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USING CONCEPT MAPS AS AN EVALUATION TOOL TO DETERMINE OUTCOMES IN A JUSTICE SECTOR PROGRAM

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Abstract. This paper presents best practices in the application of concept maps to facilitate the analysis and determine findings for large qualitative studies. The authors use as a case study a capacity building program for justice institutions and actors in a conflict affected nation. No systematic monitoring and evaluation (M&E) had been budgeted or conducted over the program's seven years of existence, and nearly $500M had been spent. A unique approach was necessary to fully examine the role of the program in building capacity in the justice sector. Although little quantitative data existed, there was a substantial amount of textual data. Concept maps were used as an effective tool to analyze this data in determining relationships between interventions, programmatic outcomes, and to present findings graphically to stakeholders. One significant finding that emerged from concept mapping was the role of culture in implementing rule of law. Through concept mapping and the insights gleaned as a result, researchers were also able to derive two models: 1) learner characteristics of the host country nationals; and 2) institutional capacity building in an Islamic conflict affected nation.
Keywords: concept maps, qualitative research, content analysis, evaluation, capacity building, rule of law, justice sector

1 Introduction

The purpose of this paper is to demonstrate the use of concept maps as an effective tool to analyze large amounts of qualitative data in determining programmatic outcomes in evaluation studies. The concept maps were used as a principal part of the rigorous analysis of the processes and effectiveness of a rule of law program in Central Asia. This paper concentrates on presenting how concept maps facilitated the analysis and findings regarding capacity building for justice institutions and actors, namely judges. Concept mapping was used for two different purposes, as a research design tool and as a method of data analysis. There was no baseline data, and what data existed was primarily textual and inconsistent. Yet thousands of documents were available for analysis to tell the story of this seven year program. The qualitative evaluation study design incorporated concept maps to elicit themes, then unravel the relationships between those emergent themes. As Novak (1998) stated, concept maps can be used to frame a research project, reduce qualitative data, analyze themes and interconnections in a study, and present findings. To date, there has been little research on the use of concept mapping in qualitative data analysis. Due to the large scope of the study – over 2,000 documents were analyzed with more than 200 concept maps created – this paper will report only on the findings relevant to demonstrate the use of concept maps in evaluation studies.

2 Methodology

2.1 Study Design

The study design centered on qualitative analysis of narrative data to elicit in depth understanding of the program (Kelly, 2006), and used established Rule of Law indicators from the United Nations (UN), combined with the Statement of Work (SOW) requirements from the donor. Where indicated, quantitative metrics were included to support the qualitative analysis. The pilot study showed that this approach was the right one to use. The main research question that guided the research was: "*How effective was the program in improving rule of law in the target country over the past seven years?*"

The qualitative study was designed to use content analysis methods. The study design and analysis included developing a codebook based on rule of law standard indicators and statements of work; the coding of a purposive data sample; followed by an analysis of the data, using rigorous qualitative methods, which included the use of concept maps to indicate relationships between the data and outcomes. "Outcomes" in this study are defined as the likely or achieved short-term and medium-term effects of an intervention's outputs (Mackay, 2007).

2.2 *Data Collection and Data Analysis*

There were six (6) regions and seven (7) years to be sampled from for a total of 2410 primary documents. The 794 documents analyzed in this study were chosen using a purposive sample to ensure all groups were represented, with no more than 30 documents per region, per SOW year, for the latter years. The early years of the project had little data, so as many documents that could be gathered were coded and analyzed. Data included mentoring logs from the international advisors, training evaluation comments, past assessment reports, weekly reports, and other relevant documents and media. Documents were chosen to reflect a combination of standard weekly reporting and mentoring logs in order to gather both "positive" and "negative" data.

The content analysis involved coding and classifying data. This methodology was used to identify the data in the primary documents that informed answers to the research questions. In this study, content analysis was supported by the use of AtlasTi 7, a qualitative analysis software tool. AtlasTi enabled the coding team to create concept maps of relationships between key indicators to facilitate analysis of the results.

2.3 *Concept Maps as an Essential Tool in the Data Analysis*

Concept maps are graphical tools for organizing and representing knowledge. Novak and Cañas (2008), define concept as a perceived regularity in events or objects, or records of events or objects, designated by a label. Concept maps—also called "network maps" in AtlasTi, take ideas or categories and turn them into pictures or graphical representation of meanings. In a research setting, concept mapping is a structured, facilitated process for visually representing the ideas and concepts of the group.

Concept maps are one of the important strategies in qualitative inquiry as they help researchers focus on meaning and support the interconnection of observed outcomes. Basically, concept mapping is a technique that can demonstrate how people visualize relationships between various concepts (Lanzing, 2004). The use of concept maps in this study promoted unconscious, holistic understanding and helped the researchers stay focused on meaning.

Researchers engaged in qualitative inquiry often find varying challenges in the process. Often these challenges are related to the data analysis process. In qualitative inquiry, researchers need to take voluminous amounts of text-based data, and reduce that data to a manageable form without losing the embedded meaning. For the justice program qualitative study, concept maps were used as one strategy to deal with the methodological challenges of qualitative research. Concept maps were used in a comparable justice sector study to gather data from participants directly and elicit themes, grounding theory in the data (Wheeldon & Faubert, 2009).

Concept maps were used as a data analysis technique to facilitate the comparison of data across the regions. The analyses were discussed every week in a team meeting with local staff and the monitoring and evaluation (M&E) advisors to ensure that each analysis responded to all the research questions. This analysis of the data over the life of the program permitted the identification of regional trends. In a similar study, concept maps have been used to analyze short answer survey responses, enabling the researchers to cluster responses and derive themes from the data (Jackson & Trochim, 2002).

Concept mapping was also used to help create categories and the coding system at the beginning of the qualitative research design. After the maps were created, the researchers were able to examine them, looking for levels of hierarchy, interconnections and repeated concepts/categories. These items indicated emerging themes in the results obtained. The maps created were then used in conjunction with AtlasTi qualitative data analysis to validate and cross-compare findings.

In the maps generated by AtlasTi, the codes themselves have numerical indicators. These indicators refer to the "groundedness" (first number) and "density" (second number) of the coded data. The first number indicates how many times the code was used, whereas the second number, density, indicates how many times that code was linked with other codes. For example, in one region, "Training: Curriculum and Institution" was very much grounded (found) in the data as would be expected for a region with a well developed justice system, but was also clearly linked to other aspects of the justice program RoL implementation (density).

3 Concept Mapping: Elucidating and Illustrating the Findings

Concept maps applied to this study showed how people learned and how they solved the many challenges facing implementing a Rule of Law program in a conflict affected country. The justice program had conducted approximately 905 trainings in addition to other educational activities with local justice actors since 2006, and in addition provided an extraordinary amount of technical assistance using international experts as well as the expertise of justice program local staff drawn from the local professional community. Yet without a systematic evaluation process in place over a seven year period, the many successes and lessons learned remained disjointed and outcomes uncertain.

In the absence of a baseline study, background and context were needed to proceed with the study. An analysis was conducted comparing assessments carried out between 2005 and 2007, against the early Statements of Work, primarily SOW 2007-8. The resulting concept map illustrated the process of establishing a RoL program. Critical relationships were initiated between justice program advisors and justice ministries, and between the ministries and justice actors themselves, which would form the foundation for institutional capacity building in later years. The concept map generated from the content analysis showed a strong relationship between creating awareness of legal rights, training and curriculum development, and institution building. The analysis also confirmed the many challenges that were overcome in order to achieve these early gains, with corruption and lack of resources the major problems. Concept maps also increased understanding of unusual outcomes in the study because they were used to triangulate evidence visually, showing relationships between interventions, such as training and institution building.

4 Mapping Results from Training, Mentoring, and Institutional Capacity Building

Concept maps were very useful at all stages of the study. After analysis of data, main outcomes and challenges were mapped in order to interrelate them. Researchers were able to observe regional outcomes and challenges, emphasizing different areas depending upon the context of the region. The results of this qualitative study illustrated the impact of cultural and traditions on justice program's implementation, and highlight the importance of harmonizing Sharia and traditional laws with RoL.

Through the use of concept maps, the finding emerged showing that a key reason for the early failure of the mentoring program was cultural: older justice actors with years of experience did not want to listen to younger mentors, most of whom, while highly educated, had little if any experience in the formal justice system. The concept maps enabled the researchers to clearly see this deficiency and provide recommendations for strengthening this important aspect of the capacity building program.

Data analysis showed a conflict between the formal system of justice and traditional beliefs that are rooted in the local culture. The same information emerged during a pilot study conducted in 2012. The role of culture and traditions is particularly evident in gender and juvenile legal issues in the eastern provinces, as can be expected due to the presence of certain ethnic groups with more entrenched traditional beliefs. Nonetheless, the study found that raising awareness of formal sector laws amongst justice actors demonstrated that the negative impact of cultural mores (e.g., selling girls) could be overcome.

Based on the analysis, it was found that learner characteristics are an essential element of this program context, and need to be considered when designing curricula and training and mentoring. The learner characteristics that were observed in the data demonstrate that justice actors who participated in the justice program training and mentoring prefer to learn in particular ways, as follows:

1. Process small chunks of information at a time;
2. The level of motivation and concentration is limited, therefore, the most effective way of presenting tasks/objectives is one at a time;
3. A high preference on graphical learning style;
4. A step-by-step process where validation of the understanding of each process is necessary;
5. Many repetitions, stimulating the transfer from working memory to long-term memory;
6. Learning by doing and practicing needs to be done immediately after any new information is introduced;
7. Preference for a community–oriented learning environment; participants enjoy learning in groups and like to compete between groups; and

8. Questioning the instructor is not seen as acceptable; participants are unfamiliar/uncomfortable with asking questions, even if instructors ask for questions from the group.

The data confirms that there were many institutional-related challenges, such as lack of equipment, security issues, lack of space, and lack of staff. Nonetheless, there were substantial numbers of meetings that resulted in institutional cooperation with other ministries/agencies during the early years of the program. Despite resource challenges, communication channels were opened as a result of the many meetings. Through the concept mapping exercise the researchers were able to create a proposed model of institution building derived from the longitudinal comparison of concept maps. The model has three main stages: 1) Relationship Building; 2) Knowledge and Skill Transfer; and 3) Institution Building.

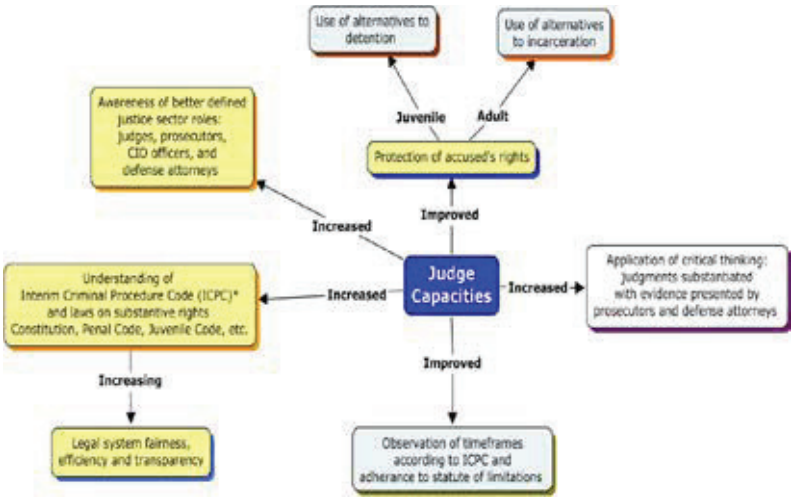

Figure 1. Concept Maps and Justice Actor Capacities

Through analyzing the relationships of capacity building interventions to one another over time using maps, researchers were able to determine that the abilities of justice actors improved, and, more importantly, how those abilities improved.

Judges, in particular, developed an awareness of better defined justice sector roles and increased their understanding of procedural and substantive laws, while improving their observation of the legal timeframes and more frequently adhering to the statute of limitations. (See Figure 1).

5 Conclusions

Concept maps were powerful tools at all stages of the evaluation research study. Maps allowed the research team to determine that significant progress had been made, and perhaps more importantly, the underlying rationales and factors. While mapping organizational capacity issues, cultural factors emerged as a constant explaining why in this culture, relationships must be built before institutional capacity building can take place. Meetings in general and planning meetings in particular, start the relationship building process. Without this fundamental step, no training and hence, little, if any, capacity building can occur. Concept maps provided the deep understandings essential to answering the "How?" and "Why?" of implementing RoL in an Islamic, conflict affected nation.

6 Recommendations for Future Research

The use of concept maps in this evaluation study demonstrated the importance of graphical depiction of relationships in determining the evolution of programmatic outcomes and answering the "how" question in qualitative evaluation studies. Future research should continue investigating how large textual data sets can be analyzed with concept maps.

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