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Capturing and Managing Knowledge

CAPSTONE PROPOSAL

Specialist Degree in Instructional Technology

Candidate Name:	Wayne Langford
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Capstone Title:	Knowledge Capture and Management
Is this a Capstone Project or Study?	Project
Client Name & Description:	McConnell Middle School

1.   Identification of problem or need:

McConnell Middle School is a large, suburban middle school in Gwinnett county. The

school has ample technology resources including ceiling-mounted projectors, VOIP telephones,

student computers, Android tablets and Chromebooks in every classroom. Teachers and students

are also provided with laptops, access to seven computer labs, a BYOD (Bring Your Own

Device) network, a full-featured LMS (D2L) as well as all the services associated with Google

Apps For Education. Teachers are also provided Mimios and Sympodiums for instructional use

wherever requested. The problem in a school so rich in technology resources is that technology

training initiatives historically have been fractured, disjointed and lacked a long-term vision. We have inadvertently caused confusion by bouncing from one "hot tool" to the next without taking the time to make any tool our own. Teachers, understandably, have been overwhelmed with choices and ignored technological solutions rather than opening a door into what appears to be a never-ending corridor. To compound this problem, training at McConnell has been, at worst, primarily staff-wide and generic or, at best, divided into grade-levels but still using a one-size-fits-all approach. This has led to teachers all following certain technology integrated lesson plans in lock step even if those activities clashed with their personal instructional style or goals.

Since taking over here as technology coordinator, I have moved away from large group instruction and focused on smaller, interest groups and, where possible, moved to one-on-one training in an attempt to design solutions around each teacher's instructional style and pedagogical needs. I have tried to act as a coach rather than a trainer to help the **teacher** envision and implement technology integration into **their** lesson plans. I see this as the only sustainable model for technology integration. This has worked quite well over the last couple of years. Technology use overall is way, way up from past years and, more importantly, teacher excitement is up as well. The limiting factor, however, remains mine and my staff's time. I have worked on moving more and more instruction to online courses. However, a teacher must still find the time and know what it is they need to learn.

Then it came to me a couple of weeks ago as I just happened to be in a meeting with a team for an entirely different purpose. One of the teachers involved in a curriculum-level training was also having an issue with D2L. I took two minutes from the group to work with that teacher

and helped him solve his problem. As I walked back to the front of the room I realized that I have become a vessel full of exactly these kinds of answers. What is needed is a more structured process for capturing mine and other's knowledge, coaching and training events and then organizing and cataloging that knowledge in such as way that it is easily searched, accessible and delivered quickly to teachers. While I have a fair number of training videos, archived online courses and training documents, they are not always descriptively titled and even where they are, those titles and tags may make far more sense to me than my staff. In addition, there is too much onus on the teacher to know exactly what they need. Getting at what a teacher really needs to learn is often half the battle.

I am proposing to build a database driven, private, intranet site for staff that would serve as a portal for tools to collect, contain and dispense knowledge. It would contain cataloged and meta-tagged media including video, print, email threads, archived discussions, online courses and more. The goal is to allow teachers to quickly get to the content they need by asking questions in the same manner as they might ask me and, therefore, avoid having to sift through materials that do not fit their goals or needs. I would need to work with staff closely on a way to redefine my cataloging methodology in a way that more closely mirrors the way they think.

2. Capstone Description:

I will select staff members who will be the primary stakeholders in this process and survey them to help me determine how the solution I build should look and feel. Once the stakeholders have been identified and have expressed their preferences, I will try to boil the ideas down to an overarching aesthetic which will serve as the target map for the product.

At each stage and with each set of deliverables I will use the same group of stakeholders as a sounding board to ensure I am staying on the right path. This group of staff members will be the only staff with rights to this private website initially. This will insure that access to all existing tools is not interrupted and will give me a control group for the evaluative phase. There are likely to be changes made as the process continues, but those changes will always be made with the stakeholders in mind.

3. Evaluation Plan:

This project will be judged both on qualitative and quantitative measures. The reason for combining these disparate factors is that experience shows that teachers who feel good about the tools they are using do a much better job with those tools and that hard data collected over a period of months (a relatively short time frame compared to the three years a typical student spends a McConnell) rarely tell the whole story.

Once the product is ready to go live, I will conduct a standard satisfaction survey for all staff on technology training specifically and my department in general. I will also take a look at lab usage, D2L usage, Google Classroom use, student account use and all other metrics at my disposal to determine the study group and my control group's overall technology use for a full semester. This should allow me to judge changes in perception, actual technology integration and usage for all staff. My hope would be that the group with access to my new tool will increase scores on both metrics.

Date:	Deliverable:
November 11th 2015	Identify and meet with stakeholders and assign group membership.
November 30th 2015	Release benchmark perception survey.

December 15th 2015	Have discussion forums and existing content tagged and available to treatment group.
TBD	Meet with treatment group to discuss UI
TBD	Release beta
TBD	Meet with treatment group
TBD	Release, hopefully, final production version of site
TBD	Release final perception survey
TBD	Collect usage data and student scores for analysis

4. Standards:

Visionary Leadership (Elements 1.1, 1.2. and 1.4)

Teaching, Learning, & Assessment (Elements 2.1, 2.3, 2.5 and 2.7)

Digital Learning Environments (Elements 3.6 and 3.7)

Professional Learning & Program Evaluation (Elements 5.1, 5.2 and 5.3)

Candidate Professional Growth & Development (Element 6.1, 6.2 and 6.3)

5. Related Research or Literature:

In the recent past it was often deemed sufficient to teach teachers to use a couple of applications with their students, corral that teacher and those students into a computer lab and call it a day. That standard has always fallen short and is today in danger of losing validity altogether. Computers and technology are now quite integrated into most of our lives. In addition, the range and scope of available applications has grown so numerous, diverse and the quality so unpredictable that at this point teachers need to be trained to become discerning users

as much or more than they need help with using an individual application. To accomplish this, teachers will need a bigger say in the what and how of technology integration when it comes to their own classrooms. Perhaps, in some extremely small, heterogeneous schools, it may still be possible for one person or department to act as the gatekeeper and arbiter for technology choices and integration strategy. However, in most schools this is no longer a useful model.

As I read the research study *Transfer of Online Professional Learning to Teachers' Classroom Practice* I found my feelings about most staff development courses were reflected in the results. Often, when training materials and content are kept too general so as to maximize the potential reach of a course, the course will fail to resonate with most participants. In the research study *Transfer of Online Professional Learning to Teachers' Classroom Practice* the authors state that Many found the professional learning not very helpful, or worse, a waste of time. (Holmes, Aliya; Signer, Barbara; MacLeod, Antoinette, 2011) This is precisely the sort of statement that much of our large group training, online or otherwise, used to elicit. Of course, then you have the typical reaction of training departments who often overcompensate in an attempt to provide more detail often to the point of providing lesson plans and even spelling out rules for usage. Another teacher expressed disappointment with the lesson plans provided to implement the use of the technology with a class. The teacher appeared to see the plans as fairly restrictive and linear, and had himself thought of more innovative, authentic means to use the technology: (Holmes, Aliya; Signer, Barbara; MacLeod, Antoinette, 2011)

If this all sounds daunting for the design of our tool, it should. Designing quality instruction whether in the classroom or online has never been easy. Pretending otherwise is how we have ended up awash in so much, at best, mediocre content in our online learning

communities. We may keep in mind that we are not attempting to replace face-to-face

instruction. We are trying to provide an alternative where face-to-face instruction is not possible.

At best, we are hoping to achieve par with quality classroom instruction. This does not mean,

however, that the above lessons of synchronous, online courses should not be studied and applied

whenever and wherever possible.

Communities of learning might seem to be an odd strategy for training and resources that

will be decidedly asynchronous. However, I believe that some issues of context, authenticity and

motivation may be mitigated through the establishment of a personable, welcoming community.

In studies such as *Professional Development at a Distance" A Mixed-Method Study Exploring*

Inservice Teachers' Views on Presence Online by Holmes, Signer and MacLeod, the idea of

presence Whether synchronous or asynchronous, the online approach to professional

development focuses directly on the learner and aims to provide strong interactions with rich

resources and prolific discussions among members of the learning community. (Herrington,

Herrington, Hoban & Reid, 2009)

References

Herrington, A., Herrington, J., Hoban, G., & Reid, D. (2009). *Transfer of Online Professional Learning to Teachers' Classroom Practice.* Journal of Interactive Learning Research, 20(2), 189-213.

Holmes, Aliya; Signer, Barbara; MacLeod, Antoinette (2011). *Professional Development at a Distance: A Mixed-Method Study Exploring Inservice Teachers' Views on Presence Online* (Journal of Digital Learning in Teacher Education, v27 n2 p76-85 Win 2010-2011) Retrieved from http://www.eric.ed.gov/PDFS/EJ907004.pdf Lin, T., Hsu, Y., & Cheng, Y. (2011).

appendix (Questions from my standard yearly technology survey of teachers.)

1. Basic Computer Use

    Level 1   I do not use a computer.

    Level 2   I can select, open, use and close a program on my own.

    Level 3   I can open and use more than one program at the same time.

    Level 4   I can learn new programs on my own and teach other.

2. File Management

    Level 1   I do not save any documents I create using a computer.

    Level 2   I save documents to different places such as A drive, C drive, or H folder.

Level 3   I create my own folders or directories to keep files organized.

Level 4   I move files among folders, directories, or drives.

3. Networking

   Level 1   I do not use a networked computer.

   Level 2   I can log on and log off a networked computer.

   Level 3   I can access software, find, and save files in a folder on a networked computer.

   Level 4   I can independently use networked computers to access information, use software, create and save files, and print to the appropriate printer.

4. Word Processing

   Level 1   I do not use a word processor.

   Level 2   I use a word processor for basic writing tasks.

   Level 3   I use the tools of the word processor to edit my work.

   Level 4   I use the word processor to create, format, edit, publish my writing and to create templates.

5. Spreadsheet

   Level 1   I do not use a spreadsheet.

   Level 2   I enter data in a spreadsheet and create charts.

   Level 3   I use labels, charts, and graphs to reflect my data.

Level 4   I use formulas to help analyze data in a spreadsheet.

6. Database

  Level 1   I do not use a database.

  Level 2 I can locate information from a pre-made database and add or delete

  information.

  Level 3   I can make my own database from scratch.

  Level 4   I can generate reports, write and use macros in my own database.

7. Graphics

  Level 1   I do not use graphics with my word processing pieces.

  Level 2 I can edit clip art, import graphics, and use the clipboard to take objects

  from one place to another.

  Level 3   I can open and create simple pictures with painting and drawing

programs.

  Level 4 I can create, select, modify, and use graphics in order to make a point or

  illustrate what I have learned.

8. Telecommunications

  Level 1   I do not use e-mail.

  Level 2   I compose and send e-mail messages within the school district.

Level 3   I use e-mail to request and send information globally.

Level 4   I organize mail directories, save messages, create and use

attachments.

9. Information Searching

    Level 1   I do not use technology to find information.

    Level 2   I can find information from electronic sources.

    Level 3   I select, gather, and save information from multiple electronic

sources to

          answer a thinking question.

    Level 4   I access, select, analyze, and use appropriate information that I find

          efficiently using electronic sources, Web sites, search engines, and

          Boolean operators such as "and," "or," and "not."

10. Multimedia

    Level 1   I do not use multimedia to find or present information.

    Level 2   I can use other people's multimedia products.

    Level 3   I can create multimedia presentations combining text with

graphics, movies and

          sound.

    Level 4   I can design an effective multimedia presentation employing

animation,

          transitions, video, sound, text, and graphics to share ideas.

11. Internet Use

      Level 1   I do not use the Internet.

      Level 2   I visit Internet sites and successfully navigate using Back,

Forward, and Home   buttons.

      Level 3   I can search the Internet using search engines.

      Level 4   I can find pertinent information quickly using search engines and

Boolean logic   to narrow my search.

12. Web Development

      Level 1   I do not create Web pages.

      Level 2   I create simple Web pages using Google Sites, l, or Weebly.

      Level 3   I create multimedia Web pages that include sound, animation, video,

                        pictures and text using Web development software and/or original code.

      Level 4   I create and manage a Website that includes multimedia Web pages that

                        serve my school and parents through interactive information and

                        instructional services.

13. Technology Presentation

      Level 1   I do not use technology to create or present information.

Level 2   I can use a variety of sources to import pictures or sound into a publishing program for a presentation.

Level 3   I combine two or more technologies to create or present information.

Level 4   I can select and use the appropriate technology combination to create and

present a multimedia message using computers, peripherals, projectors, and multimedia software.

14. Technology Integration

Level 1   I do not blend the use of computer-based technologies into my classroom

learning activities.

Level 2   I want to integrate technology into classroom activities, but I am still

learning about what strategies will work and how to do it.

Level 3   I sometimes encourage my students to use various technologies to support

communicating, data analysis, and problem solving.

Level 4   I frequently model and teach my students to use various technologies for

research, communication, data analysis, and problem-solving, and

presentation.

15. Curriculum Support Materials Use

        Level 1   I do not use the Lotus Notes databases for AKS, lesson plans, and item

                       banks.

        Level 2   I use Lotus Notes databases as a reference tool to look up AKS

                       information.

        Level 3   I use Lotus Notes databases to plan instruction and assessment of the

                       AKS.

        Level 4   I contribute AKS lesson plans and item bank questions to the Lotus Notes

                       databases.

16. Responsible Use of Technology

        Level 1   I do not understand what responsible use means.

        Level 2   I take care of the equipment and leave it ready for the next user.

        Level 3   I understand and follow District rules concerning harassment,

language,

                       passwords, copyright, privacy, and appropriate use of resources, etc.

        Level 4   I   model responsible use of computers, resources, policies, etc. and

teach

them.

17. Video Production

Level 1   I do not use video technology.

Level 2   I use video technology to record events for or with my students.

Level 3   I teach my students how to produce videos for alternative

assessments or for media festivals.

Level 4   I produce videos that include edited footage, graphics, multiple

sound

tracks, transitions, and music and teach others.