Inquiry Project Management Tools for Tired Teachers

by Alanna and Tim King

Context

     We almost hate to say it out loud, but if there's anything we've learned from the last two years of pandemic teaching, it's that anything can happen. So, whether it's a new ministry mandate that needs implementation, or a sudden pivot to remote learning, teacher-librarians need to develop the full arsenal of what's available to them in order to maintain the integrity of their programming. At the same time, the diversity of educator proficiency in inquiry structures is complex and requires thoughtful individualization for all parties involved that enriches each learning experience. Tim and Alanna have long been proponents of iterative experiential learning but at this time we landed on and developed project management concepts and tools for managing collaborative student workflow. This paper then explores how the teacher-librarian is in a prime position to "...[empower] learners to co-create and share ideas and knowledge with a broader learning community" (Canadian School Libraries (CSL), 2022). Besides empowerment, when a teacher-librarian delegates themselves as the chief documentarian of cross-curricular, collaborative projects, this enables educators and students to attempt new heights in their learning processes. While most school-based digital learning spaces remain one-way, in that they disseminate information, we advocate that two-way collaborative digital spaces will enrich learning through accountability, and emphasising documentation for learning as an initiative process (Hale, 2018). We have designed this paper to work in tandem with its accompanying video so that the reader will have examples of project management for reference.

a. Socialisation and collaboration

     Each year, Tim and I ambitiously attempt constructivist learning projects in our teaching assignments. As we are both secondary educators, we often experience de-streamed, mixed age and stacked classes with limited space and resources requiring us to adapt and to be flexible. However, with the COVID-19 pandemic came additional learning barriers of student anxiety, reluctance to engage and other socialisation challenges that deeply affected the collaborative expectations inherent in our regular practices. Serendipitously, we also experienced irregular moments of teaching back-to-back as we fluctuated between working from home and school. Additionally, as Alanna focused professionally on studying for a Graduate Certificate in Instructional Design,

Tim was faced with one of his greatest professional challenges: a hands-on software engineering and game development class that moved from face-to-face to remote learning three times in one semester. In supporting each other professionally, we hatched a plan to reach our goals despite the limitations we were facing.

Online learning has rarely been designed or developed with a constructivist framework in mind, and this shift for students has been a major epistemological change. Teachers continue to communicate with Web 1.0 ideals, and students no longer have any patience for anything that they can't author. Voice and choice are the guiding tenets we've longed to emphasise in all learning spaces, but here in this conundrum of variables we needed to empower each learner based on their individual readiness. However, the constructivist approach has many immediate benefits when approaching inquiry projects including:

- experiential learning through iteration of inquiry/engineering/creativity processes
- accountability for the student in the impact of their collaborative role
- socialisation skills with goal-oriented discussion being the crux of their activity
- and eventually collaborative cohesion and creative flow.

While teacher-librarians may be better prepared than most educators to handle individualised inquiry projects (Ainsworth, 2017; Casa-Todd, 2020; Lyons, 2020; Mulcaster et al., 2020; Shantz-Keresztes, 2017; White et al., 2017), educators who are innovating with large-scale, longitudinal projects such as Genius Hour, 20-Time etc. often find the scope of these projects to be daunting. Yet teacher-librarians are in prime positions for documentation of collaborative inquiry behaviour and need digital tools to support this work.

b. Inquiry Process/Engineering Process/Creative Process

To set the context, you might like to know that Tim is a secondary computer engineering teacher by day, and an author and media enthusiast by night. Alanna, on the other hand, has an arts background, a passionate history with school libraries, and has been teaching online since 2009. Yet the skill set of project management was new to us both and required collaborative work across digital time zones, devices, and software. We stared down diversity in student abilities, support, motivation, and continuous attendance issues. Likewise, rural ICT infrastructure, inconsistency in devices, and access to the internet are real barriers for families and engagement was often hampered not necessarily by student motivation. This showed us socio-economic, and well-being barriers that were completely outside of our influence. We quickly realised the value of key project management vocabulary to improve conversations between educators and students alike including: stakeholders, clients, risk analysis, scope, sequence, schedule, budget and scrum. The robust organisational tools

became interactive visualisations of workflow represented by a traditional Japanese business principle called *Kanban*. Kanban has been replicated in many digital platforms, but after careful consideration in the Royal Roads University course activities, we settled on Trello.

c. Project management as a literacy

New learning for both of us was the significance of project management in the modern workplace. Kanban systems are being used globally to help asynchronous teams manage large projects. For example, Kathryn Vela (2018) and others working in libraries have described how setting up a personal Trello page has allowed them to work on projects successfully despite the multitasking environment of the library space. Trello has allowed remote workers to collaborate successfully through its unique communication views, that the teacher-librarian can use to keep track of even when you're not with the class in-person. Trello is also widely used in software development in terms of agile responsiveness to design challenges (Blue Cat Reports, 2022). When a redesign is necessitated, Trello can be easily parsed to focus on priority revisions before proceeding. The nature of Trello's accessible design should facilitate the iterative process of inquiry as it has in our samples of engineering and creative collaboration. Additionally, to return to documentation as learning, students can use the Trello board continuously to reflect and describe how project management has enhanced their socialisation and collaboration skills in metacognitive activities.

d. Project management examples from Tim's classroom

One of the challenges when classes are not in a room together is in making sure everyone knows where they are in terms of their own process. When we went remote, we needed to depend on our Trello ticketing system much more than we did in class so accurate documentation became more important.

Visualising individual workflow required constant oversight and revision, but it also resulted in better work completions and complete projects despite the sudden pandemic chaos. Seniors who were leading the project established clear expectations that any industry project manager would find heartening. This clarity and directed outreach by student leads and Tim resulted in improved outcomes for all students including those with learning challenges that remote learning tended to exacerbate.

Senior students were asked to provide leadership, and they took responsibility for it very seriously, to the point where remote learning was not derailing so much as a switching of tracks. Seniors mentored juniors and Tim worked with both, but because

we'd started the course in the before-times with clear project management standards, we had tools and culture in place that allowed us to pivot.

In our final month Tim was analysing statistics in Trello (delivered in clearly understandable graphs) which showed one group piling on work without closing anything down while the other was processing milestones and were clearly in an end of project phase. I took this data to the seniors, some of whom were doing management in both groups, and the data led to a discussion about how one group's leadership structure was collapsing. The curated nature of Trello's data allowed us to make important changes. One of the benefits of following defined expectations around project management using familiar tools is that students understand the data and act.

As we adjusted goals to meet our new restrictions, we also realised that some students were fading away. Individual outreach by myself and leads (Tim coached them to not be accusatory and to discover the circumstances first - some students were 'front line heroes' doing 60+ hours a week - allowed us to 'opt-out' students who were experiencing inequitable home learning situations; their mid-term grade became their final grade. In other cases, we discovered students who had gotten lost in a ticket, having fallen down the rabbit hole of their own expectations. In both cases Trello data helped us provide support where it was needed.

It wouldn't be fair to call our first transition to remote learning smooth, but when Tim discovered that many other classes were handing out less engaging and optional pdf worksheets, these students found a great deal of satisfaction in authoring a successful finish to their projects.

Knowing that remote learning could be supported by detailed Trello integration with properly documented tickets that delivered expectations in clearly described bite-sized chunks, Trello became the tiller in our boat. We lost some bandwidth with the lack of face to face, but project management saved our projects and our credibility.

Summary

Using Trello for project management lead to greater teacher and student achievements despite many variables. As outlined in the Kanban system principles, project management tools allowed us to:
1. Visualise workflow
   a. manage multiple groups of students
   b. offer leadership roles to students depending on their readiness
   c. anticipate the need for intervention

2. Limit Work in Progress
    a. return class focus to our inquiry process
    b. recognize the spiralling nature of creative work
    c. identify and work towards common milestones
3. Focus on flow
    a. schedule deliberate informal check-ins
    b. schedule scrums for various group sizes
4. Continuous improvement
    a. iterate the inquiry process
    b. Use authentic student reflection to inform personal and group goals

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