

Education on the Horizon: Teaching and Learning with Technology

Week 6: Game-Based Learning Pt. 2

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Dr. Yizhen (Eejain) Huang

Department Erziehungswissenschaft, University of
Potsdam

Recap

- Game is a structured form of play, usually for enjoyment.
- Gameful learning redesigns core elements of a learning environment according to game design principles.
- These principles are fundamentally psychological.

Your thoughts from last week

- "Praising every achievement maybe manipulative"
- Borrowing game elements mindlessly won't magically motivate students
 - But it's important to understand why good games are so motivating and what we can learn from them
 - A good game-based learning environment can motivate student intrinsically

Motivation, the force that drives us

- Behavior is motivated by internal (intrinsic) or external (extrinsic) incentives
 - Extrinsic – attention, praise, grades, rewards, money etc.
 - powerful only in short term
 - Intrinsic – feeling of satisfaction, competence, growth, progress etc.
 - lasting effect
- Dan Pink's Talk on Motivation

How to promote intrinsic motivation?

- Self-determination theory: three conditions for supporting intrinsic motivation
- Autonomy, competence (mastery) and belonging (meaning)
- These three factors can explain why games are intrinsically motivating, and what kind of learning environment we are after.

Autonomy

- In game: usually we choose what game we want to play
- Ideal learning environment: the learner seeing himself or herself as the primary locus of control'

Autonomy: example

- Explore in safe environment enables sense of autonomy
- Games enabling players to take risks by reducing the negative consequences associated with failure.
 - giving a player infinite lives, freedom to explore the game safe in the knowledge that mistakes will not result in permanent failure.

Autonomy: example

- In a gameful course, this same feeling can be established
 - allowing students to redo assignments multiple times to achieve mastery
 - providing alternate assignments that mitigate the impact of failed attempts
 - allow for free exploration

Assassin's Creed - Odyssey tours

- Interactive tours for learning about Ancient Greek
- Quiz at the end of the tour: right or wrong, students will get more information about the topic
- demo video

Competence (Mastery)

- In game: you know for sure you can become better at playing the game (progress / current status is clear)
- Ideal learning environment: learners engage with course contents because they feel that they can do so successfully

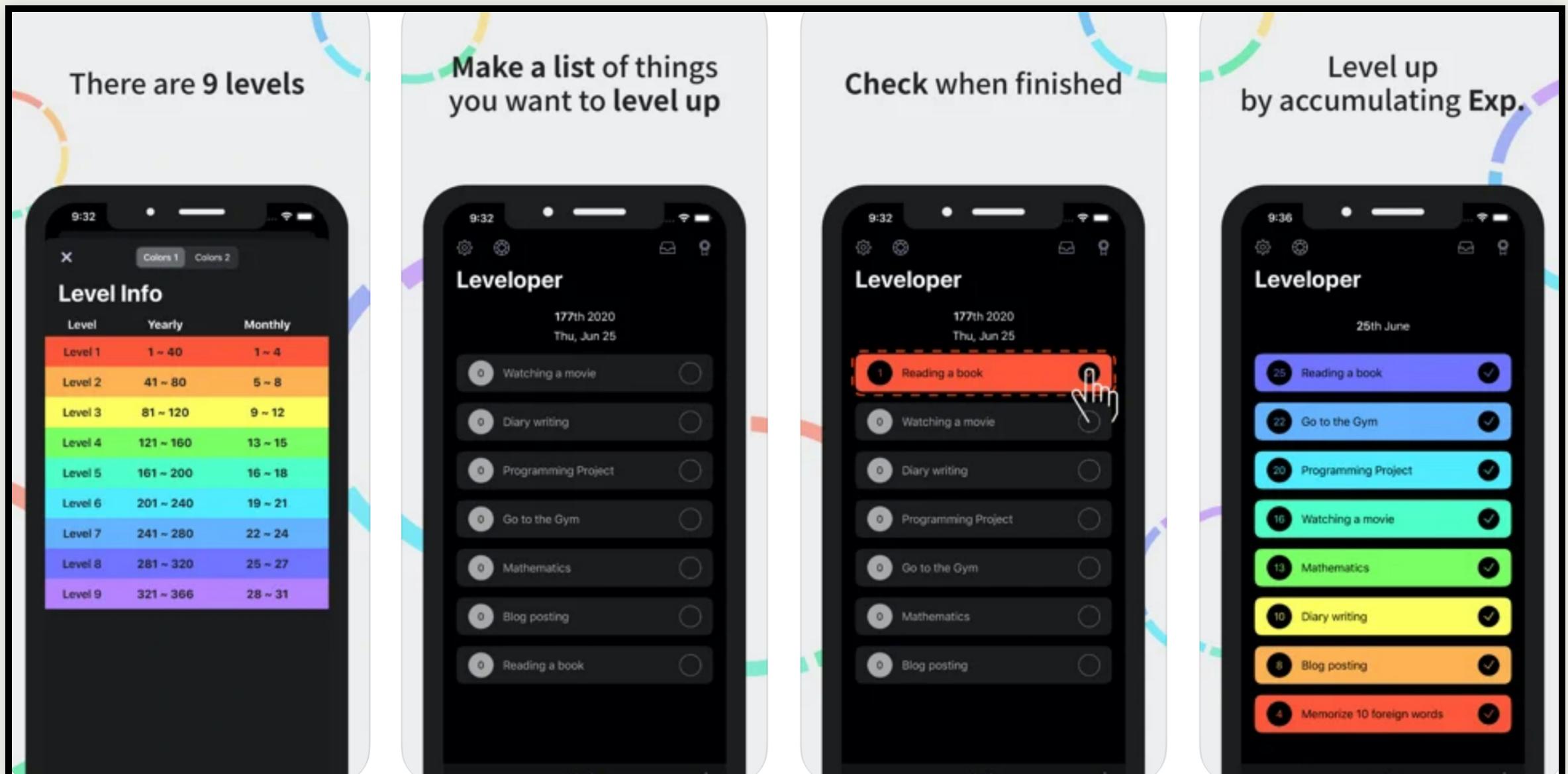
Competence: Token system

- Token system in Pokemon Go
- Similar system can also be used to motivate and help students keep track of progress
- Tokens are not designed to manipulate students to fish for prizes, but to show clearly what's the progress, and what to do next

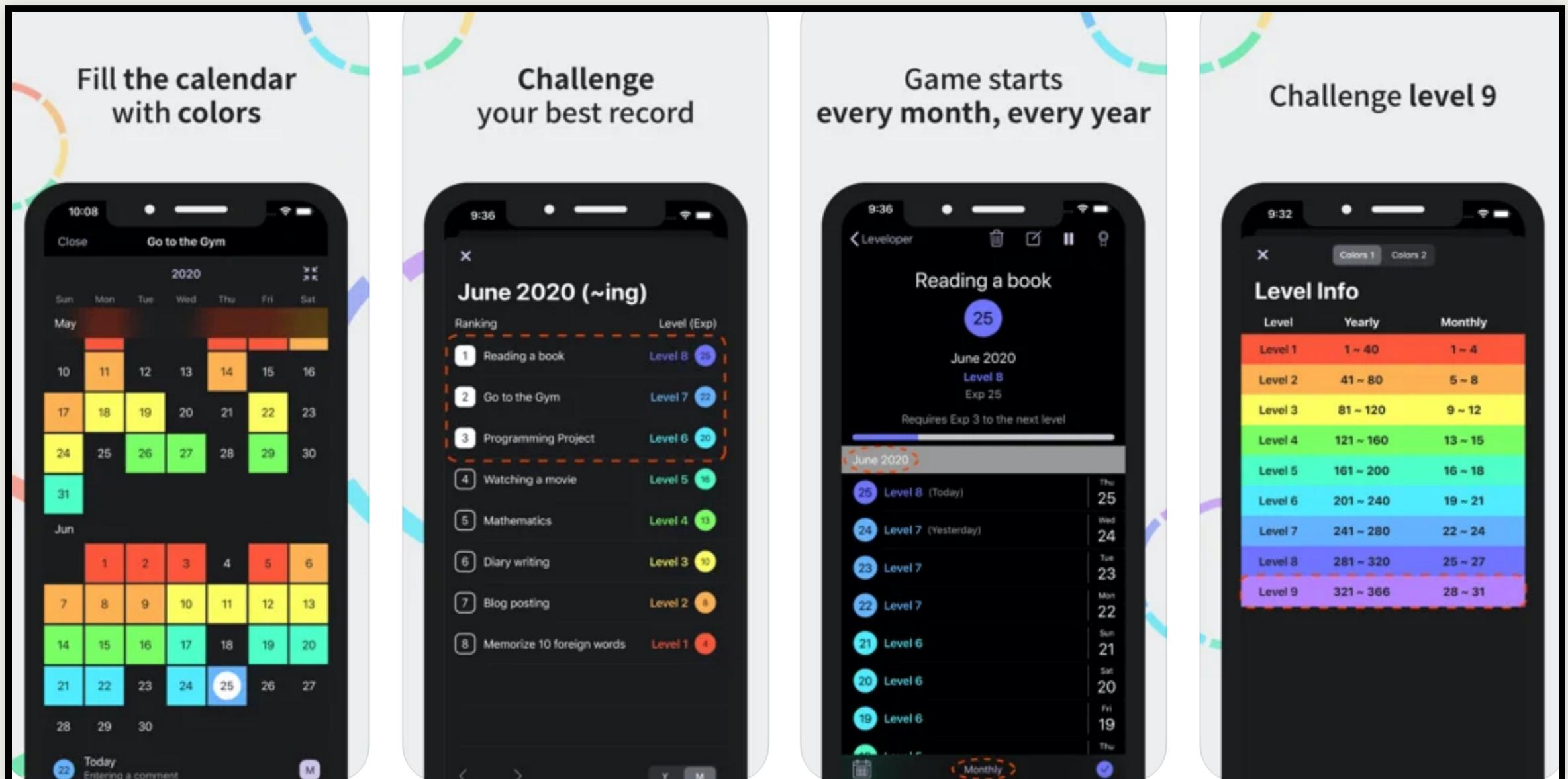
Competence: Token system

- Here's an example token system from Khan Academy (an online learning service)

Competence: EP system



Competence: EP system



Belonging (Meaning)

- In game: grow together with the community
- Ideal learning environment: learners feel connected to their teachers and peers
- Can you think of some strategies of connecting students and instructors during online learning?

Gameful learning environment: example

- GradeCraft
 - A short intro
 - Gradecraft founder talk

