

## Ginger Shields' Knowledge Mapping Script for LI-807

Hello and welcome to the KM-SLIM 2004 Conference! This session is on knowledge mapping, and my name is Ginger Shields. I believe you all pre-registered for this session? Great! I believe housekeeping information has been covered in earlier sessions, so I'm going to get started. You should all have a copy of the handout, which I hope will be a useful package of information for you to use after this conference is over. There is an extensive reference section at the end of those booklets, by the way, which will allow you to find out more on this subject. All of those articles are currently accessible to you through Emerald and ABI/Inform databases. While we are informal here, I would appreciate you holding your questions until the end of my presentation.

As I said earlier, my name is Ginger Shields. I became interested in knowledge mapping, which is part of Knowledge Management, because I have a love of maps. *[Next]*

What do you think of when you hear the word "map"? *[Next]* Do you think of a political map?\* *[Next]* A physical map?\* *[Next]* Do you think about how to use a map to get from here to there?\* *[Next]*

Graphic organizers can also map information. \* This example of a graphic organizer is categorizing living and non-living things. \*

This example is much more personal. It's an example I made for my elementary computer lab students when we were working on making graphic organizers about ourselves. It shows my family (these are not good representations of them by the way), what I was involved in at that time at our school, and some of the things I like. This is another kind of map. By the way, both of those graphical organizers were created in Inspiration, which is a software program. It's used in many schools, and available for a thirty day trial at [www.inspiration.com](http://www.inspiration.com). *[Next]*

Maps can help you understand information by putting it in context. For instance,\* this is the map from the inside cover of JRR Tolkien's wonderful book, The Hobbit. If you ever read the book, you will know that you are reading about a place that doesn't exist. The map helps you visualize the events that go on in the story. I find that whenever an author offers a map or a genealogy chart, I do refer to it again and again, to keep the details in perspective or in context. **[Next]**

This example may be a more practical map for this group. Some of these different practices may be sessions you will attend later in this conference. I've taken it from Charles Depres and Daniel Chauvel's article, "Knowledge Management(s)." It shows regions of practice within knowledge management. It also correlates those regions of practice to individual, group, or organization as levels, and then the activities they are connected to. I don't know if you can see this top line, but the activities are: scan, map / capture, create / package, store / share, apply / and transform, innovate. **[Next]**

So what have we reminded ourselves about maps? \* They put information into context. They are visual.\* Maps, like photographs, are representations, they aren't the "real thing." However, by looking at the representations, you can often focus on certain details while seeing the big picture. This isn't always possible when looking at the "real thing." On the other hand, because it is a representation, you won't get every detail of the "real thing" captured. For example, you can look at a geographical map of Bermuda, you can examine the weather map of Bermuda, but because they are representations, it's not the same thing as being there with your feet sinking into the pink sand as you walk towards the ocean waves crashing onto the shore. Now that I have us all thinking about getting away on vacation, let's move on!\*

Maps can be used to find direction, to get from here to there. We'll call this aspect "roadmapping."<sup>\*</sup> Maps must also have scale.<sup>\*</sup> In this case, I'm speaking of the proportion between two sets of dimensions, the actual entity being mapped, and its representation. Context<sup>\*</sup> is the framework of the map. What kind of map is it? How is it going to be used? And maps are understandable IF they are good maps. I'm sure you can all think of one time you've had to get to someone's house, and when you've used their directions, you've become totally lost. It could be that they neglected to give you landmarks, or on their map they told you to "drive awhile" without giving you mileage information. We don't like bad maps. We want maps that are understandable and useful. *[Next]*

Now we finally start looking at knowledge mapping. I haven't mentioned this before, but just as Knowledge Management has been abbreviated as KM, knowledge mapping has an abbreviation. You will sometimes see it referred to as K maps or K mapping, usually with a capital K. I have the information up here from talking about maps in general, and I want to read you some definitions about knowledge mapping that I gotten from reading the various articles referenced in the back of your handouts. I wasn't able to find one perfect definition out there, so I think by reading you several definitions, we can perhaps come up with our own working definition.

Xenia Stanford, in her 2001 article for [Information Outlook](#), wrote, "Knowledge mapping quite simply is any visualization<sup>\*</sup> of knowledge beyond textual for the purpose of<sup>\*</sup> eliciting, codifying, sharing, using and expanding knowledge."

In Speel et al's "Knowledge mapping for industrial purposes" article, they said the following: "We define *knowledge mapping* as the techniques and tools for visualizing knowledge and relationships in a clear form such that business-relevant features are clearly highlighted.... Knowledge maps are created by transferring certain aspects of (tacit or explicit) knowledge into a graphical form that is easily understandable\* by end-users, who may be business managers, experts or technical system developers."

Mark Wexler, in "The who, what, and why of knowledge mapping," said, "Knowledge mapping is a consciously designed communication medium using graphical presentation\* of text, stories, models, numbers or abstract symbols between map makers and map users. Knowledge maps are excellent ways to capture and share explicit knowledge in organizational contexts.\* Just as a geographer's map communicates a sense of place, locating the map user\* ("you are here") in relationship to the other, or the there."

Denham Grey, in an article I found on the SmithWeaverSmith.com website, wrote, "Knowledge mapping is a[n] important practice consisting of survey, audit, and synthesis. It aims to track the acquisition and loss of information and knowledge. It explores personal and group competencies and proficiencies. It illustrates or 'maps' how knowledge flows throughout an organization. Knowledge mapping helps an organization to appreciate how the loss of staff influences intellectual capital, to assist with the selection of teams, and to match technology to knowledge needs and processes." Grey also says that "knowledge mapping is more about inquiry, education and relationship building than about charting or documentation." **[Next]**

My working definition of knowledge mapping is this. Knowledge mapping takes a snapshot\* picture of tacit and explicit knowledge within an organization and puts it into an understandable,\* visual\* representation\* of that knowledge. The knowledge map created should be usable as a roadmap\* for the people within the company. We're not just creating it to sit in a desk drawer somewhere. It would be difficult for a knowledge map to represent every single piece of knowledge within a company, so it should have a context\* and a scale.\* **[Next]**

Knowledge management is about people. It's taking tacit knowledge – and let's just refresh... tacit knowledge is knowledge that is in our heads – and turning it into\* explicit knowledge. Explicit knowledge is generally referred to as knowledge that is written down, codified, or somehow captured in some form so that it can be organized, shared, used and expanded upon. So that is what we are trying to do with knowledge mapping. We are trying to map where our tacit and explicit knowledge within our organization exists, so that others can find it and have sources to go to. **[Next]**

Mapping can help connect knowledge within a company. Within your company, you may have experienced the silo effect ... my department does this, your department does that, and never the twain shall meet. If you have that silo effect, you could have the same or similar issues being worked on in different areas of the company, the reinventing of the wheel could be going on. This is what knowledge management is all about ... it prevents that ... it is sharing knowledge and expertise so we don't always have to go back to the drawing board. It is knowing what we know. **[Next]**

Another common issue that knowledge mapping can help you with involves islands of expertise, or best practices. If you have islands of expertise\* within a company, you **really** want that expertise or best practice to be connected\* to the rest of the company. By creating a knowledge map, you can show the rest of the company that that knowledge is there. It allows people to know who to go to if they have a similar issue. **[Next]**

I thought that at this point, you might want to see an example of a knowledge map that could be used in the SLIM program. Although many journal articles I've read about knowledge mapping have included diagrams of knowledge maps, please realize that there is no one right way in mapping knowledge. Many of the examples used letters and symbols, and I thought you would find it helpful if I created one that we could all relate to. Here, we have the areas that are being covered this weekend in our conference.

Should I select one, such as PROCESS OF KNOWLEDGE ,\* a new node opens up, and I have the topics that are being covered within this area. If I select KNOWLEDGE MAPPING,\* then a new area opens up, **[Next slide]** and I can see the Knowledge Profile, with information.

This could contain any information that your organization felt was pertinent to collect and connect. Under contents, you will notice that my presentation materials could be hyperlinked.

If I now clicked on the presenter\* **Ginger Shields**, I could obtain other information about her and her knowledge base. You could see that she has presented information on XML and meta data in LI-804, News Crawl in LI-803, a Scrapbook Synthesis is LI-802, etc. If we clicked on If Only We Knew What We Knew, we could find everyone else who had read and reported on that book. If we clicked on SLA @ SLIM, we could find the people also connected there. This is a big web, with the map helping us to find people who can help us as sources and resources to whatever issues we have.

Let's say we have an interest in XML. Should we click on XML\* under Ginger Shields, we would change to this area. **[Next slide]** We are now specifically in the LI-804 class where Scott Curtis, Ginger Shields, Jingshan Xiao, and Erica Zeitz presented on HTML and XML. If I select Jingshan,\* his profile shows that he has now reached the expert level for XML for SLIM, along with other presentations or projects he has worked on.

Obviously, this isn't a perfect knowledge map for a number of reasons, including I don't have input from all of you, whose knowledge I've attempted to map. We'll talk about this again in a few minutes. **[Next slide]**

Where is knowledge mapping occurring? Knowledge mapping is being used in businesses. It's also be used in education and healthcare. In a small 2001 survey conducted by Stanford Solutions KnowMap, an on-line Knowledge Management, Auditing and Mapping Magazine, found out that from their 162 respondents, that is most typically an organization of 2000 or more employees that is mapping. Companies from 0 – 99 employees were the second most likely to use mapping, according to this survey. Who is most likely mapping within an organization? The study suggests that executives,\* followed by business

development, and then human resources are involved in knowledge mapping endeavors. \*Who should be included in any knowledge mapping exercise? It should be YOU!\* Librarians and information professionals.\* If you are not initially invited to the table, you need to find a way of getting involved.

Now that we hopefully have a general idea about knowledge mapping, I want to give you several recognized types of knowledge maps.

The first type is procedural knowledge maps,\* and I found this to be a fairly common in the case study literature. These are maps that show knowledge and its sources within a business process context. Process-based knowledge maps are often used to plan and implement knowledge management efforts.

The second type is conceptual knowledge maps.\* A taxonomy would be an example of conceptual knowledge mapping, where content is organized and classified.

The third type is competency knowledge maps.\* Competency maps can show the skills and positions of an individual, creating a competency profile. If you have a competency knowledge map, you can easily turn it into a yellow page directory of expertise within the company.

I also found literature supporting a fourth type of knowledge map ... that would be a strategic knowledge map.\* This kind of knowledge map takes the company's strategies, and maps them out, connecting the people to the strategies.

Now I know many of you may have heard Rebecca Miller at an earlier conference talk about social network analysis. This is another common use of mapping, where the networks of knowledge and the patterns of interaction among group members are shown in a map. **[Next]**

How can we create a knowledge map though? How do we gather all of the information? This is going to be the most labor-intensive part of knowledge mapping. Here the available literature offers different opinions. Should you use a questionnaire? Some articles suggest that a questionnaire is appropriate, other articles say absolutely not. One article suggests conducting stakeholder interviews, where specific questions are asked and the answers are captured. This is definitely labor-intensive, if you are thinking about doing this in a large organization.

So what approach should you take to knowledge mapping? There is the team versus the individual approach.\* Let me give you an example at this point. Thanks to your pre-registration in this workshop, I was able to do some research.\* I found out that some of you are in the Special Libraries Association (SLA), and some of you are in the Information Management Certificate program. This is a great map, isn't it? It shows everything that I was able to find out. Now if I were to talk to you, I might find out that Scott Curtis is planning on applying to the IMC program. Maybe Zac has his SLA registration sitting by his computer, and is going to get it in the mail on Monday. Here's my point. An individual approach to knowledge mapping isn't going to give you different perspectives. You may easily miss key information because you don't understand it within its context.

By using a team approach and including the people whose knowledge you want to map, you have more buy-in on their part! They may actually use the knowledge map when it is completed if they understand that it is real, and not just concocted in the boardroom with no relevance to their everyday tasks. **[Next]**

Knowledge maps can also be created using "boilerplates,"\* in which you fit your information to match their structure. There are a number of software products on the market that can help your knowledge mapping. You don't have to look at a high-tech solution,\* however. I had the opportunity of speaking with Kevin Nelson a few months ago. Kevin is the corporate

librarian at the Black and Veatch worldwide headquarters in Overland Park, Kansas. If you haven't heard of Black and Veatch, it is an engineering firm, with offices and projects around the globe. Kevin had the opportunity to be in on the ground-floor when Black & Veatch began their KM efforts. To help create their knowledge map, they invited employees down to their cafeteria. There on the walls, they had taped up big sheets of white paper ... all around the walls. With markers in hand, employees began to put down information about what they do ... who they contact for this information ... where they obtain that. I've seen their knowledge map briefly, and it looks like a work flow chart, with different dates that they've targeted to have KM initiatives ready to go. While the information they gathered from those papers on the wall are not specifically on their knowledge map, they were organized into different categories, and that is what is represented on the map. **[Next]**

What are some outcomes of knowledge maps... or the trickle-down effect? \*Yellow pages of employee expertise is the most logical outcome, and will undoubtedly provide the highest return on investment. \*Intranets, groupware and workflow, virtual communities, corporate intelligence, push and scanning applications ... These are all possible trickle-down effects from a knowledge mapping exercise. You can find out Communities of Practice through knowledge mapping. Finally, knowledge mapping can also pay off externally. Many companies, including banks, view a corporation that has a knowledge map in place as being a strong, sound company. **[Next]**

I know we have covered a lot of information in a short amount of time, so if you have some questions, I'm ready to take them.