

Empowering Educators to Incorporate Learner Engagement Analytics into Curriculum Design through Gamification

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Learner Engagement Analytics (LEA)

LEA involves collecting and analysing data on student activities like assignments, forum posts, quizzes, and attendance to support students in achieving their academic goals. For educators, it helps make informed decisions to improve teaching. Institutions use engagement analytics to understand student interactions with content, enabling data-driven decisions that enhance learning.

Challenges

Educators lacking training and confidence to collect & act on data effectively.

Aim

The aim of this project is to empower educators & enhance student experience. This project provides comprehensive solution using 'Level Up XP' Moodle plugin (Figure 1) to integrating learner analytics effectively into teaching.



- Give insights into student engagement and supports personalised learning.
- Tracks and boosts engagement through gamification.
- Allows analysis of engagement patterns/struggles across modules /cohorts.
- Helps educators reflect on practices & learning outcomes.
- Early indicator for student support - helps uphold student wellbeing and prevent unnoticed setbacks.

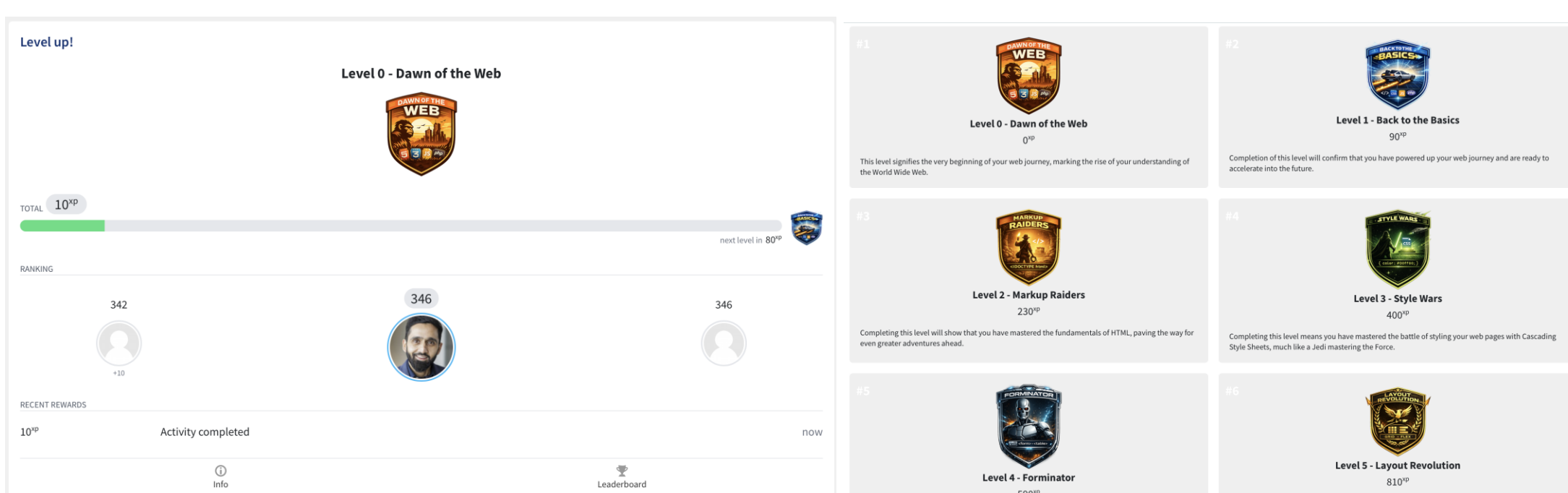


Figure 1 – Level Up XP

Pilot Stats



Pilot Phase 1 Modules – Semester 1 2025/26:

- BUS101 - Introduction to Marketing and Communications (HSS)
- BIO227 - Human Genetic Disorders (S&E)
- CANM102/902 – Cancer Biology (FMD)
- Year 5 - Clinical Pharmacology & Therapeutics (FMD)

Phase 1 Survey (157 students) - Preliminary findings:

- High level of satisfaction on Level Up XP plugin in enhancing engagement; average score of **4.02 out of 5**.
- Overall experience with the plugin was positive; average score of **4.11 out of 5**.
- Majority **77.7%** reported that earning points & badges had a positive influence on their motivation to learn.

Pilot Phase 2 Modules – Semester 2 2025/26:

- BIO192 - Practical Biology
- BUSM198 - Resourcing and Talent Management
- BUSM213 - Social Marketing for Social Justice
- CHE102B - Fundamentals of Organic Chemistry
- EMS617U/EMS736P - Tissue Engineering and Regenerative Medicine/Clinical Applications in Regenerative Medicine
- ECS661U - User Experience Design
- ECS7025P - Ethics, Regulation and Law in Advanced Digital Information Processing
- ECS421U - Automata and Formal Languages
- EBU4211 - Object Oriented Programming

Level Up Awards

As part of this project, we hosted the first Level Up Awards on April 15th April 2026, which exhibited how teaching and learning was transformed through gamification and data-driven learning design. This event was held in the newly opened ITL Building, which recognised students participating in the modules piloting “Level Up”. Figure 2 highlights key moments from the event through a series of photographs.



Figure 2: Level Up Awards Event Highlights

Conclusion

We have demonstrated that this strategy of incorporating LEA into curriculum design through gamification is effective across various disciplines beyond computer science and engineering.