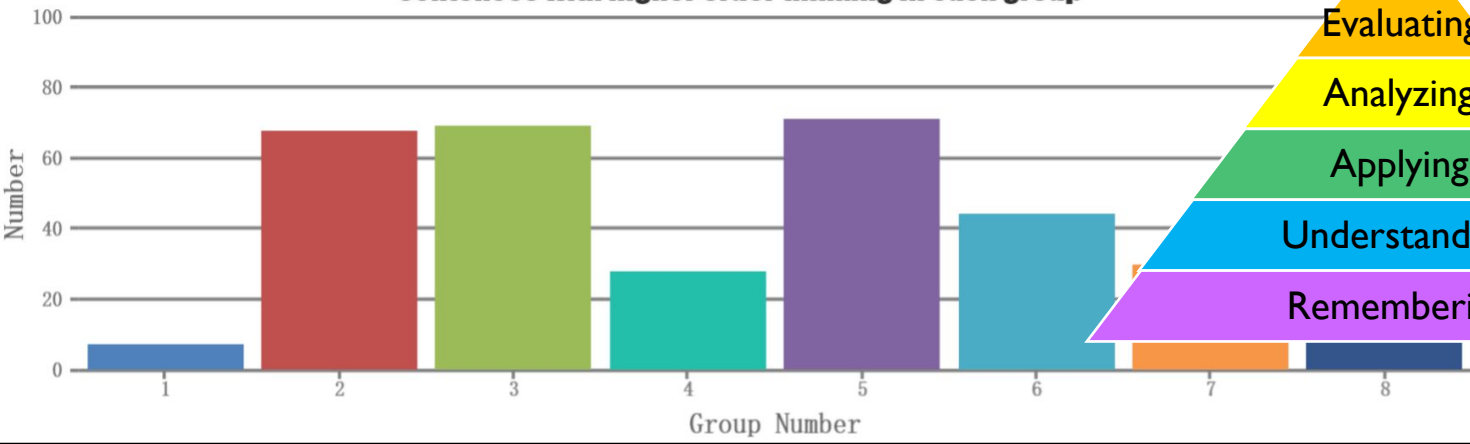
Higher order thinking

Page	Sentence	Operation
資料分析及討論	小結從以上圖表可見, 受訪同學中各有一半曾在 [] 試讀精英班, 當中亦有一半 (即總數的25%) 接受了3年的精英班制度, 反映了精英班制度在 [] 的普及, 以及普遍認為讀精英班的同學太多會整個初中都在精英班中度過。	LOW MEDIUM
結論, 局限, 建議	經問卷調查後發現, [] 進行精英班的情況十分普遍, 一半的問卷受訪者皆有受過精英班教育, 當中46%的人就讀了三年精英班, 可見普遍受訪者初中都在精英班中度過。	LOW MEDIUM

Quality of Contribution



Sentences with higher order thinking in each group



Hu, X. (2017). Automated recognition of thinking orders in secondary school student writings. *Learning: Research and Practice*, 3(1), 30-41.

Categories adapted from Bloom Taxonomy



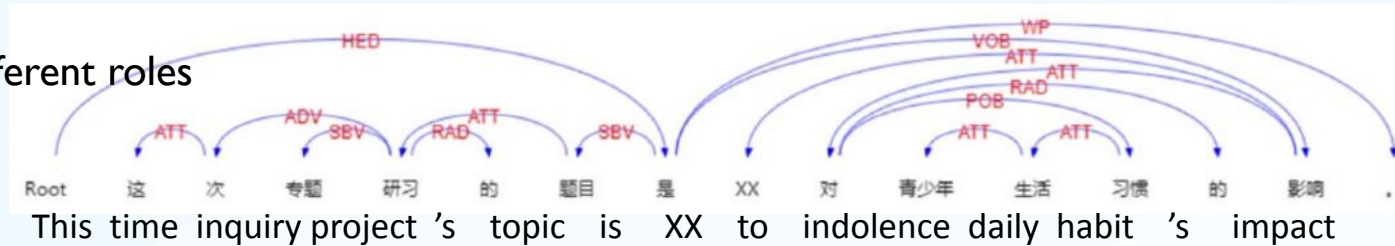
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Original	Category	Semantic interpretation	Description	Possible purposes of writing
Level 1 Level 2	Level 1	Knowledge and comprehension (data gathering)	The students describe the facts, understandings, feelings, actions and experiences from resources gathered through investigation or second-hand materials	Definition, information statement, action description and so on
Level 3 Level 4	Level 2	Analysis (data analysis)	The students attempt to deconstruct the investigation experience, analyse evidences, differentiate/contrast results and causes, and so on	Data interpretation, comparison and so on
Level 5 Level 6	Level 3	Synthesis and evaluation (conclusion drawing)	The students attempt to draw conclusions, propose suggestions and new ideas, evaluate alternative solutions	Reasoning, argumentation, evaluating and so on

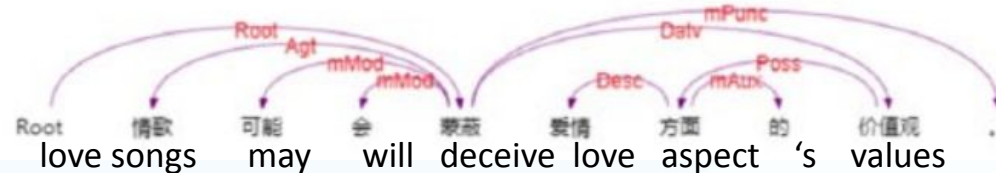
Feature Engineering



- Lexical
 - Ngram and Skipped Ngram, POS tagging
- Syntactic roles
 - terms with different roles



- Semantic relations

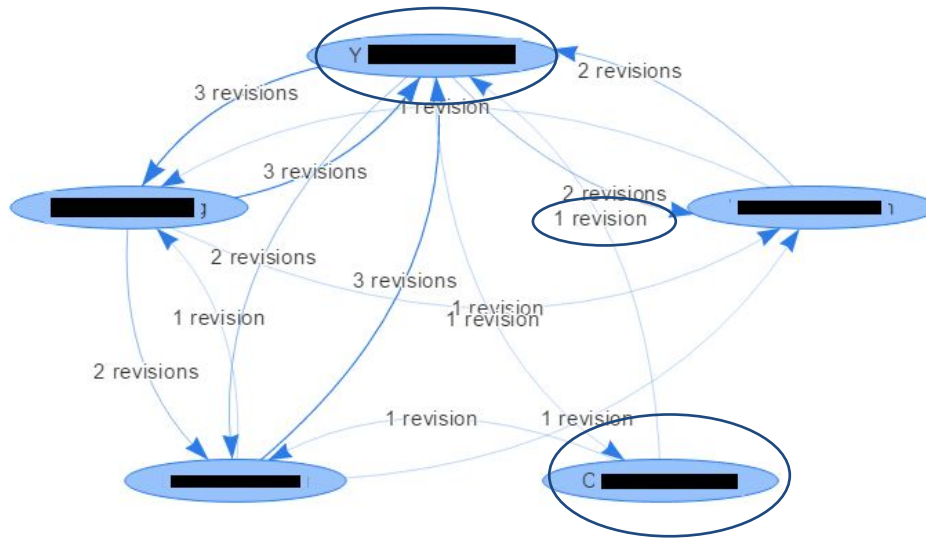


Qiao, C., & Hu, X. (2019). Text classification for cognitive domains: A case using lexical, syntactic and semantic features. *Journal of Information Science*

Interactions of Group Members



Revision Relation Network



Collaborative work

Student C has **revised**
Student Y's work



Timeline Mode

STATISTICS

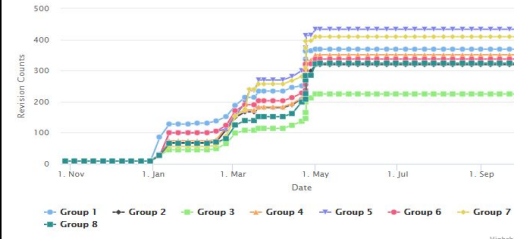
TIMELINE

AS: 20

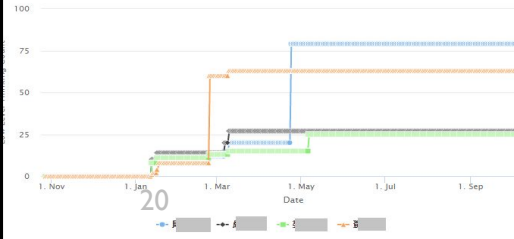
STATISTICS | **TIMELINE**

Timeline Mode

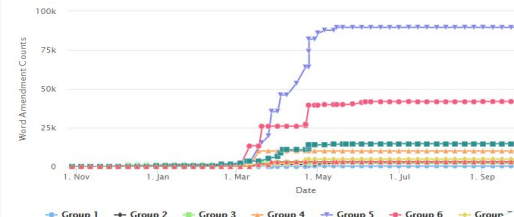
Revision Count Timeline



Number of lower order thinking sentences timeline



Word Amendment Count Timeline



Classroom Interventions

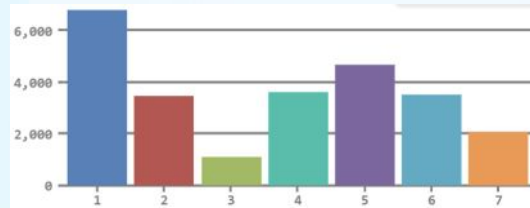


	Study 1	Study 2	Study 3	Study 4
Context	A government-subsidized secondary school in Hong Kong	A secondary school with a high banding in Hong Kong	An under-resourced primary school in mainland China	A government-subsidized primary school in Hong Kong
People	S.1 to S.3 (grades 7 – 9)	S.4 (grade 10)	Grade 5	Grade 5
Subject(s)	Liberal Studies	Chinese Language	1. Chinese 2. Mathematics	General Studies
Project nature	A semester-long group inquiry project on a current issue	1. Group argumentative writing exercise 2. Individual writing exercise	Multiple exercises on assigned topics	A semester-long group inquiry project on science

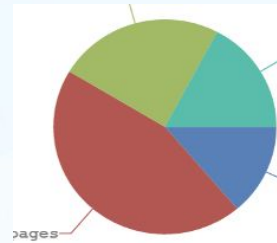
Summary of Findings



- Social influence of LA-enabled **group awareness information**



Inter-group



Intra-group

- Facilitates regulations: self-regulation; co-regulation; socially-shared regulation
- Considerations in LA design and implementation

Hu, X., Ng, J. & Chu, S. (2022). Implementing learning analytics in wiki-supported collaborative learning in secondary education: A framework-motivated empirical study. *International Journal of Computer-Supported Collaborative Learning*.

Subdomains in Learning Analytics



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- Visual analytics
- Writing analytics
- Predictive learning analytics
- Multimodal learning analytics
- Collaborative learning analytics
- **Maker learning analytics**
- ...

Koh, E. & Hu, X. (2023). Learning analytics for learning: Emerging international trends and case studies from the Asia Pacific. In *The Springer International Handbook on Educational Development in the Asia Pacific*. Springer.



Maker Learning Analytics

To enhance maker activities

Virtual Reality (VR) Content Creation as A Maker Activity



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- VR in Education (Huang & Liaw, 2018)
 - *Constructivist*, multi-sensory
 - Immersive, interactive, imaginary
- Maker activity: Student agency & higher-order competencies
 - *Constructionist* approach: Learners as **creators** (Lin et al., 2020)
 - Authentic: Create real-world products
- **VR Creation:** VR + Maker activity (Hu, Ng & Lee, 2019; Ng, Wang & Hu, 2022)



© ArchDaily



© VIVE Business



© The University of Hong Kong

Design LA Support: Need Analysis

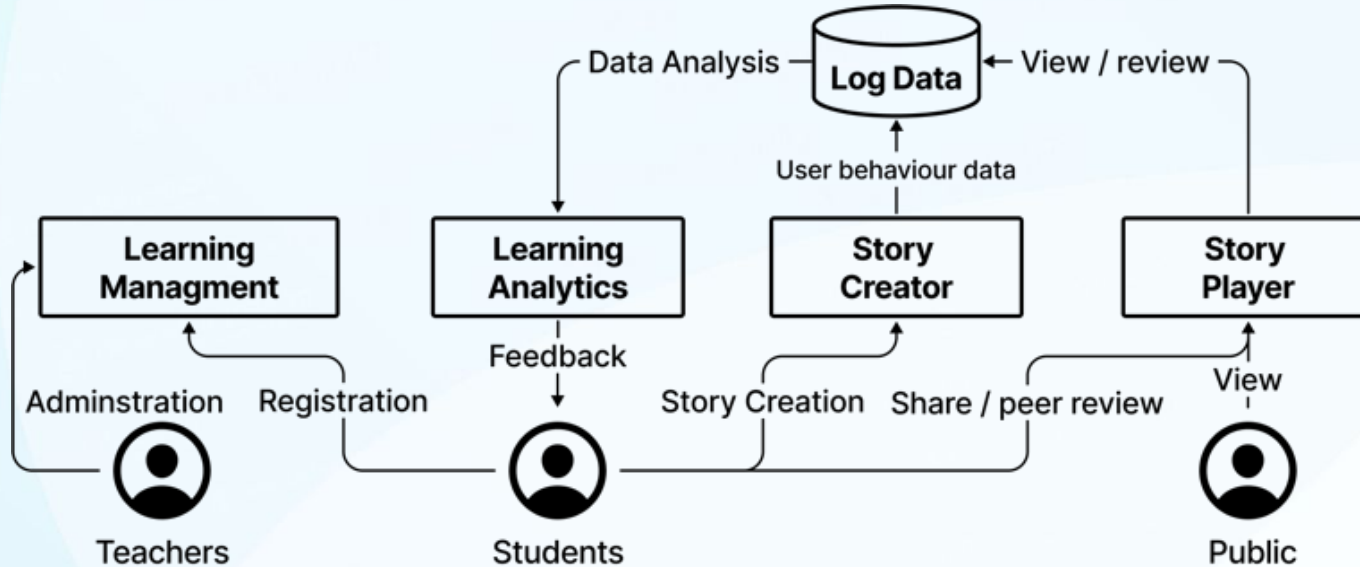


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- Method: Interview (N = 27 with high, mid, low performances)
 - Based on Zimmerman's (2013) Self-Regulated Learning (SRL) model
e.g., “How did you *monitor your progress* during VR content creation?”
 - Grounded Theory based content analysis
- Need support for *monitoring and reflection; improving artefacts*

Ng, J. T. D., Wang, Z., & Hu, X. (2022). Needs analysis and prototype evaluation of student-facing LA dashboard for virtual reality content creation. In *LAK22: 12th International Learning Analytics and Knowledge Conference* (pp. 444-450).

LAVR: a Learning Analytics enabled VR content creation platform



Wang, Z., Ng, J. T. D., Liu, R. & Hu, X. (Jul. 2022). Learning analytics enabled virtual reality content creation platform: System design and preliminary evaluation. *The 22nd IEEE International Conference on Advanced Learning Technologies (ICALT)*.

LAVR Platform



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<https://lavrplatform.com/>



Welcome to LAVR platform.

LAVR is Learning Analytics enabled Virtual Reality content creation platform.

 **Create Account**

 **Login**

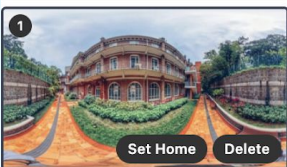
CCMIR © HKU Culture Computing and Multimodal Information Research

“WYSIWYG” Editor



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Settings **Scenes** Narration Script Reflection Checklist Progress Statistics **Objects** Audio Manager ▶ Preview



Add New Scene



Cancel

Delete

Object Type

Media

Object Title

Object #2

Add a object title to find it easily

Text

Image

Click to upload image

Audio

Click to upload audio

Save Object

Criteria (N = 12)

Rating

Ease of scene creation

5.67 / 7

Ease of object addition

5.75 / 7

Ease of scene transition

4.92 / 7



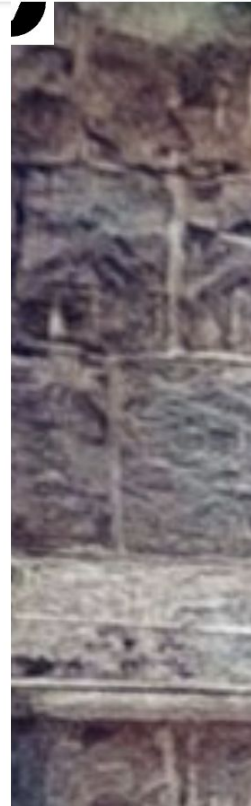
Script

Feedback

Eliot Hall stood the test of time and still represented a dignified presence on the campus, even with the advent of technology like big data. It was interesting to think about how big data could be used to protect cultural heritage sites such as Eliot Hall, where valuable architectural history was at risk of being lost. The intricacies of historical buildings like Eliot Hall and Ruyi, a prop from the Qing Dynasty court drama of the same name, are difficult to document and preserve. However, applying big data technology could enable digital replicas to be generated, providing accurate virtual renditions of their architectural features. This approach could have potential applications in preserving the history and architecture of other iconic buildings, just like how Pokemon Go employed this technology to bring significant cultural sites to life for a new generation.

* The feedback here is **automatically** generated by the system.

Save



Narration Writing Tool

Criteria	Rating
Usefulness of feedback to narration	5.25/7

LAVR (LA for VR creation)



- Support SRL in Maker Activity

The screenshot displays a student's progress in a VR creation course. It features three tabs: Checklist, Progress, and Statistics. The Progress tab is active, showing a list of components with their completion status and class progress. A statistics panel on the right provides data on the number of views, students viewed, and reviews for the VR story.

Components	Class progress	You
Upload a spherical panorama	66.7%	Not yet
Upload a narration script		Not yet
Add background audio	66.7%	Not yet
Add story scenes	Average: 1.50	Done
Add text boxes	Average: 2.00	Not yet
Add image objects	Average: 2.00	Not yet
Add audio objects	Average: 1.00	Not yet

Statistics of this VR story	This story	Average
No. of times this VR story has been viewe	0	6
No. of students viewed this VR story	0	1
No. of students reviewed this VR story	0	0

Ng, J... Hu, X. (2023). Leveraging LMS logs to analyze self-regulated learning behaviours in a maker-based course. In *LAK'23*.

Ng, J., Wang, Z. & Hu, X. (2022). Needs analysis and prototype evaluation of student-facing LA dashboard for virtual reality content creation. In *LAK'22*.

Student Opinions on LA functions



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Checklist

Progress

Statistics

Checklist

Progress

Statistics

Checklist

Progress

Statistics

VR creation (1) - Capture

- Upload a spherical panorama
- Write reflection (on Moodle)

VR creation (2) - Authoring

- Prepare components of the VR story
 - Upload a draft narration script
 - Add background audio (e.g., narration, music)

Components	Class progress	You
Upload a spherical panorama	<div><div style="width: 66.7%;">66.7%</div></div>	Not yet
Upload a narration script	<div><div style="width: 0%;">0%</div></div>	Not yet
Add background audio	<div><div style="width: 66.7%;">66.7%</div></div>	Not yet
Add story scenes	Average: 1.50	Done
Add text boxes	Average: 2.00	Not yet

Statistics of this VR story

	This story	Average
No. of times this VR story has been viewed	0	6
No. of students viewed this VR story	0	1
No. of students reviewed this VR story	0	0

An **interactive** function

Useful for **reminding** us about deadlines

Helps me **check and trace my progress**

Motivates me better **manage my time**

This allows me to **compare my progress** with my classmates'

Motivates me to complete the tasks

Sets a rough **expectation** on the work quality

It should be **optionally** displayed

Criteria	Rating
Usefulness of checklist	5.58/7
Usefulness of progress statistics	5.67/7



Gallery of Student-made VR Stories



Thean Hou Temple (Malaysia)

- Enjoy more VR stories at <https://lavrplatform.com/discover>



Using smartphones for VR experience

CLEVR: Collaborative Learning



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Add New Scene



Multimodal Experiment with CLEVR



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VR Creation for K-12 Schools



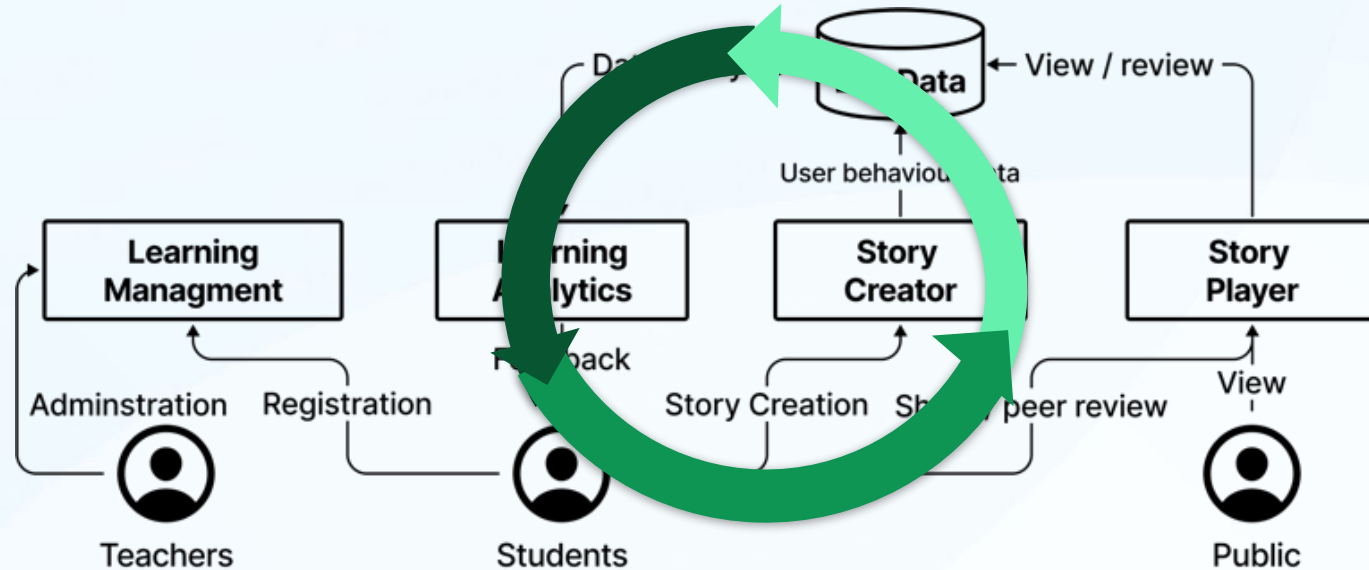
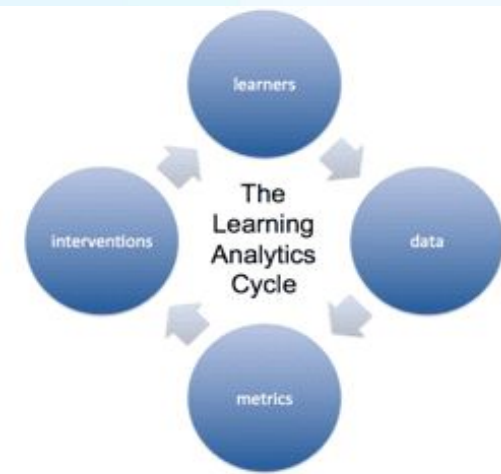
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- An environment conservation project
 - 12 **primary schools** in Hong Kong
- A general research fund project
 - Collaborative VR creation in **secondary schools**
 - How **learning analytics** can support collaborative VR maker activities



Research Grants Council

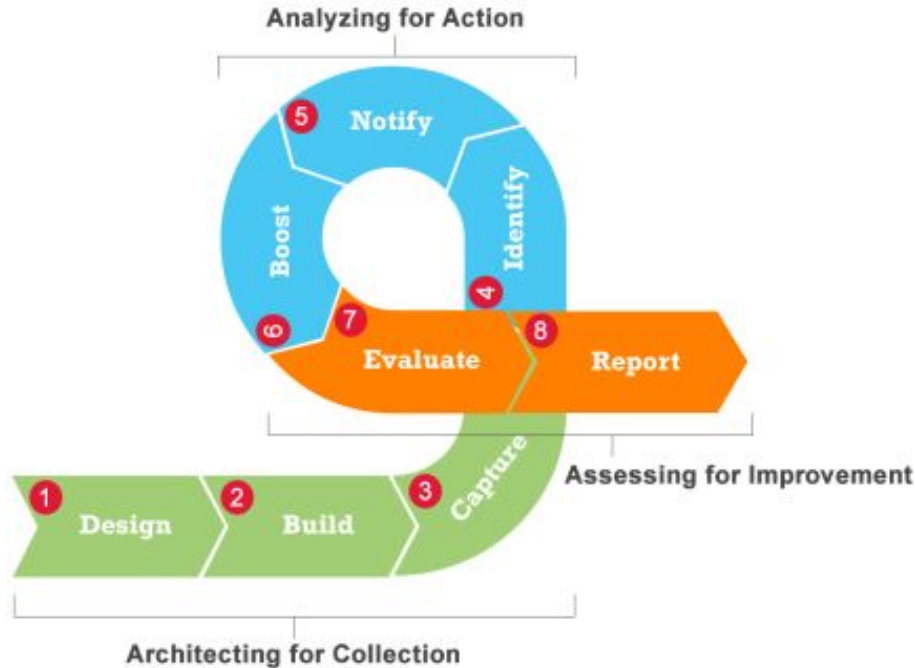
Reflection



LAVR Architecture

Wang, Z., Ng, J.T. D., Liu, R. & Hu, X. (2022). Learning analytics enabled virtual reality content creation platform: System design and preliminary evaluation. *The 22nd IEEE International Conference on Advanced Learning Technologies (ICALT)*.

The LA Loop: Updated



Syed, M., Anggara, T., Duan, X., Lanski, A., Chawla, N. & Ambrose, G. A. (2018) [Learning Analytics Modular Kit: A Closed Loop Success Story in Boosting Students](#) *Proceedings of the International Conference on Learning Analytics & Knowledge*.

Figure 1: Integrated Closed-loop Learning Analytics Scheme

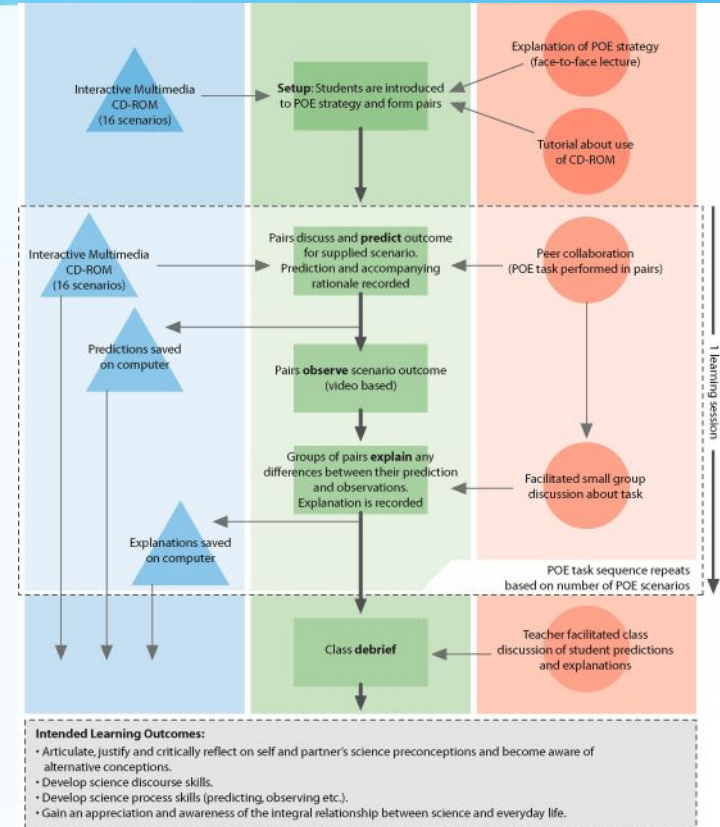
LD and Connection with LA



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Lockyer, L., & Dawson, S. (2011, February). Learning designs and learning analytics. In *Proceedings of the 1st international conference on learning analytics and knowledge* (pp. 153-156).

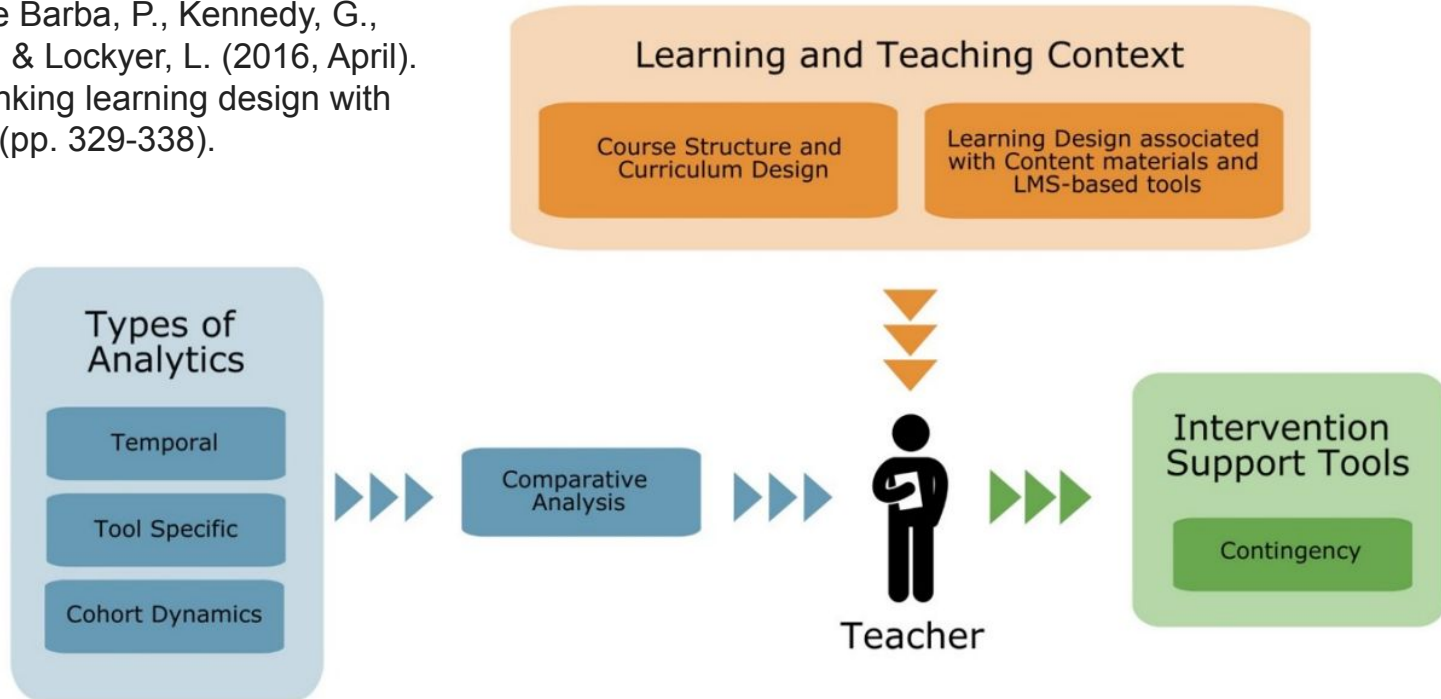
- “Learning Designs are ways of describing an **educational experience**”
- Representation or design language
- Measure of effectiveness



A conceptual framework linking LD with LA



Bakharia, A., Corrin, L., De Barba, P., Kennedy, G., Gašević, D., Mulder, R., ... & Lockyer, L. (2016, April). A conceptual framework linking learning design with learning analytics. In *LAK* (pp. 329-338).



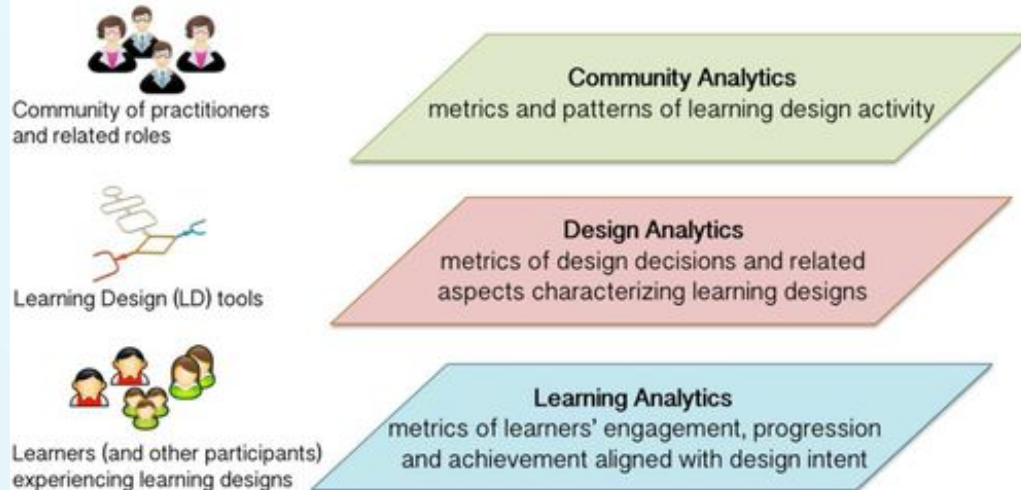
A Layered Framework



Hernández-Leo, D., Martínez-Maldonado, R., Pardo, A., Muñoz-Cristóbal, J. A., & Rodríguez-Triana, M. J. (2019). Analytics for learning design: A layered framework and tools. *British Journal of Educational Technology*, 50(1), 139-152.

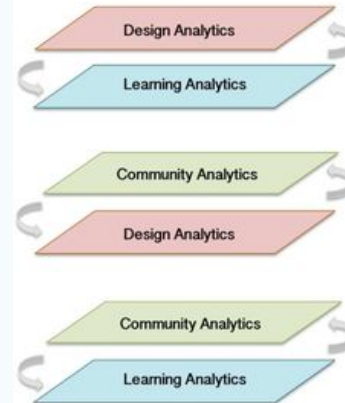
“Analytics Layers for Learning Design” Framework

Awareness, understanding, reflection and impact on **how, what** and **with which effects** practitioners design for learning



AL4LD Framework

Interactions between layers



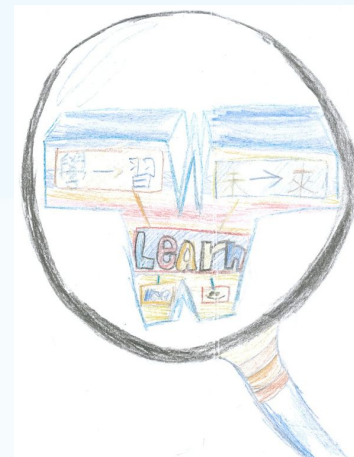
Functions:

Design Analytics can offer a framework for interpreting Learning Analytics
Learning Analytics aligned with the design intent support further design iterations (redesign).

Design Analytics can contribute to Community Analytics, with details of the properties of the learning designs created within a community
Community Analytics aligned with design properties can offer pointers for inspiration during the design process and opportunities for community inquiry.

Learning Analytics can contribute to Community Analytics, with details of the impact in learning settings of the designs created within a community
Community Analytics linked with Learning Analytics can offer opportunities for community inquiry.

- LA, LD and the Connections
- LA Projects
 - Collaborative learning analytics: Wikiglass
 - Maker learning analytics: LAVR/CLEVR
- **IDEALS - Towards Successful Integration of LA & LD**
 - An Example
- Future Opportunities and Challenges



Learning Design Studio@HKU



Faculty of **Education**
The University of Hong Kong

- Design tool
- Design language
- Shared resources & collaboration space for LD community

The screenshot shows the homepage of the Learning Design Studio. At the top left is the logo and name 'Learning Design Studio'. To the right are navigation links for 'ABOUT' and 'CONTACT'. Further right are 'LOGIN' and a 'SIGN UP' button. The main content area features the title 'Learning Design Studio' and a descriptive paragraph: 'Learning Design Studio is a one-stop platform for you to prepare learning design for enhancing the lesson quality.' Below this is another 'SIGN UP' button. On the right side of the page is a large, colorful illustration depicting various educational and design activities, including people working at computers, a microscope, a smartphone, a tablet, a laptop, and a person sitting on a sofa, all surrounded by icons like paper clips and a magnifying glass.

Learning Design Studio@HKU



Faculty of Education
The University of Hong Kong

Four levels of design

MITE 6023 Information Technology and Educational Leadership
HKU

Course Level Design Template: Mission-focused inquiry approach

Topic
MITE 6023 Information Technology and Educational Leadership

School HKU	School Level Curriculum Goal
Grade/ Level ⓘ Adult learning	Subject
Number of Session/Lesson ⓘ 8	Time Per Session/Lesson 180 min(s)

Technology ⓘ
Moodle, Perusall, learning analytics system

Prior Knowledge

Description ⓘ
This course provides students with the necessary knowledge and working methods to implement local IT policies and strategies at the institutional level. The course offers a comparative perspective for benchmarking local and international practices and identifies contemporary leadership issues concerning the implementation of information technology in education across multiple levels. It situates leadership issues within the broader literature on pedagogical innovation and educational changes and discusses contemporary leadership issues in the implementation of ICT in education at different

Tags ⓘ

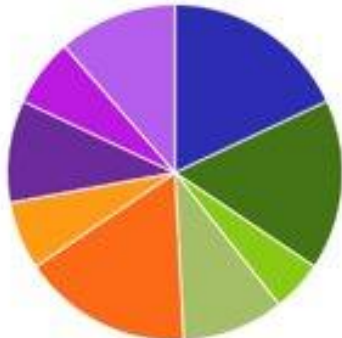
- Making the levels of design explicit
- Explicit guidance through levels of design

Design Analytics

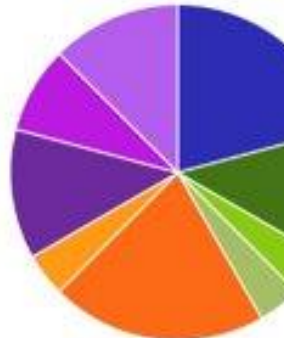


Course Analysis

Distribution of time spent on learning task types



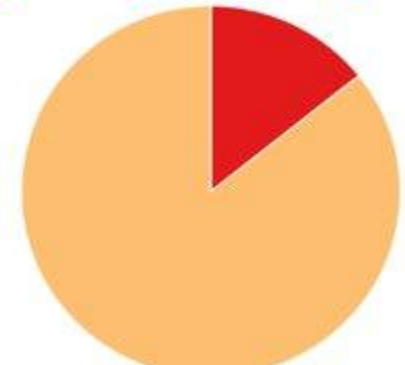
Distribution of number of learning task types



Distribution of time for synchronous learning



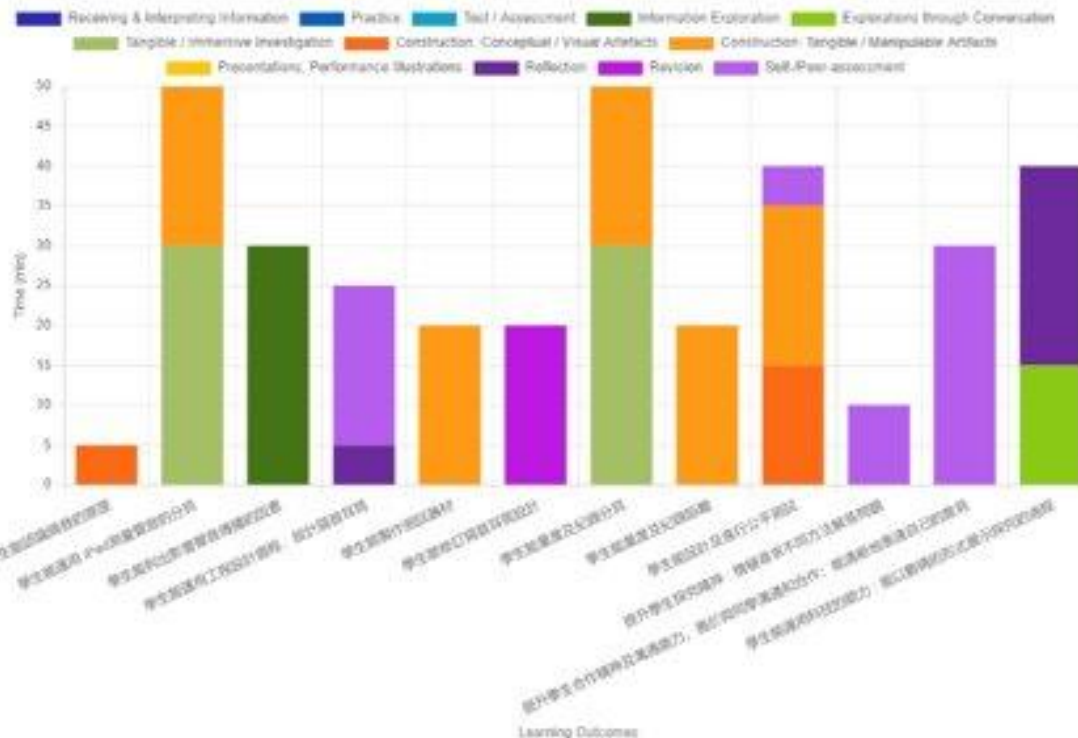
Distribution of time for asynchronous learning



Design Analytics



Breakdown of time on assessment tasks by task type for each learning outcome



Pattern Library in LDS



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Learning Design Studio

ABOUT US ▾

PATTERN LIBRARY ▾

CONTACT

LOGIN ▾

SIGN UP

Back to Pattern Library

List View

Curriculum Component Patterns



Conducting field trip to identify problem for goal setting

Curriculum Components

Learn More



Designing a prototype by ideating essential design elements for self-planning

Curriculum Components

Learn More



Construction and testing of the prototype to check performance for self-monitoring

Curriculum Components

Learn More



Demonstration and peer-review of product for self-evaluation

Curriculum Components

Learn More

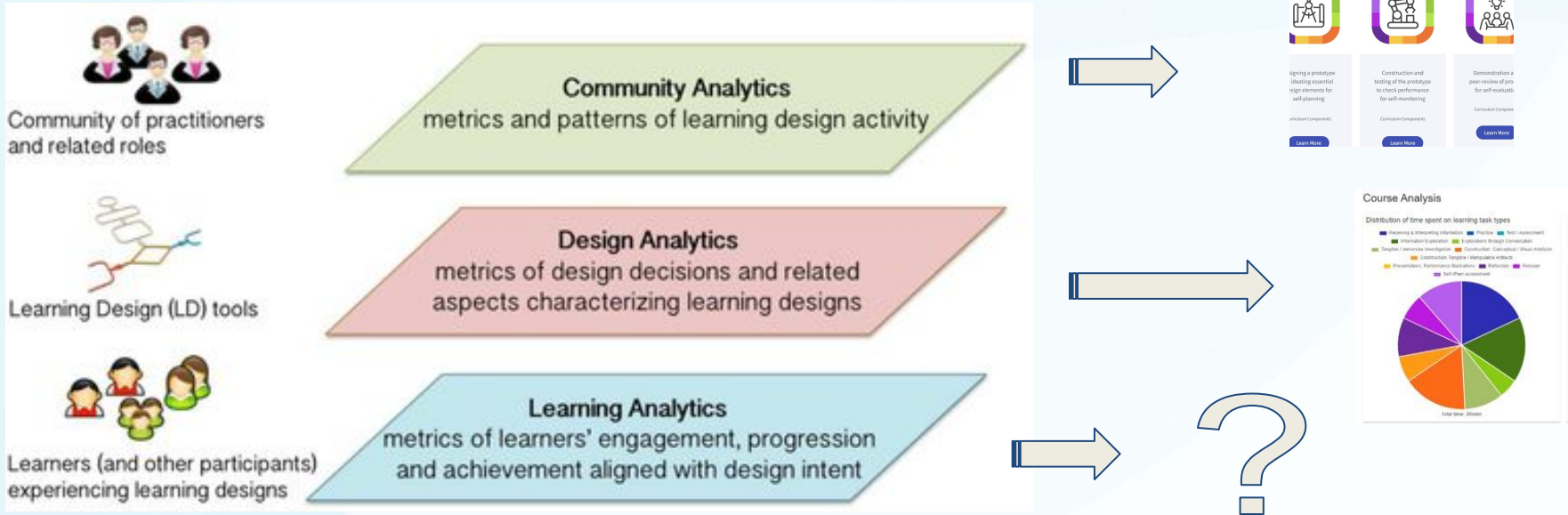


Optimising design to improve product performance for revision

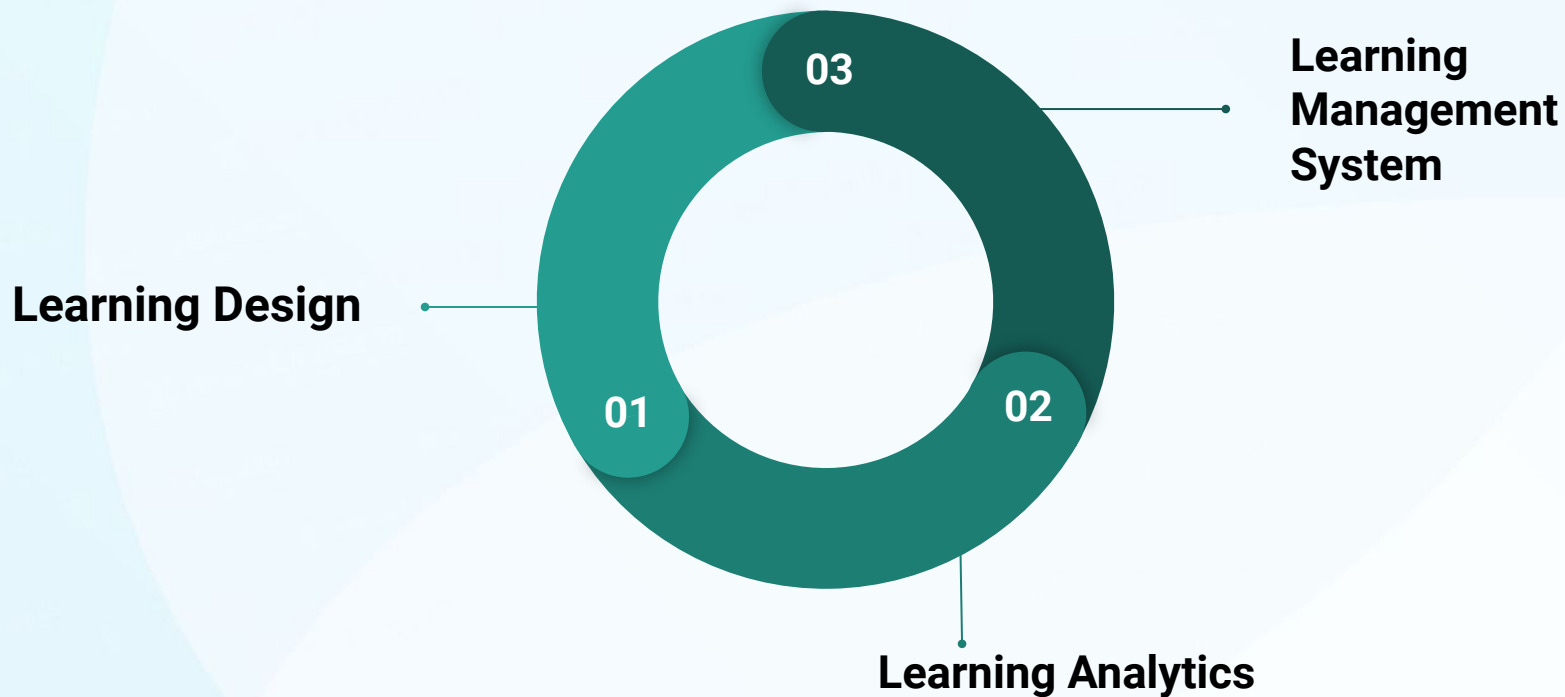
Curriculum Components

Learn More

Intelligent DDesign-Aware Learning analytics empowered 2IC L&T System



IDEALS



An Example



Case Analysis: CCCH9051: Digitizing Cultural Heritage in Greater China

Course level pattern

Iterative User-centered Design

CCs

Understanding the context of use to identify problem scenario for goal setting

Lecture for obtaining information

- Construct and present a mind map to make understanding explicit

Role play to explore perspectives to specify user requirements for goal setting

Lecture for obtaining information

* Role play for exploring multiple perspectives

* Reflect on real-life scenario

Student survey for formative assessment and/or prompt reflection

Iterative construction to enhance the performance of digital artefacts for self-planning and self-monitoring

* Site visit for generating artefacts

Lecture for obtaining information

Hands-on exploration of artefact

* Co-construction of artefacts using digital platforms

Well-designed criteria for evaluating self/peer performance

* Process, select and organize information

Demonstration and peer-review of digital artefacts for self-evaluation

Lecture for obtaining information

* In-class presentation for sharing deliverables from productive learning tasks

Well-designed criteria for evaluating self/peer performance

Key Tasks

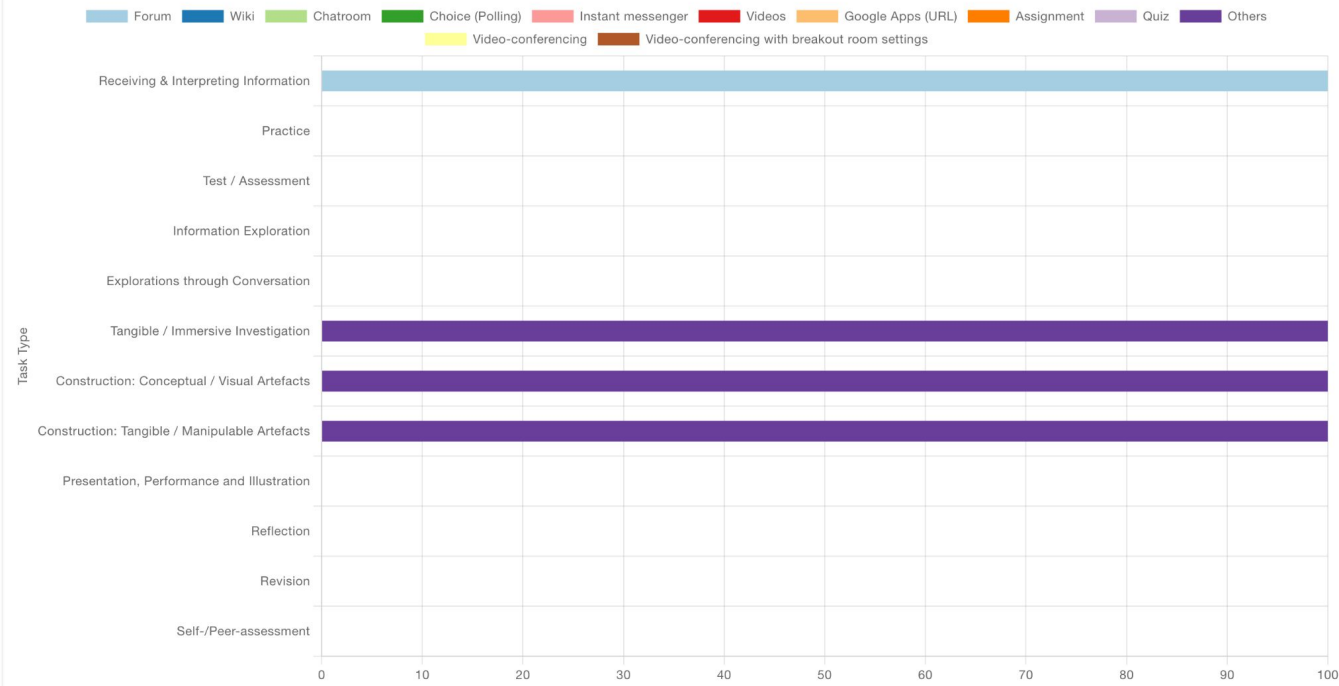
Highlighting key task sequence under each CC

LD of CCCH905 I



[https://lds-gen.cite.hku.hk/publicsharing/\\$2y\\$10\\$y4oPkfOvJLsHoQyxBnJyZu8xm7X7c52oKcbons1YoHGTtoisNAIjq](https://lds-gen.cite.hku.hk/publicsharing/$2y$10$y4oPkfOvJLsHoQyxBnJyZu8xm7X7c52oKcbons1YoHGTtoisNAIjq)

Breakdown of time spent (in %) on asynchronous learning tasks using each type of e-learning tool for each task type



- 🎓 CCCH9051_2A_2022
- 👤 Participants
- 🏆 Badges
- ☑️ Competencies
- 📊 Grades
- 📁 General
- 📁 Feedback on assignments
- 📁 Group Project
- 📁 Preparation on 2nd VR story
- 📁 Assignment: 1st VR Story (Class A/B/C/D/E) due 23:59 Mar 4 (HKT)
- 📁 Assignment: 1st VR

CCCH9051 Digitizing Cultural Heritage in Greater China [Section 2A, 2022]

Home / My courses / CCCH9051_2A_2022

General

Welcome to CCCH9051!

Lecture Time: Wednesday 16:30 - 18:20 (HKT) (Face to Face)

Lecture Venue: CYCP1

Course Coordinator: **Dr. Xiao Hu** (xiaoxhu@hku.hk)

Teaching Assistant: **Mr. Jeremy Ng** (jntd@connect.hku.hk)

Please fill in this **tutorial timeslot registration form** as soon as possible.

https://bit.ly/CCCH9051_2023_tut_reg

We are NOT using the HKU Portal's Tutorial Sign-up System. Thank you!

Visual Learning Analytics

- Learning Analytics

Quickmail

- ✉️ Compose Course Message
- 📄 View Drafts
- 📅 View Scheduled
- 🗨️ View Sent Messages
- ✍️ My Signatures
- ➕ Alternate Emails
- ⚙️ Configuration



Course Overview

Add LA tools for course overview



Forum



Page view



Quiz



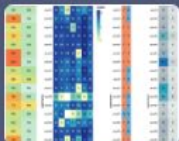
Assignment



Wiki



Reading



Student activities

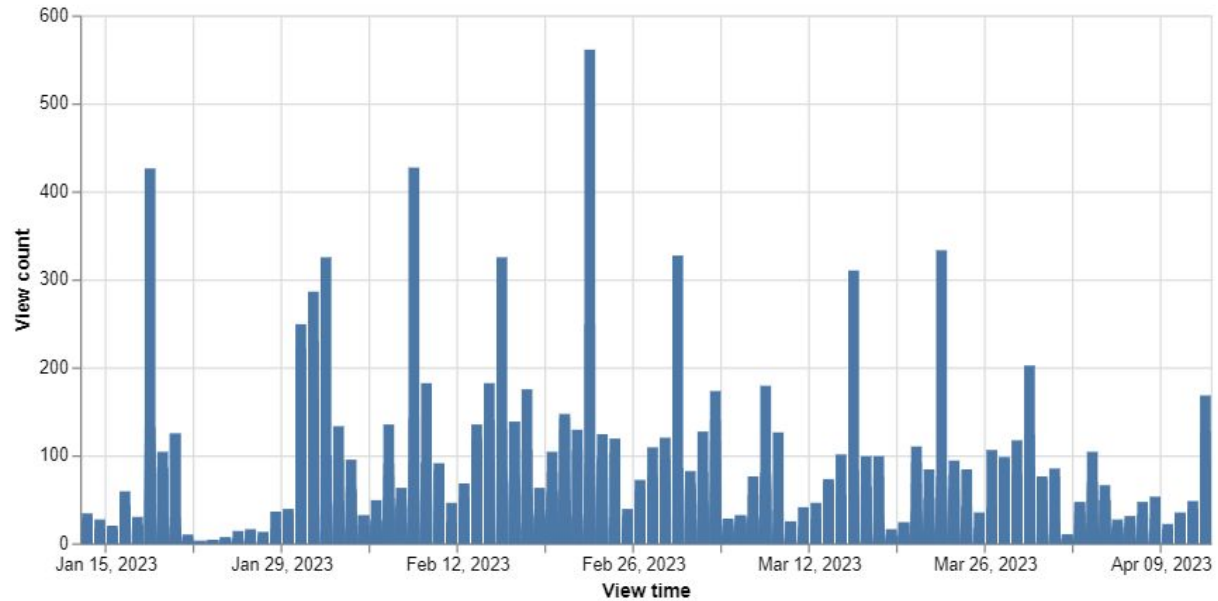


Sequence Analysis



Page view

1 of 1





Course Overview



Forum



Quiz



Wiki



Reading



Sequence Analysis

Add LA tools for forum

Forum general analysis



Calculation table

Forum behavior analysis



Frequency



Interaction

Forum content analysis

Frequency

12 of 13



Course
Overview

Forum



Quiz



Wiki



Reading

Sequence
Analysis

Forum general analysis



Calculation table

Forum behavior
analysis

Frequency



Interaction

Forum content analysis



Hashtag

Hashtag

7 of 8



Keyword

8 of 8

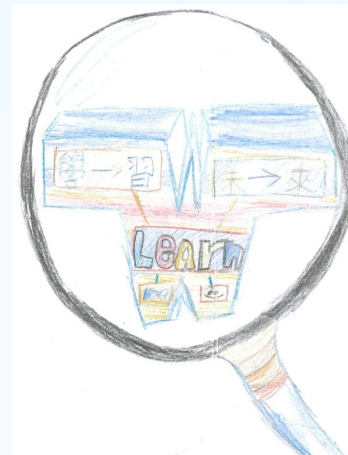
01/13-01/14	01/15-01/21	01/22-01/28	01/29-02/04	02/05-02/11	02/12-02/18	02/19-02/25	02/26-03/04	03/05-03/11	03/12-03/18	03/19-03/25
contact	class	collecting	chinese	cultural	citizen	amp	e5	grave	hk	admin
cultural	first	experiments	cultural	friends	friends	e5	gov	heritage	hku	collection
form	hk	know	heritage	heritage	hong	e6	hk	hk	https	exhibits
heritage	hku	myself	introducing	learn	kong	gov	hong	https	items	https
hk	https	neuroscience	people	media	media	hk	html	net	net	items
hku	jan	nice	promote	people	other	hong	https	omeka	omeka	net
https	lectures	others	relevant	promote	promote	html	kong	task	task	omeka
lecture	reasons	team	social	relevant	relevant	https	net	tut	tut	task
questions	tutorial	tiffany	student	social	social	kong	omeka	week	tutorial	tutorial
tutorial	tutorials	working	value	student	student	org	org	wikipedia	week	week

How these LA visuals inform LD?



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Opportunities



- LA substantializes LD
 - make LD less abstract
- LA evidences effects of LD
 - make LD convincing for uptake
 - provide rationale for change
- LD provides theoretical grounding for LA
- LD provides guidance for LA applications

- So far, **few empirical studies evaluating** impact of LDs

Challenges



LDs not well used

- Learning curve
 - hard to change habits
- Time as a barrier

Understand our teachers

- Analytics questions
- Need analysis



THANK YOU! Q/A

<http://ccmir.cite.hku.hk>



<https://www.researchgate.net/lab/CCMIR-Xiao-Hu>



Feel free to contact me at
xiaoxhu@hku.hk
for more discussion.