

The background features abstract organic shapes in muted colors: a large brown shape in the top-left, a dark blue shape in the top-right, a light green shape in the bottom-right, and a light brown shape in the bottom-left. There are also several clusters of small dots in blue, green, and brown. A light grey circle with diagonal stripes is positioned behind the title text.

Design for Engagement in Blended Learning: Insights, Practices, and Challenges

Linyuan Wang

16th May 2025



CONTENTS



**Factors
Associated with
Student
Engagement**



**Learner Control
and Student
Engagement**



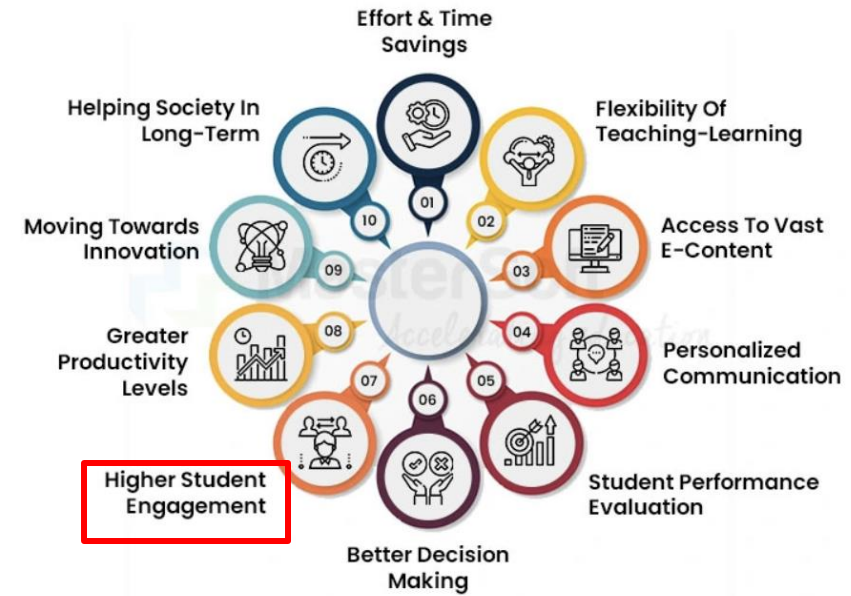
**Pre-class
Learning and
Student
Engagement**



**Pre-class
Learning Patterns
and Student
Engagement**



Blended Learning

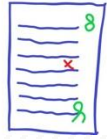


Reference: <https://www.iitms.co.in/blog/what-is-blended-learning-types-and-benefits-of-blended-learning.html>

Reference: <https://elmllearning.com/hub/elearning/blended-learning/>



Student Engagement



Reference: Dr. Arjen de Vetten



<https://today.umd.edu/a-post-zoom-guide-to-meeting-etiquette>

Four Factors Associated with Student Engagement

Individual

Who the student is
(motivation, prior
knowledge, self-
regulation skills)

Instructional

What and how
teachers design
and teach (learning
tasks, structure)

Interactional

Interactional
factors — how
students interact
with peers, teachers
and technology.

Environmental

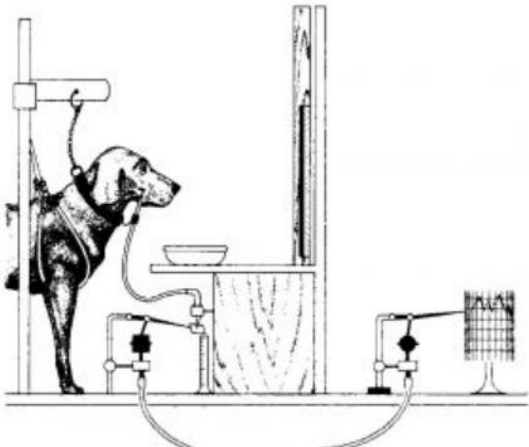
Where they learn
(physical space)

- Individual factors and instructional factors were the most identified factors.
- Most articles investigated behavioral, emotional, cognitive, or general engagement, while agentic and social engagement have rarely been studied.
- Factors affecting student out-of-class engagement and on-campus engagement are distinct.
- The challenge of promoting student engagement lies in the interplay of four factors with different levels of malleability.

Learner Control

One critical part of the definition of blended learning is that it involves “some element of student control of time, place, path, and/or pace. (reference: Staker, H., & Horn, M. B. (2012). Classifying K-12 blended learning. *Innosight institute*.)

“More control = more engagement?”



de Jonge, Tabbers, Pecher, & Zeelenberg (2015)

- Foreign vocabulary learning (Dutch - English)
- Within-subjects manipulation
 - self-paced vs. experimenter-paced learning
 - total study time fixed
 - At an average of 24 s per word pair
- between-subjects manipulation (experimenter-paced)
 - 24 x 1 s
 - 12 x 2 s
 - 6 x 4 s
 - 3 x 8 s

- Overall, self-pacing resulted in better recall performance, or at least as good recall performance as the best of the fixed presentation rate conditions.
- Self-paced learners increased the pace as learning progressed
- Self-paced learners spent more time on the more difficult items (discrepancy reduction).

De Jonge, M., Tabbers, H. K., Pecher, D., Jang, Y., & Zeelenberg, R. (2015). The efficacy of self-paced study in multitrial learning. *Journal of experimental psychology: Learning, memory, and cognition*, 41(3), 851.

Relevant Terms

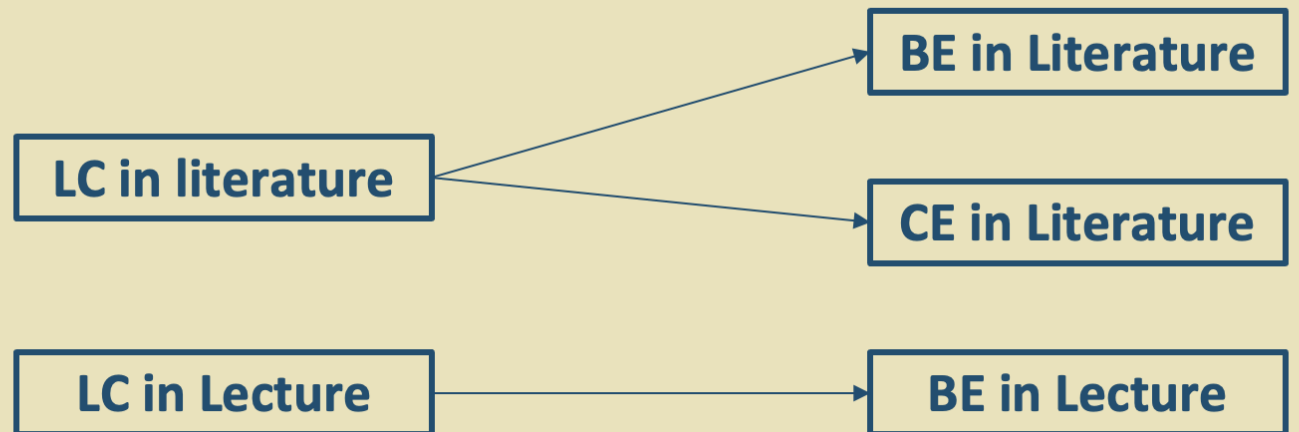
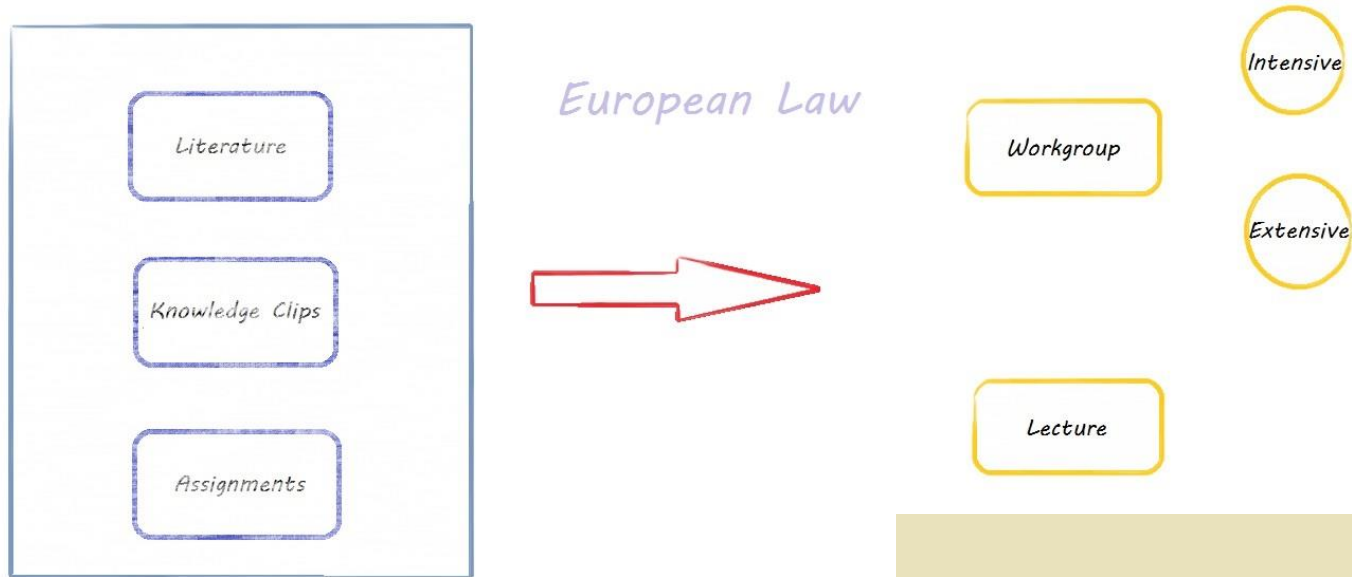
**Perceived Learner
Control**



Content Control



Learner Control and Student Engagement





Designing for Engagement = Learner Control + Support



Control Group

The control group (n = 35) received their test results and a generic, non-personalized remediation advice.

Students showed a strong preference for offline remediation activities above online remediation activities (64.6% versus 12.3%). In particular, reviewing one's written notes from the Introduction to Administrative Law course was the main remediation activity (55.4%).



Experimental Group

The experimental group (n = 30) received their test results and personalized feedback to review particular knowledge clips and quizzes to remediate their prior knowledge

Beyond the online: offline matters

de Vetten, A. (2024, September). An Experimental Study into the Effects of an Advisory Dashboard on Students' Online and Offline Learning. In *European Conference on Technology Enhanced Learning* (pp. 87-92). Cham: Springer Nature Switzerland.



Preparation



Week

37

38

39

40

41

42

43

44

45

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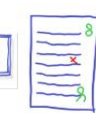
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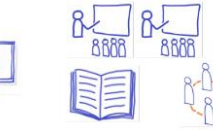
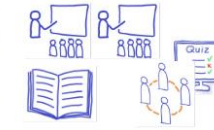
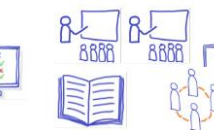
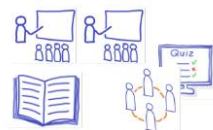
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**Academic
Reading &
Writing**



**Socio
Linguistics**



	Numbers of observations	Mean of Preparation Proportion
Literature Reading	62	.78
Assignment Completion	63	.60
Going through Notes	63	.49
Video Watching	63	.48
Peer Learning	63	.18



The same literature materials used in the course during which we collected data were also utilized in another course.



Assignments were designed solely for preparation purposes and did not contribute to students' final grades



The overlap between video content, literature, and tutorials.



The studied course did not include much collaborative learning as preparatory tasks.



- Literature reading was found to be positively related to behavioral engagement, emotional engagement, cognitive engagement, and social engagement
- In addition, peer learning and going through notes were both significant predictors of social engagement.



Preparation



Week

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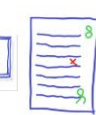
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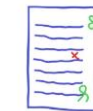
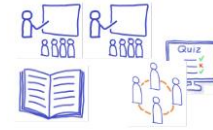
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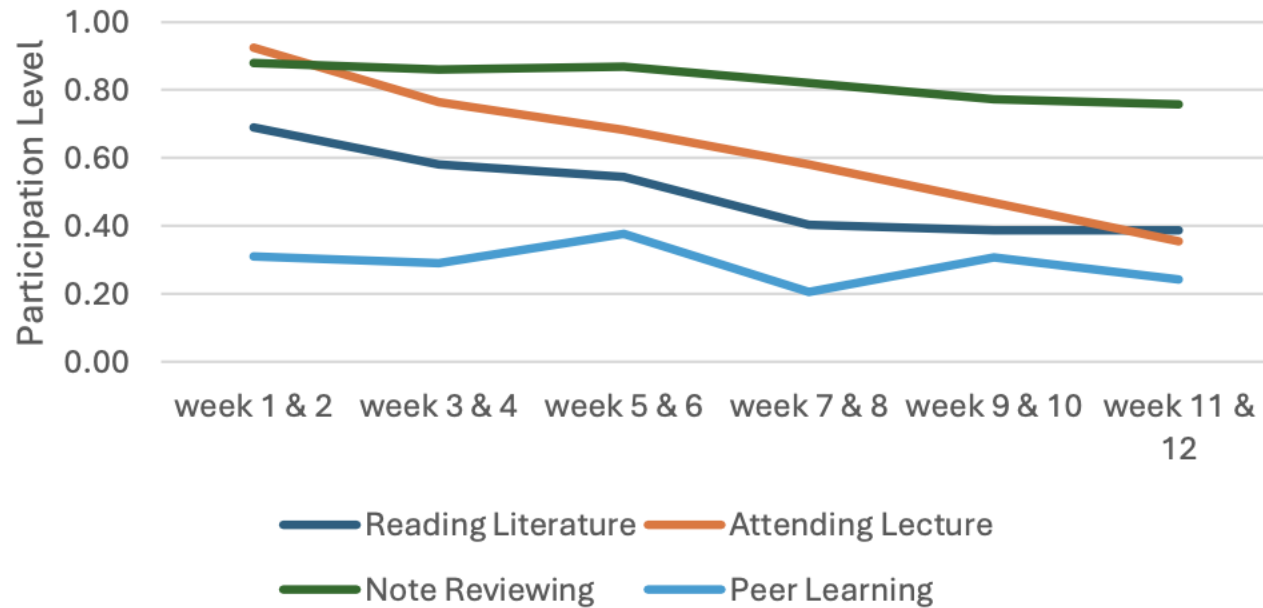
Academic
Reading &
Writing



Socio
Linguistics



The Pre-class Learning Variation



The **overlap in content** between literature and lectures, some students chose either to only read the literature or attend the lectures.



The **availability of recorded lectures** made students less likely to attend the lectures as preparation for tutorials



The majority of students perceived the course as **not difficult** and believed that they did not have to put much effort into it.



The **take-home, open-book format** of the exams made students focus on memorizing content.



The **overall lack of interactive elements** or in-depth discussions in the lectures may have led to a decrease in student participation;

The lectures were scheduled relatively late in the day.

Learning Patterns

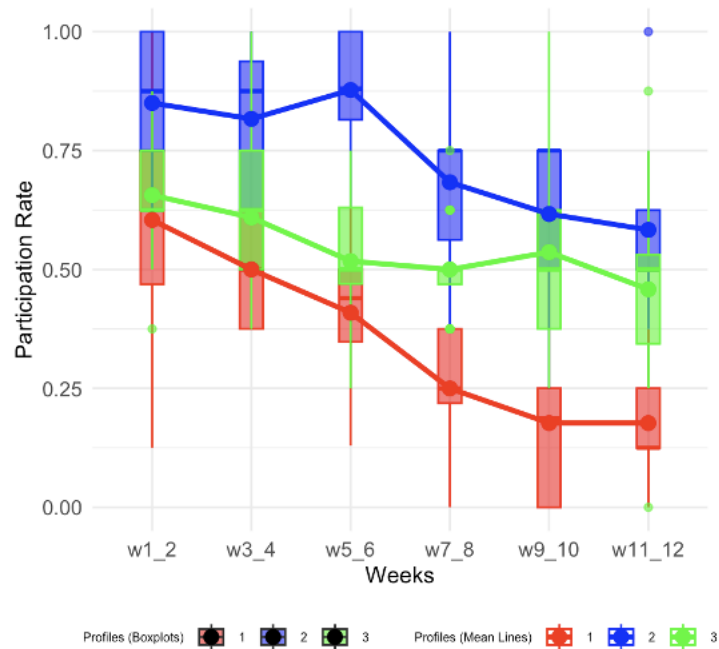


Figure 2 Profiles of Pre-tutorial Learning Behavior Patterns Based on Student Participation in all four Pre-tutorial Activities (proportion score)

Across Different Weeks

Table 5.5 Profiles of Students' Pre-tutorial Learning Behaviors Based on Student Participation in Pre-tutorial Activities

Pattern	Participation combined in Different Weeks					
	n	1&2	3&4	5&6	7&8	9&10 11&12
1-Decreasing Participation Learner	9	0.59	0.47	0.38	0.22	0.15 0.17
2-Initially Consistent Learner	15	0.85	0.82	0.87	0.68	0.62 0.58
3-Delayed Consistent Learner	27	0.65	0.61	0.51	0.48	0.50 0.43

Learning Patterns

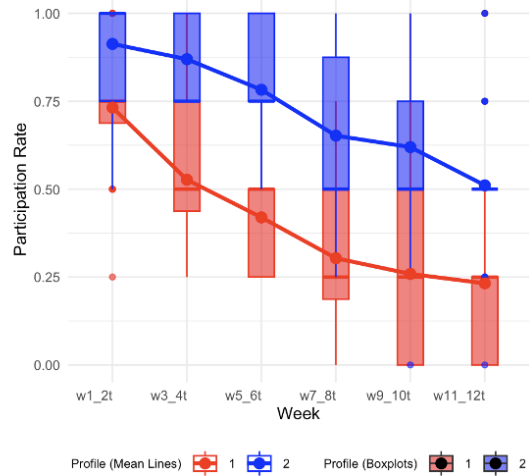


Figure 3 Profile- Students' Participation in Teacher-recommended Activities

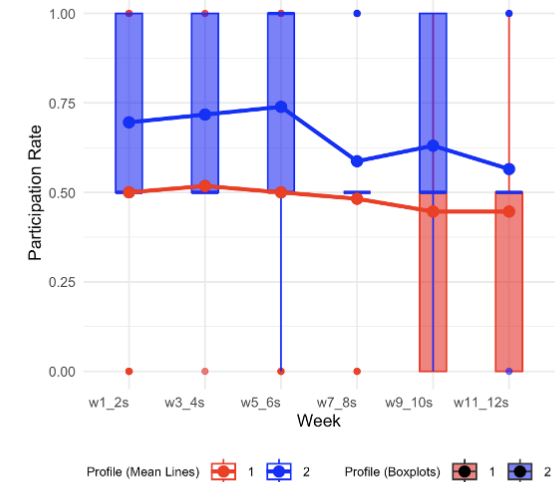
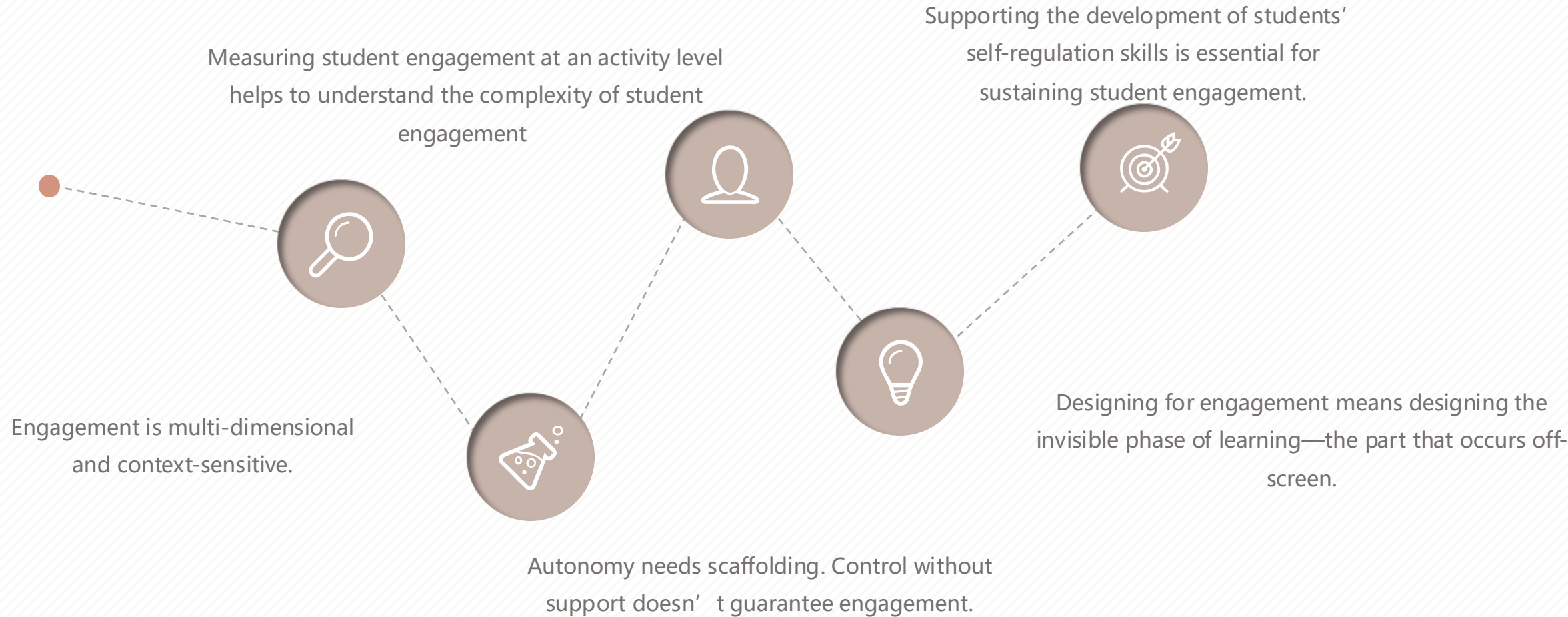


Figure 4 Profile - Students' Participation in Self-Initiated Activities

Table 4 Profiles Based on Students' Participation in Teacher-recommended and Self-initiated Activities

Profiles	N	Activity Type	Participation in Different Weeks					
			1&2	3&4	5&6	7&8	9&10	11&12
Consistent Self-initiator	29	Teacher-recommended Activities	0.73	0.53	0.42	0.31	0.27	0.24
		Self-initiated Activities	0.50	0.52	0.50	0.48	0.46	0.46
Gradual Decliner	22	Teacher-recommended Activities	0.91	0.87	0.79	0.65	0.62	0.51
		Self-initiated Activities	0.70	0.72	0.74	0.59	0.62	0.55

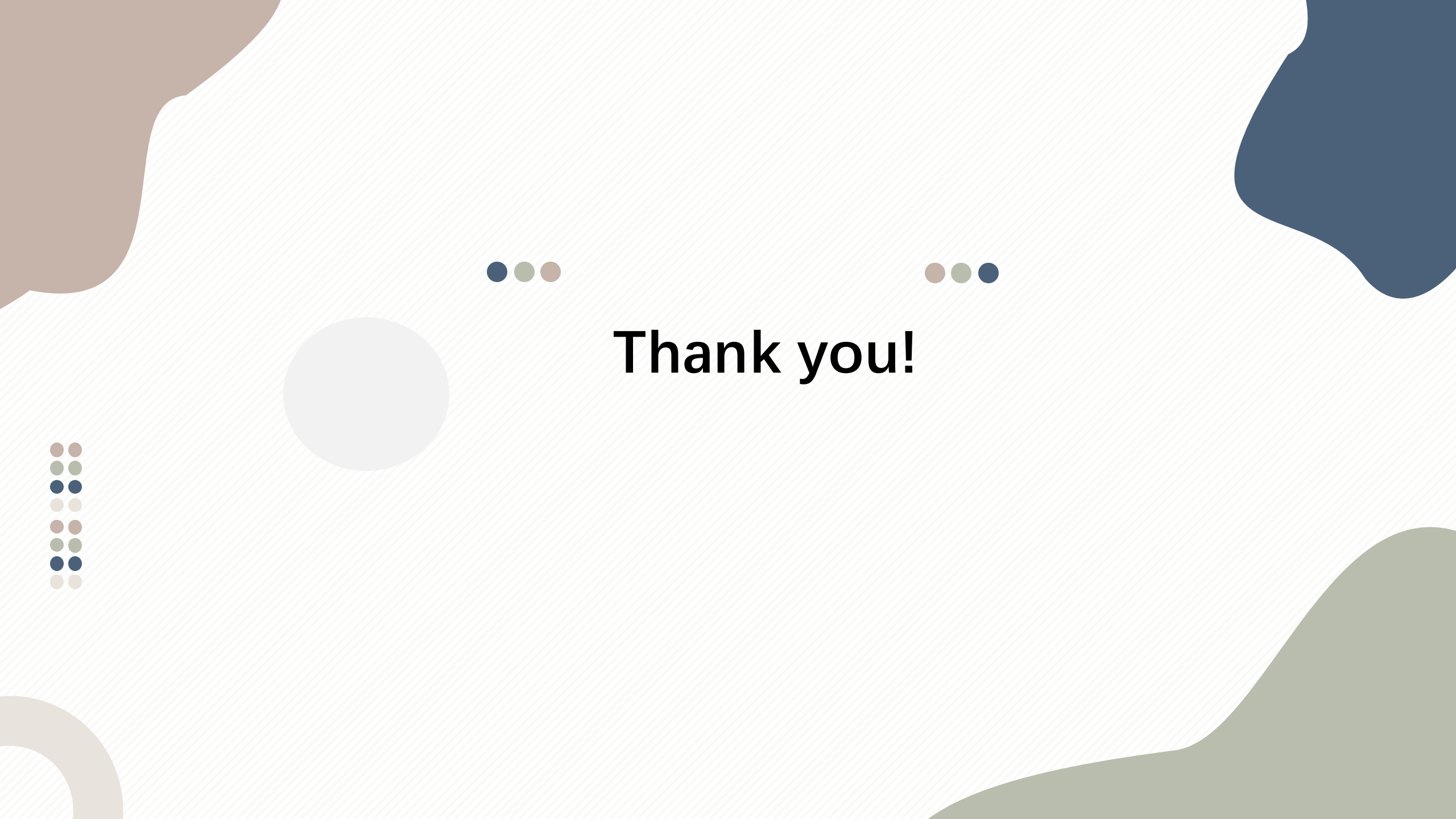
Take-away Messages





Q & A

Which part of my research is worth exploring further?

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Thank you!