



LEVEL UP LEARNING:

A national survey on teaching with digital games

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GAMES #
LEARNING



EXECUTIVE SUMMARY

In Fall 2013, the Joan Ganz Cooney Center, on behalf of the Games and Learning Publishing Council, surveyed 694 K-8 teachers from across the United States on whether and how they are using digital games with their students. Here are some key findings and recommendations from this research:

FINDINGS

+ **DIGITAL GAMES HAVE LANDED IN K-8 CLASSROOMS.**

Nearly three-quarters (74%) of K-8 teachers report using digital games for instruction. Four out of five of these teachers say their students play at least monthly, and 55% say they do so at least weekly. Digital game-using teachers also say they're using games to deliver content mandated by local (43%) and state/national curriculum standards (41%), and to assess students on supplemental (33%) and core knowledge (29%).

+ **WHO'S USING GAMES WITH THEIR STUDENTS?** Gender does not predict digital game use in instruction, but younger teachers, those who teach at schools serving low-income students, and teachers who play digital games for their own pleasure are more likely to use games with their students. Younger teachers and those who play digital games frequently let their students play more often, too. In turn...

+ **TEACHERS WHO USE GAMES MORE OFTEN REPORT GREATER IMPROVEMENT IN THEIR STUDENTS' CORE AND SUPPLEMENTAL SKILLS.** Coincidentally, the teachers that use games more regularly also use games to hit a wider range of objectives (teach core and supplemental content, assess students) and expose students to a wider variety of game genres and devices.

+ **EDUCATIONAL GAMES RULE IN K-8 CLASSROOMS.** Four out of five game-using teachers say their students primarily play games created for an educational audience, compared to just 5% whose students most often play commercial games. Eight percent of game-using teachers say their students mostly play a hybrid of the first two options—entertainment games that have been adapted for educational use.

+ **FEW TEACHERS ARE USING LEARNING GAMES OF THE IMMERSIVE VARIETY,** the kind that lend themselves to deep exploration and participation in the types of activities that set digital games apart from more didactic forms of instruction. Most teachers instead report using short-form games that students can finish within a single class period. While lack of time is a likely explanation, teachers may also find shorter-form games to be easier to map to curriculum standards.

+ **DIGITAL GAME INTEGRATION IS HARD.** Educators who do not teach with digital games are more likely than game-using teachers to report that they are “not sure how to integrate games” into their teaching, suggesting how consequential this uncertainty can be. That said, 80% of digital game-using teachers wish it were easier to find curriculum-aligned games, and just 39% believe that a sufficient variety of such games even exist.

+ **TEACHERS ARE LEARNING TO TEACH WITH DIGITAL GAMES VIA MORE INFORMAL MEANS** (i.e., from fellow teachers and by self teaching) than formal training programs (i.e., pre-service and in-service). As a result, teachers may not be getting exposure to the broader range of pedagogical strategies, resources, and types of games that can enhance and facilitate digital game integration.

+ **MIXED MARKS ON STEM LEARNING.** Nearly three quarters (71%) of digital game-using teachers report that games have been effective in improving their students' mathematics learning. However, only 42% report the same about their students' science learning, despite research suggesting that games are well suited for teaching complex scientific concepts.

+ **SEEING THE BENEFITS OF CO-PLAY.** Only 37% of game-using teachers report digital games as being effective in improving students' social skills, which is low compared to other skills queried. But teachers whose students primarily play together (in pairs, small groups, as a whole class) were more likely to report improvements in student social skills than teachers whose students play alone.



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RECOMMENDATIONS

+ ESTABLISH AN INDUSTRY-WIDE FRAMEWORK FOR DESCRIBING AND EVALUATING EDUCATIONAL GAMES.

With designations as broad as “educational games,” “math games,” “literacy games,” and so on, how can teachers know, as they browse and search, which titles will best fit students’ interests, align with standards, units, and lesson plans, fill available class time, and fit their tight budgets? Game developers, distributors, review sites/services, and educators should together come up with common nomenclature around learning game sub-categories, and then use this taxonomy to label, market, and review them. We recommend going beyond the simple adaptation of existing commercial genre names (e.g., puzzle, action games)—as many who have attempted this task before have done—and creating meaningful new terms.

+ ELEVATE AWARENESS OF ALTERNATIVE MEANS OF INTEGRATING GAMES INTO INSTRUCTION.

When scholars and practitioners first began inspiring us with their visions for digital game-based learning, they certainly weren’t writing about drill-and-practice games. Yet this is what so many K-8 teachers are still using with students today. Until teachers and students are freed from organizational constraints that limit longer stretches of student gameplay, there are ways of situating play sessions in relation to the broader lesson plan that can free teachers to use a wider variety of games; teachers simply need help figuring out how. Alternatively, teachers can adopt a flipped model of instruction, whereby students play longer-form games for homework and spend class time

discussing key lessons. Professional development programs and resources can help promote these strategies among teachers.

+ INVEST IN THE CREATION OF INNOVATIVE INTEGRATION MODELS FOR CLASSROOM DIGITAL GAMEPLAY.

We encourage foundations, government agencies, angel funders, and venture capital firms to invest in R&D on solutions that can strike the optimal balance between classroom/curriculum integration, fun/engagement, and learning efficacy, and encourage researcher-developer-educator teams to investigate and invent in the space that lies somewhere in between immersive, entertainment games and educational drill-and-practice titles.

+ PROVIDE UNIVERSAL TECHNOLOGY TRAINING FOR PRE-SERVICE TEACHERS.

Just 8% of K-8 teachers report receiving pre-service training on digital game integration. Teachers without formal training aren’t being exposed to the broader range of instructional strategies that can enhance and facilitate digital game integration. We therefore urge policymakers to allocate funds to states and school districts to set up partnerships with universities and other teacher certification programs to offer adequate technology and digital game training for the future teachers of young children.

+ CREATE AND PROMOTE ONLINE TRAINING RESOURCES.

According to the survey, in-service teachers rely on colleagues and mentors most for professional learning and advice on digital game based teaching. While a number of excellent teacher-facing websites that

serve these purposes already exist, a minority of K-8 teachers say they’re using them. This means that we need to do more to promote these online resources, and identify how they can more effectively address teachers’ pedagogical questions as well as their lifestyles, learning styles, and organizational constraints.

+ CONDUCT FOLLOW-UP RESEARCH AND SHARE WIDELY WITH STAKEHOLDERS.

One issue surfaced in the report’s profile analyses is the relationship between lower levels of community support and lower valuations of learning related to students’ use of digital games among certain teachers. It would therefore be useful to conduct a similar survey with principals, technology administrators, superintendents, and other district-level employees as a way of surfacing their perspectives on digital game-based teaching and learning. Doing so could shed light on the support problem. Finally, teachers and administrators alike should be better informed of the findings from this and other digital game-based learning research. The more all stakeholders know about each other’s practices and perceptions, the easier it will be to establish a shared vision and align decision-making across classroom, school, and district levels.