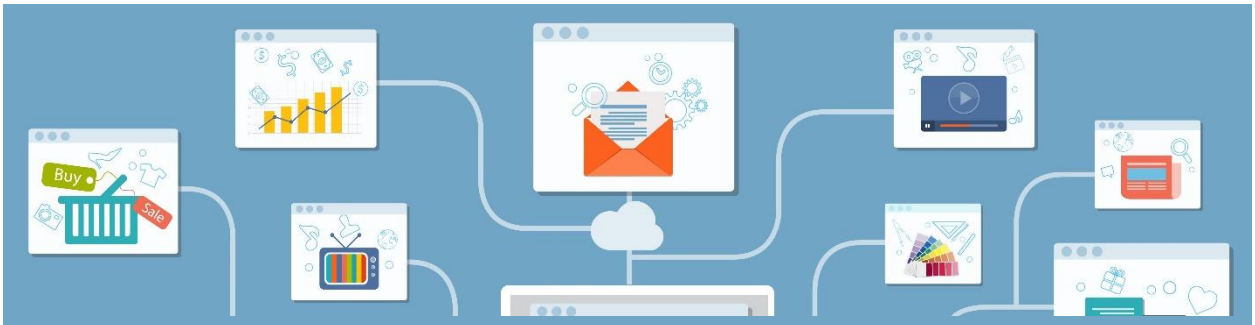


Blueprinting Training via a Theoretical Framework: VoiceThread

I. A. Campbell

Workplace Learning Opportunity

The Industry School (IS) would like to make its online and in-person classes more interactive. Particularly with online classes, faculty feel there is limited connection between student and instructors since they do not see each other. A disconnect that gives rise to many undesirable behaviors.

The school has been searching for ways to mirror many activities that make in-person classes engaging and enriching beyond their content. By making students less isolated in these online communities, the college hopes to effect the desired outcomes in Table 1.

Current Student Outcomes	Desired Student Outcomes
Low class involvement	High class involvement
Low peer-to-peer interaction & diminished learning	High peer-to-peer interaction & maximized learning.
High academic dishonesty*	Low academic dishonesty

Table 1 – Desired Changes

*The Director of Online Learning believes academic dishonesty is higher in online sections when compared to in-person sections in part because students feel disconnect from classmates and instructors.

Last summer, the college adopted VoiceThread (VT). The IS viewed this technology as one answer to the direction it would like to take business courses. Specifically, it hoped VoiceThread would be able to

- Replace the—to quote the Director of Online Learning—"lifeless, anonymous drudge that is the Blackboard discussion thread."
- Provide a more convenient and social media-esque format for students to upload media on which other students can comment. All while still being easily gradable through the integration with Blackboard.
- Enable faculty to easily create narrated PowerPoint and other multimedia presentations.
- Enable faculty to give one-on-one oral assessments even with physical distance between instructor and student.

However, in the three semesters since its adoption—which was little more than a "here-we-have-this-new-tool-now-use-it affair—only three of the school's forty-nine graduate courses have a VoiceThread component. During one department's meeting, faculty was asked why they had not made use of the tool; several of their paraphrased responses are below:

- I don't use discussions in my class.
- I tried but it's too inconvenient.
- I had problems with the set up.
- What's VoiceThread?

Causal Analysis and Performance Gap

Environment	*Data & Feedback* There is some negative talk about the software's user-unfriendly interface. This makes others shy away from using it.	*Resources* (non-issue) The tool is available for all instructors and designers to use.	*Incentives* There seem to be no coordinated push from administration to use the tool. And no means of rewarding / recognizing those who do.
Individual	*Knowledge & Skills* Some instructors are unaware of its existence. Others are unaware of its varied potentially uses. Instructional designers so far have had limited coherent education on VT.	*Capacity* (non-issue) No one is intellectually or physically incapable of using the software.	*Motivation* (non-issue) Most instructors are motivated to curtail the increase in instances of cheating, but even more so to add lively dimensions to their course.

Table 2 – Roger Chevalier's (2003) updated BEM analytic tool.

Undoubtedly, the tool's negative reputation and faculty's low awareness of its capabilities greatly contribute to its low use rate. Training will be designed to address both these causal factors, with the ultimate goal of increasing VoiceThread's usage from 6% currently to 80% two semesters from now.

Theoretical Framework: Pointed Uses & Rationale

Cognitive Information Processing (Working Memory)

Working memory is "where active processing and learning take place," where sensed data is converted to meaningful information (Clark, 2008, p. 51). It also has very limited processing mechanism and storage for handling continually shifting information because it is a process in motion. To compensate for limited storage power and processing capabilities, CIP theory suggests implementing strategies that make the best use of working memory's limited processing resources (Pass, Renkl & Sweller, 2003). For this training, I broke up the lesson into multiple sessions and used worked examples in order to prevent mental overload and guide learners' efforts (Clark, 2008).

Schema Theory and Cognitive Apprenticeship

Cognitive Information Processing posits that working memory interacts with long-term memory, where working memory operates as the vehicle through which knowledge is warehoused in long-term storage as well as retrieved from same for the successful execution of an immediate task. The theory presupposes people are not prepared to learn until they can make some relevant connection between the content to be learned and. Therefore, learning can only really take place after information in relevant mental models have been created and brought forth in the mind. This training is designed to begin each session with examples of VTs learners are expected to produced; examples that will then serve as mental models to be referenced when the trainees work on creating their VTs (Clark, 2008).

The technique also draws from Cognitive Apprenticeship. Workers need to be presented with the big picture, shown the skills required to produce the big picture, guided in their efforts as needed, then provided with opportunities to demonstrate mastery in order to create real learning, or in this case usable products. "Cognitive [A]pprenticeship is a model of instruction that works to make thinking visible" (Collins, Brown & Holum, 1991, para. 2). As mentioned before, the leaners are presented with the end results early in multiple sessions. Additionally, they are guided through the many steps involved in creating the different types of VoiceThread during sessions 2 and 3.

Both approaches are used so learners do not experience the feeling of knowing *what* is expected, but having no idea *how* to execute it. At the same time preventing the frustration and inertia that sets in when one does not know how to act.

Andragogy

Andragogy theorizes that adults learn very differently from children. One assumed major differences is that adults are internally motivated to learn, learn only when new information can be immediately applied, and learn best when they can exercise some control over knowledge acquisition (Iverson, 2011). Sharan Merriam (2001), paraphrasing Malcolm Knowles writes, "because adults manage other aspects of their lives, they are capable of directing, or at least assisting in planning, their own learning" (p. 5). Hence, encouraging and expecting trainees to use their new knowledge to tinker with the tool between sessions 2 and 3 is based on theoretical assumptions. They will also direct their own learning when session 3 opens with a Question-and-Answer segment; their questions forming the foundation of knowledge to be imparted at that time. Giving students some control over what they learn, how they learn it, and ample opportunities to immediately apply it, will be very effective in building and preserving knowledge retention.

Theory in Practice

The training program includes one session for faculty and three sessions for designers over the course of one week: Tuesday, Wednesday and Friday. We could structure the designer-focused VoiceThread training for one comprehensive session, but I propose breaking it up to allow for meaningful practice and self-directed learning in the in-between times. Furthermore, the multi-session approach avoids mental overload which would only impede learning.

Session 1: 30 minutes to an hour.

Learners: All faculty and designers.
Goals: Build awareness.
Performance Expectations: After attending this sessions, faculty and designers will be able to

1. Share at least two practical uses of VoiceThread.
2. Express at least one way VoiceThread could be meaningfully integrated in their respective classes.

Activity: In this session, faculty and designers will be presented with an overview of the technology's capabilities, inclusive of how these may be used in our Blackboard courses. This session will be largely dominated by completed and functional examples of each type of use: discussion threads, narrated media and closed one-on-one environments (distance assessments).
At the session's conclusion, trainees (faculty and designers) are asked to explain how this tool may be integrated in their individual classes.
Evaluation: Oral discussion.

Session 2: 2.5 hours.

Learners: All designers (and interested faculty)
Goals: Creating the three types of VTs assignments.
Performance Expectations: After today's session, designers will be able to

1. Revisit/Explain the various types of VoiceThread uses.
2. Create each of the three types of VoiceThreads.
   - A multi-media thread
   - A discussion and collaborative space
   - A watch assignment
3. Explain the properties of each thread type (Create, Comment, Watch).
4. Create gradable VoiceThread assignments that are directly linked to the course's Blackboard grade center.

5. Use the information on each VoiceThread type's advantages and disadvantages to decide on appropriate VoiceThread activities for individual course needs 100% of the time.

Activity: This session will begin with a quick recall activity where learners will be asked to share the ways the technology can used. Thereby picking up right where session 1 left off. Trainees will use their individual machines in the lab to create various types of Voice Thread assignments: (1) *Create* a VT assignment, (b) *Comment* on a VT assignment and (3) *Watch* a VT assignment. The trainer will initially project the outcome of each type, then both demonstrate to the class how each is created as well as guide them through creating each type. In small groups, learners will use the properties of various kinds of VoiceThreads to generate a chart showing situations for which each VoiceThread type may be best suited. Designers (and faculty) are strongly encouraged to take the one-day break between sessions 2 and 3 to play around with the technology in their sandbox courses and come with any new questions or concerns next meeting.

Evaluation: Oral discussion; group products.

Session 3: 2 hours

Learners: All designers (and interested faculty)

Goals: Creating appropriate VoiceThreads for a variety of uses.

Performance Expectations: After today's session, designers will be able to

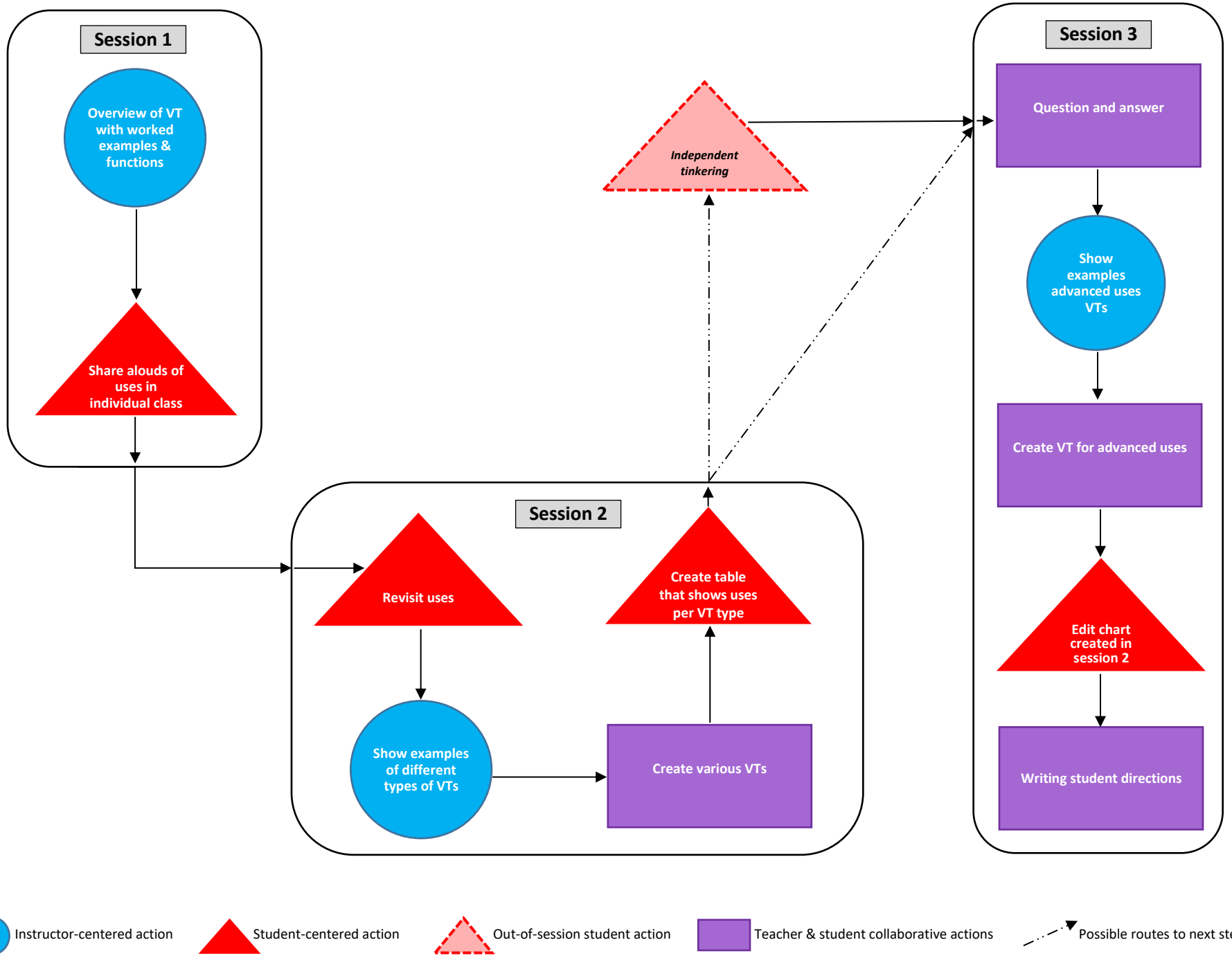
1. Create narrated PowerPoints and/or lecture presentations.
2. Create a one-on-one, student-teacher environment.
3. Manipulate playback options on different types of VoiceThreads to increase student interaction and validity of those interactions 100% of the time.
4. Share presentations with others, so they may be able to edit it.
5. Match a VoiceThread's use with a VoiceThread type.
6. Modify an existing VoiceThread that was not created by the designer.
7. Write precise instructions for using each type of VoiceThread.

Activity: At the session's commencement the instructor will address questions or concerns trainees have after toying with the tool on their own. The rest of this session will follow the interactive format of the previous one where the instructor displays end products before demonstrating how they are created then requiring designer to create their own. The session will focus on creating narrated presentations, secure one-on-one spaces, as well as how to enable/disable students editing presentations they did not create. Groups will revisit the charts created in session 2 and make adjustments based on now increased knowledge. The instructor will lead groups through writing carefully worded student directions, so they [the students] can easily use the technology when it is implemented in a course. This last detail is especially important since the tool is not as intuitive as other social-based technologies to which students may be accustomed.

Evaluation: Oral discussion; group products.

Process Visualization

In the visualized process on the next page, the flow chart shows training spread across 3 sessions (Working Memory). There are also multiple instances of showing worked examples (Schema theory) and the instructor guiding the learner through actions (Cognitive Apprenticeship). And additionally, one instance of independent learning which is followed by a Question-and-Answer session (Andragogy).


Session 1
Overview of VT with worked examples & functions
Share alouds of uses in individual class
Session 2
Revisit uses
Show examples of different types of VTs
Create various VTs
Create table that shows uses per VT type
Independent tinkering
Session 3
Question and answer
Show examples advanced uses VTs
Create VT for advanced uses
Edit chart created in session 2
Writing student directions
Instructor-centered action
Student-centered action
Out-of-session student action
Teacher & student collaborative actions
Possible routes to next step

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