

# Elicitation Technique Selection: How Do Experts Do It?

## Bibliographic data

The paper was published in 2003 as the proceedings of the 11<sup>th</sup> IEEE International Requirements Engineering Conference and it was written by Ann M. Hickey and Alan M. Davis. It goes by the name "Elicitation Technique Selection: How Do Experts Do It?".

## Theme of the paper

The paper approaches the theme of **requirements elicitation techniques**.

The main purpose is to understand and document how experts choose elicitation techniques in order to improve requirements elicitation practice and, consequently, increase the quality of future products to insure they meet the users' needs.

## Synthesis of the paper

The **success or failure of a product is directly correlated to the quality of the requirements**, which, in turn, is influenced by the techniques employed in the elicitation phase, since elicitation consists in **learning the needs of users and communicating those needs to the system builders**. Although other causes can be responsible for lack of quality of the final product, this paper applied to conditions where the concern was the 'how' and 'when' of applying elicitation techniques.

The idea behind this arises from the premise that the ability to select the appropriate elicitation technique is related to the amount of experience of the analyst and, therefore, the theory that, by improving analysts' ability to make this selection, it is possible to improve the amount of successful products in the future market.

Elicitation is an iterative process and it is **done across many different fields** always with the same purpose of **fully understanding the users' needs and translating them into a terminology the IT can understand**.

The research was conducted under a qualitative approach that involved the authors' participation in the setting, analysing documents and doing in-depth interviews with expert analysts to attempt to perceive a **relationship between situational characteristics and the techniques to be employed**.

The mentioned techniques were: **Collaborative Sessions** in which multiple stakeholders are gathered in a single room; **Interviewing** stakeholders with the purpose of surfacing new information or uncovering conflicts or politics; **Team-Building** as a second-order technique due to the fact it helps build communication and mutual trust among the stakeholders, which, in turn, allows for the other elicitation techniques to become more effective; **Ethnography** where observation is used to assess political and power relationships; **Issues List** so that issues are not forgotten and can be resurfaced later on a project; **Models** as a means to facilitate communication, uncover missing information, organize the information gathered from the other techniques and uncover inconsistencies; **Questionnaires** which are not very frequent if mentioned at all; **Data Gathering from Existing Systems** is not used as a first order method and the experts all had different approaches to it; **Requirements Categorisation** to ensure no requirements are missed; **Conflict Awareness and Resolution** to address and resolve conflicts; **Prototyping**, unexpectedly, was not relied upon often; **Role Playing** to fill in for

missing key stakeholders; **Formal Methods** were either not mentioned or simply not advised against; **Extreme Programming** when there is a constant flux that requires an omni-present customer, co-located with the development team to answer arising questions during the development.

The responses to the situational cases differed among the interviewees. While some offered specific conditions under which they would use a certain technique, others provided general advice concerning elicitation as a whole.

The experts often told stories about their elicitation projects to illustrate how they performed elicitation, which also served to demonstrate the **power of stories in elicitation**. Something that might indicate that individuals tend to choose common stories and **must be prompted for exceptions** was the fact that these stories mostly described their standard, default elicitation approach. When faced with the normalised situations, they showed the most diversity.

Overall, even experts appear to choose the technique they are most comfortable with instead of considering different techniques, but when faced with different problems they are likely to adapt that default approach to the situation if necessary.

There were some general trends when choosing a technique, such as the concept of: **Major Drivers** which drive experts to seriously consider a technique; **Anomalies** which, if true, cause experts to alter their initial choice; **Prerequisite Skills** which are the analyst's skills that must be present to employ the technique; and **Success Enhancers** as additional skills that help with the execution of the technique.

It was not possible to draw definitive conclusions regarding all situations and techniques, but the research allowed for a better understanding of the techniques used by experts during elicitation and the situational factors they consider to choose them.

## Questions and reflection

**Q1:** One of the experts turned down a job mentioned in one of the normalised situations because it was outside his area of expertise. This really had me wondering how students coming out of college and entering the world of work for the first time have no experience whatsoever in any area, but they are still expected to perform. How does an expert become that way if he refuses the work opportunities he is not familiar with? Is he not unexperienced in all areas before he tackles them for the first time?

As a student, I struggle a lot with the thought that I have no idea what I am doing most of the time and there is no way that I will be able to work in a company one day. However, I believe that we should not shy away from doing things we are not familiar with, because it is only by diving head on into them that we will gain that experience. In this line of thought, I find it quite unprofessional of an interviewee, one considered an expert at that, to turn down a 'job' because it was outside his area of expertise. I do not understand how he even became an expert in the first place if he is not willing to study outside of his comfort zone.

After reading this paper for the first time, there was something about it that really struck me in the most fantastic way and, when I went through it again, half expecting not to like it as much as I had the first time, it continued to amaze me just as much as it had before. In my opinion, the authors' approach to the results of the interviews they performed was brilliant. Instead of taking what the experts said and just attempting to draw simple conclusions, they

actually took the experts' behaviour and posture in the interviews and drew conclusions from there! That parallelism between how experts would tell their own stories on their projects where they used their preferred default approaches and how that serves to show the power of stories and the need to prompt people for the exceptions was very clever.

In a way, this parallelism really allows for the true dimension of requirements engineering to shine through. The authors were performing elicitation while discussing elicitation. Suddenly, requirements engineering (and its phases such as elicitation) is not just a scientific field with a limited scope, but something that exists in our everyday lives. After dealing with the enormity of the truth I felt I had just been handed, I found myself looking into the subject closer and realising I perform elicitation in some way or other every single day.

In general, although there were not many definitive conclusions regarding the topic of how and when to choose a certain elicitation technique, that parallelism really shed new light on this field for me.

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