



Building SkillBlox with the Right Development Partner

Background and Context

SkillBlox was envisioned as a free application to help teachers find, organize, and share digital learning resources aligned with the Teaching Skills That Matter (TSTM) framework. Rather than serving as a complete curriculum, it was meant to be a flexible lesson design tool, allowing educators to curate high-quality open educational resources into “Blox” of activities they could use directly with learners. The promise of SkillBlox was to make instructional planning more efficient, collaborative, and aligned with evidence-based teaching practices.



The Challenge of Development

Turning this idea into a scalable tool, however, proved to be a long and difficult journey. The initial minimal viable product demonstrated potential but was not built for scale. When the time came to expand the platform under an IES grant, the team encountered a revolving door of developers and unexpected setbacks that cost both time and resources.

The first challenge was securing the right development partner. Two early developer teams who had worked on the proof-of-concept were unavailable or uninterested in scaling the product further. After a national search, the team contracted with a third developer. Unfortunately, this partner struggled with internal staff turnover, communication lapses, and a limited grasp of the platform’s goals. The result was a costly, ten-month delay and a database infrastructure that ultimately could not support the intervention’s needs.

A fourth developer was brought on to address these gaps, but this firm underestimated the scope of the work required to redesign the database and connect it to the front end. The project faced another eight-month delay, leaving the team with a product that still failed to meet basic functionality requirements. Throughout these cycles, one consistent issue emerged: by the time the team recognized fundamental problems in a developer’s approach,

contracts were already well underway, making it difficult to course-correct without significant expense or further disruption.

A New Approach to Partnering with Developers

The turning point came when the team changed its process for selecting a developer. Rather than hiring immediately, they required the prospective partner to conduct a full audit of the existing technology. This step allowed both parties to surface technical gaps, clarify expectations, and confirm that the developer understood the vision for SkillBlox. It also gave the research team a chance to indirectly assess technical expertise and communication skills before committing to a contract.

The difference was striking. The new partner provided an accurate scope of work, demonstrated commitment to the platform's growth, and redesigned the backend database in ways that supported scale, data tracking, and integration of new features. Development progressed on schedule and within budget, and the features implemented reflected both teacher feedback and research insights from earlier phases of work.

"Rather than a full curriculum, Skillblox is a flexible lesson design tool"

Outcomes and Lessons Learned

Reflecting on this experience, the team identified several key lessons. First, clear communication of goals and use cases must be established from the outset. Early interactive mockups can be misleading if they mask weaknesses in backend architecture, so technical reviews of both front-end and backend progress should occur in parallel. Second, robust documentation is essential, not only for internal clarity but also to ensure smooth transitions if developer changes become necessary. Finally, building in flexibility and extra time for development challenges is critical. Even with strong partnerships, unexpected obstacles are part of the process of creating scalable educational technology.

Key Takeaways

SkillBlox ultimately succeeded not because challenges were absent, but because the team shifted strategies to prioritize alignment, transparency, and rigorous vetting of their development partner. By investing early in the right kind of partnership, they were able to save time, reduce risks, and deliver a platform that teachers could use with confidence. For other research teams, the story highlights the importance of requiring audits before contracting, maintaining strong documentation, and anticipating delays as part of the development process.