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## Using Trello as a Virtual Hub for Online Extension Programs

### Abstract

Trello, an online organization and planning system, can be a flexible learning hub to support Extension education programs. Educators can use Trello as a virtual binder to curate materials and store presentation recordings by sharing a single link to a public board. It can also be used as a lightweight means to organize a multi-session program when the full power of a learning management system is not needed, but some structure is desirable. Surveyed Master Gardener trainees reported a positive experience after using Trello as a course hub for online learning.

**Keywords:** learning management system, Master Gardener, online learning, organization.

### Introduction

Trello boards offer Cooperative Extension educators a free tool that can help address some of the shortcomings of delivering content using popular online video presentation tools.

For video-based instruction, Zoom (Zoom Video Communications, Inc.; San Jose, CA) and social media platforms have been widely embraced for distance instruction,

especially as the COVID-19 pandemic restricted face-to-face interaction. However, these all lack support for other aspects of educators' needs. Sharing documents, video recordings from prior sessions, links to resources, or even a learning plan on these platforms can be challenging. With face-to-face learning in Extension programs, participants often received a binder or handouts that learners could take home as a curated resource for future use, but this is challenging to implement virtually. Links to documents shared via email or chat while teaching are often used as a replacement but can be cumbersome to share outside the platform itself or could be subject to fragile links that later break.

Remote learning can be organized using a learning management system (LMS). A course hosted on an LMS, such as Extension Foundation's Campus service at <https://campus.extension.org>, is an organized hub for registered learners that presents information, evaluates learning, tracks progress, and may act as a forum for discussion.

Effective content delivery using an LMS requires a substantial investment in time and resources; however, it is a powerful tool for conveying knowledge (Hightower et al., 2011). While an LMS is a comprehensive tool, many programs, particularly those informal in nature or meant to address a specific local issue, neither require nor justify its use.

Trello (Atlassian Corporation; Sydney, NSW, Australia) is an online organizing tool that supports the Kanban project planning system (Sugimori et al., 1977). Trello has paid service levels, but sufficient functionality is available with a free account at [trello.com](https://trello.com) for most Extension use cases. It is also available as a free app for smartphones.

Numerous online project planning tools provide users with Kanban-style organization, such as Microsoft Planner, Asana, ClickUp, Notion, and Monday.com. Among these options, Microsoft Planner closely resembles Trello in both scope and functionality and is designed to integrate into Microsoft's other products.

To share knowledge or facilitate workshops whose scope falls somewhere between a Zoom meeting and a full course, Trello can serve as a persistent, virtual hub providing organizational structure and hosting additional instructor-curated resources to learners.

Trello's intended use case is as a planning tool. Educators may find value in using it to organize training workshops, events, workflows, and educational outcomes personally or as part of a team precisely as its designers intended. In the context of education, Trello's attributes that support the Kanban process can instead be used to coordinate student learning rather than project management. Hendly (2019) and Uebe Mansur et al. (2019) are examples of Trello used in educational settings as a resource hub and a project-based learning tool, respectively.

Trello uses a system of lists arranged on a board, each containing several virtual "cards" that can be moved between lists easily. Clicking on a card shows additional information, including Markdown-formatted text (Gruber, 2004), links, files, and checklists. Cards may also have associated dates and labels that can facilitate progress tracking, categorizing, and identifying new material for learners. It is easy to add graphics and stickers to any card to clarify content or intent, such as whether a presentation is a live Zoom meeting or a recorded video.

Each Trello board has a unique URL that can be shared with others. Assigned collaborators can edit a board, but importantly, for its use as an educational hub, a board can be set to be publicly viewable by anyone but not editable. Lists and cards may also be created on a private board and then later moved intact to a public board to share. An important advantage compared with an LMS is that there is no need to log in to an account to view content posted on a public board.

Trello can support online and hybrid educational programs. While not exhaustive, the following examples illustrate two potential uses in common Consumer Horticulture education situations.

## Virtual binder

Trello can act as an easy-to-use binder of information related to an educational session. Rather than a collection of links or a single, lengthy document shared through chat or email, the content can be shared with a single link to a public board and displayed in an organized, curated fashion. Each list can serve as a tabbed divider normally used in physical binders. An advantage to this approach is the flexibility to update a board after a program with additional materials requested during a training session without re-sharing links. Adding a presentation recording to a card will enable those unable to attend to access a complete session, including materials essential to the context, which is a vast improvement from simply sharing a link to a Zoom recording. Figure 1 illustrates an example of a resource hub for supporting a regional school garden management training.

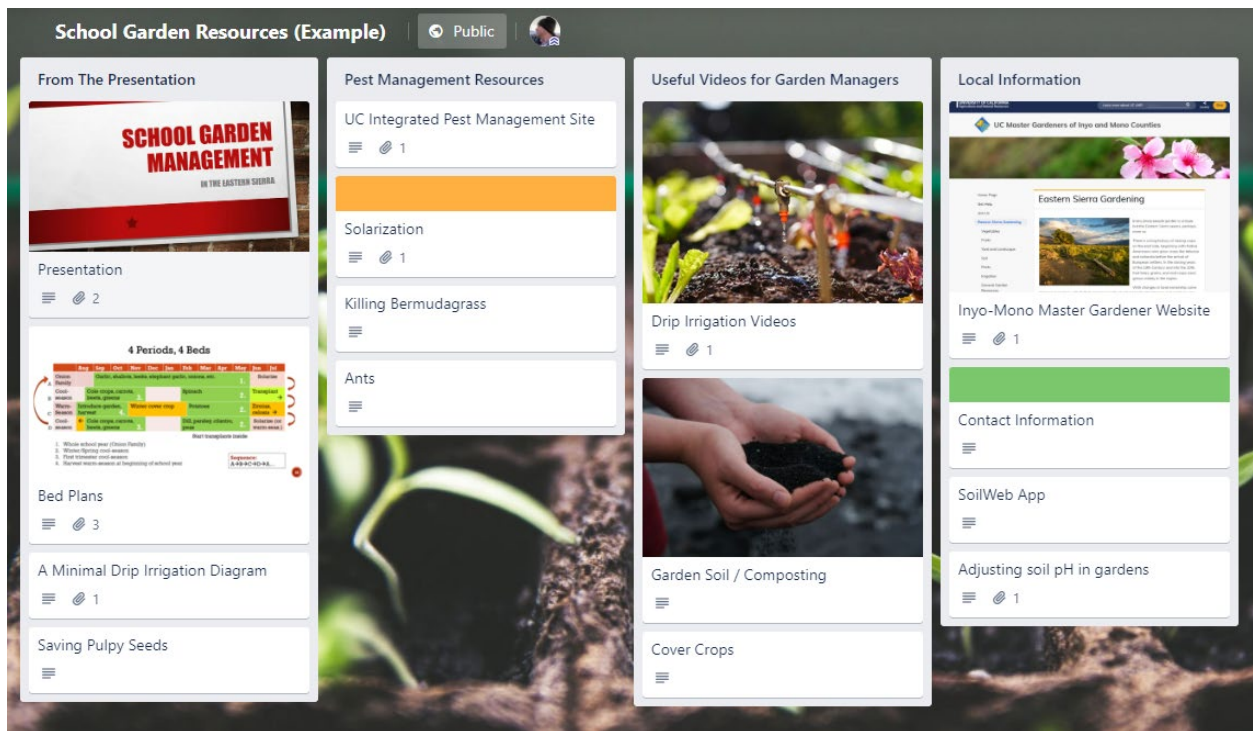


Figure 1. Screenshot of an example public Trello board used in a local Extension program on implementing school gardens in the Great Basin.

## Course hub

For multi-session courses, Trello can work as a lightweight LMS. Classes can be organized by week or topic, with cards holding links to live streams, recorded past sessions, handouts, or online resources. This becomes especially useful if learners miss a live presentation. Class content can be presented in two ways: all lists and cards can be presented at once as a roadmap or syllabus for learners, or content can be revealed incrementally with each session as the course progresses. Figure 2 illustrates a Master Gardener basic training using a hybrid instructional model.

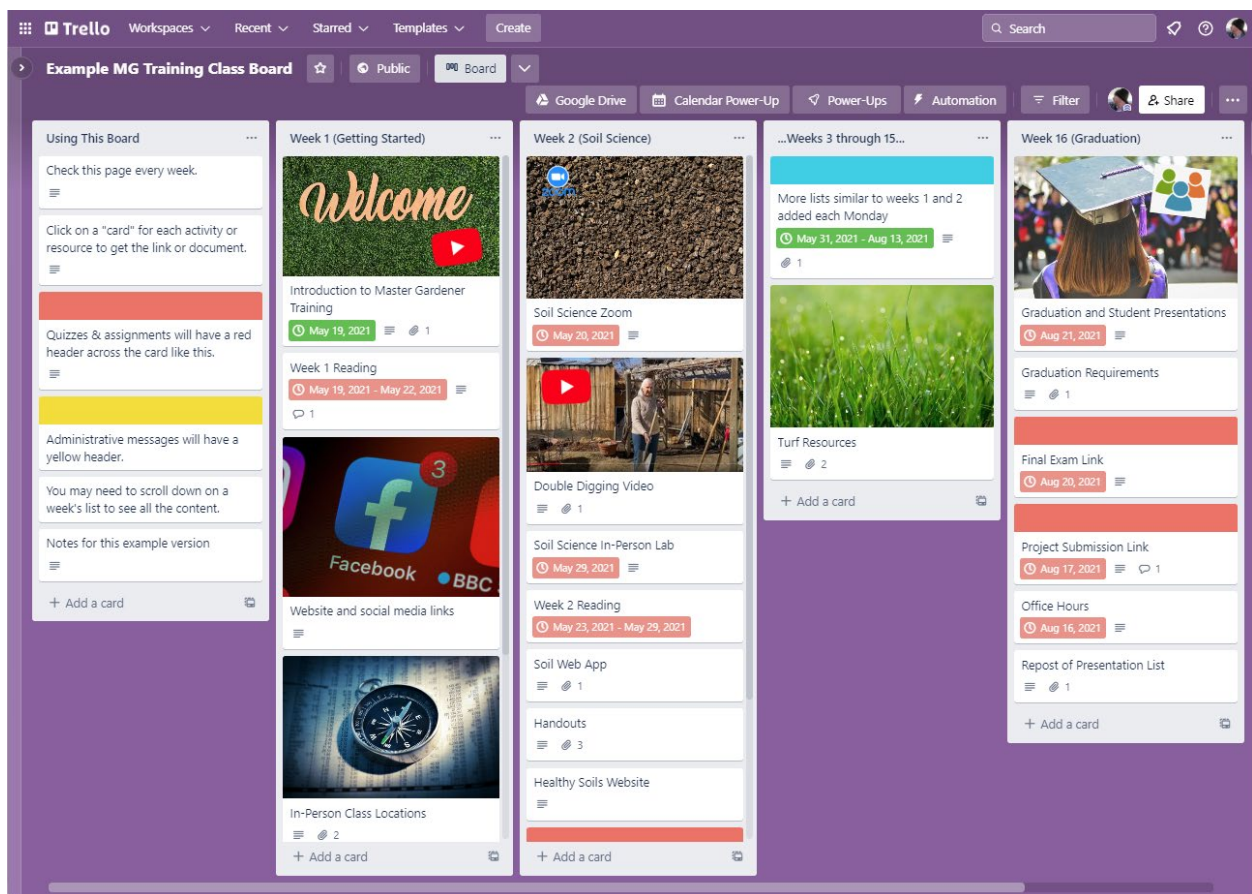


Figure 2. A screenshot illustrating a Trello board supporting a Master Gardener training course. A new list with the current topic is added weekly. Graphics have been added to some cards indicating content that is on YouTube, Zoom, or in-person.

## Methods

Trello was used in a proof-of-concept trial in 2021's Master Gardener Basic Training Class. This class was held virtually, with classes conducted by Zoom or recorded videos hosted on YouTube. Each week, a list was moved from a private planning board to the public class board and links to recordings replaced links for synchronous Zoom sessions. Graduates and trainers involved with 2021's course assisted with planning the subsequent training held in 2023. The consensus was that Trello would support a hybrid online/in-person training of that scope and size, and they requested that our training continue using it.

The training class that began in the spring of 2023 was advertised publicly as a hybrid training class. The initial training sessions were online, again taught using Zoom or recorded videos. In-person, hands-on sessions followed the conclusion of the exclusively online training period of 8 weeks. For all online and in-person training topics, class materials, video links, handouts, quizzes, and capstone project materials were organized as lists by subject matter topic on a public Trello board whose link was shared with trainees. In addition to the Trello board, trainees had a physical copy of the *California Master Gardener Handbook* (Pittenger, 2015) with assigned readings associated with each subject.

Trainees were instructed on accessing the board during a live class orientation delivered on Zoom. Office hours were offered to assist, if needed. The training class's ages ranged from 22 to 71, with the majority being female (70%). All trainees were fluent English speakers.

Graduates of the course (11) were invited to share feedback about their experience using Trello in the class. This was accomplished using a short, reflective survey after graduation. While the survey was focused on course content and structure, it contained 6 questions related to Trello: 4 open-response and 2 rating questions.

## Results

Nine graduates responded to the survey (Table 1), an 82% response rate. All respondents agreed that Trello served its purpose in organizing the course materials. Ratings for usability and comprehension of the material presented were very positive.

Table 1. Summary of survey responses of 2023 Master Gardener Training Class graduates on Trello’s use as a course hub for a hybrid learning model. (N=9, Response rate 82%)

Open response questions	Responses
Have you used Trello before this class?	No: 8; Yes: 1
Have you used Trello since the class?	No: 7; Yes: 2
Did you think it worked well as a tool to organize the class materials?	Yes: 8 Yes, but did not like vertical formatting: 1
Was there some online functionality that you would have liked to be added to the training that the Trello board lacked?	No: 3 No answer/not sure: 3 Way to capture everything and download to print: 1 Class roster or communication: 1 LMS functionality: 1
<b>Agreement with Statement Ratings</b> (1= completely disagree, 5=completely agree)	<b>Mean</b>
I feel that Trello worked adequately as a tool to organize our MG training.	4.78
I understood what I was supposed to get done in my training class.	4.72

While all participants acknowledged Trello's effectiveness in organizing class materials during the training, most ceased its use. Feedback revealed certain functionalities absent from Trello that could have enhanced the experience. As a publicly accessible platform without a login requirement, Trello could not share class rosters or facilitate class communication. Additionally, one learner desired to download the entire board's content, which proved challenging as public boards are only downloadable in JSON format, which is not conducive to human viewing.

### **Discussion**

The learners in the 2023 Master Gardener training class readily embraced Trello as a tool for organizing class materials. No comments expressed difficulty with its use or accessing the posted materials. From an instructor's perspective, the time spent setting up and implementing a Trello board for the class was significantly less compared to previous efforts using Moodle. Trello fulfilled the fundamental requirements for hosting training on this scale and complexity.

There are a variety of learning styles. While almost all feedback from the two years of training was positive, Trello's system of vertically organized lists with content on the "reverse" of cards does not suit all learners, especially those who want to visualize their progress during a multi-session training.

Trello was not designed as an LMS. A public board cannot track learners' progress toward completion, provide a discussion forum, or generate a certificate. Quizzes and tests are not implemented in Trello. A supplement tool such as Google Forms may be easily added as a card under the appropriate topic or week to support learner assessment. If one's goal is to create a self-contained, asynchronous educational program for self-directed learners, then a dedicated LMS is a more appropriate solution.

Since access to public boards is unrestricted, as a best practice, private information should not be shared on cards if the board is set to be publicly viewable. This created a challenge for students who wanted to pair up to complete the capstone project since



they had to find the class roster in an email sent at the onset of the course. Only one response mentioned this functionality, but multiple trainees asked about including a roster during the training itself. This would not be an issue if a private Trello board were implemented instead with trainees logged in for access.

## Conclusion

Cooperative Extension has long provided curated, organized materials to its participants. Trello can act as an enhanced, flexible, online replacement to the binders and folders commonly used for in-person events for decades, or it can organize more in-depth efforts as a learning hub. The ability to share a complete program with those unable to attend using a single link makes our programming more accessible by providing structure and context to a presentation in a format that can be easily used on a computer or mobile device that can easily be updated.

Beyond its use as a learning hub, Trello also provides Extension professionals with a powerful planning tool that can be used to organize work, implement a volunteer helpline, support project-based learning, and track projects.

Trello is not an LMS, so it may not be suitable for every circumstance; however, it is a flexible tool that is free to add to an educator's toolbox.

## Literature Cited

Gruber, J. 2004. Markdown. *Daring Fireball*.

<https://daringfireball.net/projects/markdown/> [accessed 28 Feb 2024].

Hendley, A. 2019. Jekyll and Hyde: an alternative mini-MOOC curated on Trello.

Research summary for the Open University module H818: *The Networked Practitioner*

<http://oro.open.ac.uk/72519/1/A%20SAT%20Jekyll%20and%20Hyde%20An%20Alternative%20Mini-MOOC%20Curated%20on%20Trello%20Annette%20Hendley.pdf>

[accessed 28 Feb 2024].

Hightower, T., T.P. Murphrey, S.M. Coppernoll, J. Jahedkar, and K.E. Dooley. 2011. An examination of the strengths, weaknesses, opportunities, and threats associated with

the adoption of Moodle™ by eXtension. *The Journal of Extension* 49(6): 19.  
<https://tigerprints.clemson.edu/cgi/viewcontent.cgi?article=3259&context=joe>

Pittenger, D. (ed.). 2015. *California Master Gardener Handbook – Second Edition*. UC Agriculture and Natural Resources publication 3382.

Sugimori Y., K. Kusunoki, F. Cho, and S. Uchikawa. 1977. Toyota production system and Kanban system materialization of just-in-time and respect-for-human system. *International Journal of Production Research* 15(6): 553-564.  
<https://doi.org/10.1080/00207547708943149>

Uebe Mansur A.F., A.C. Alves, and R.B. Torres. 2019. Trello as virtual learning environment and active learning organiser for PBL classes: an analysis under Bloom's Taxonomy. *PAEE-ALE Proceedings*. Universidade do Minho.  
<http://hdl.handle.net/1822/66659> [accessed 27 Feb 2024]