

The Science Behind Yellowdig

The Principles and Evidence Backing Our Platform and Methods

A core value of Yellowdig is that its platform is grounded in the fundamental principles and best practices of the learning sciences, educational psychology, and engagement research and that the actual data produced verify their impacts. Yellowdig's approach has been developed over a decade through direct work with 150+ partner institutions, including a ground-up rebuilding of the platform, and is informed by an extensive body of peer-reviewed research.

Learning Communities Drive Deeper, More Lasting Learning

Research consistently demonstrates that social and experiential learning—working with others and applying knowledge in real-world contexts—produces deeper understanding than formal instruction. The widely referenced 70-20-10 model (Lombardo & Eichinger, 1996) suggests that only 10% of meaningful professional learning occurs through formal instruction, with 20% from social interaction, and 70% from experiential application. Though the proportions have been debated, it is well-supported that learning *with* others and learning *related to real-world application* are powerful drivers of retention and transfer (Billett, 2010; Okita et al., 2007).

Yellowdig's platform is built around these principles. Outside of courses the platform's flexibility and point system encourage participation to build active communities with real interaction. For courses, rather than replicating the passive, student-to-instructor transactional models of question-and-answer or traditional discussion board platforms, Yellowdig creates continuously active learning communities where students learn through high-autonomy, authentic dialogue that includes peers and instructors.

Authentic Connection and Belonging Are Essential

Sense of belonging and community in a course buffers students against disengagement, poor academic outcomes, and depression. This effect is especially pronounced for underrepresented minority and first-generation students, who report lower belonging (Gopalan et al., 2022). The COVID-19 pandemic has only further underscored how profoundly social connection affects learning and mental health (Okabe-Miyamoto & Lyubomirsky, 2021; Boud et al., 2013).

A major challenge is that students increasingly want flexible options for hybrid or online learning—just not at the expense of connection (Barnes & Noble College, 2022; Samson, 2022). Even institutions offering mostly on-ground synchronous courses that invest heavily in campus spaces to build community rarely create the conditions for authentic relationships to form within class experiences. Class size, time constraints, and modalities all can limit peer-to-peer and student-instructor interaction (Lempres, 2022).

Yellowdig's community-based model addresses this directly and is effective at scale. We consider proprietary partner research conducted from 2019–2021 the benchmark because it featured A/B testing conversion of over 50 courses with more than 5,000 enrolled students. They found that replacing traditional discussion boards with open community spaces lifted course completion rates by over 10%, improved grades for completing students, and increased continuation enrollment rates by 5–10%. Other partner research (e.g., [a study of 20,000 students at ASU](#); [OES study](#)) indicates robust and repeatable impacts of community participation and the methods Yellowdig has increasingly been built to support.

Self-Determination Theory Outlines a Key Differentiator

One of the most robust frameworks in motivational psychology—Self-Determination Theory (SDT; Deci & Ryan, 2000; Ryan & Deci, 2020)—identifies three core psychological needs that drive intrinsic motivation. Yellowdig's design framework and point system drive toward these:

Autonomy is the need to feel control over one's actions and choices and is fostered by flexibility and encouraging students to drive their own conversations—sharing real-world connections to their courses, asking questions they actually have, and building discussions organically rather than responding to narrow instructor prompts. Research comparing Yellowdig to discussion boards consistently shows this model produces upward of 50% more overall participation.

Competence is the need to feel capable, to grow, and to experience meaningful progress supported through participation grading, continuous feedback loops, and low-stakes contribution—mirroring the "safe failure" mechanics that make game-based learning so effective (Deci & Ryan, 2000). Students are rewarded for growth and engagement not penalized permanently for early missteps.

Relatedness is the need to form bonds with others through genuine, sustained peer and instructor interaction. Yellowdig's facilitates the kind of ongoing, back-and-forth community dialogue that produces real relationships—not just checked-off assignments.

When educational experiences meet these needs, students are intrinsically motivated—they participate because they value it. And when they value your learning experience, they stay.

Borrowing from Game Design to Improve Engagement and Learning

Engagement is not merely a "nice to have" in learning—attention is a prerequisite for memory formation and knowledge acquisition (Chun & Turk-Browne, 2007; Posner & Rothbart, 2014). Incidentally, learning and mastery is also fun. Good game designers have long understood these things and sustain long-term attention through immediate feedback, meaningful and varied rewards, graduated challenge, and player autonomy.

Yellowdig applies these same principles to learning community design. Our patented point system reward behaviors that build community—posting relevant content, responding thoughtfully to peers, and returning to continue conversations. The defaults for that system were even set using machine learning; shorter post and comment requirements (<40 words) were found to maximize reading and responding, reflecting findings from social media research on optimal length (McLachlan, 2022).

Critically, Yellowdig's gameful design is not about superficial "gamification." It aligns incentives to sustain intellectual engagement throughout a course—not just at deadline time.

Extrinsic Rewards Can Also Build Intrinsic Motivation

Extrinsic reward-based systems can undermine intrinsic motivation (Deci et al., 1999), which is a reason to be concerned about any grading system. Yellowdig's design directly addresses this concern by aligning its rewards to produce genuinely valuable outcomes for others—one student who creates more interesting content and better peer support to selfishly earn their points also makes it more intrinsically valuable for others to participate.

In practice, Yellowdig partners following the intended methods consistently observe students participate well beyond requirements. They engage because the established communities have become valuable to them. This pattern reflects the Community of Inquiry framework's finding that optimal learning requires students to project themselves as social, intellectual presences within a shared community of purpose (Garrison et al., 1999).

What This Means for Your Institution

The evidence is clear: students learn more, persist longer, and feel a greater sense of belonging when they are part of a genuine learning community. Yellowdig gives institutions a research-backed, technology-enabled way to build your institution's learning community everywhere from the full scale of your largest programs and schools to the intimate confines of your smallest courses and student clubs.

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