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This essay examines the foundational processes for clear communication. It uses a component analysis of several key concepts like communication, scenario, and overall effectiveness. It begins with a discussion of the need for clear questions and an understanding of the landscape in which the question and answer exist. This leads to an examination of aspects of effective experts and how communication is essential for them to know the right question and how to express the answer to a diverse audience. It concludes with a discussion of the component analysis of presentations to aid all presenters to enhance the overall effectiveness of the communication package to successfully deliver the message and generate action.

Introduction

When a question is posed, typically our first step is to search our minds to see if an answer is readily supplied by our ambient knowledge. If we either can recall an answer or apply a known method to arrive at an answer, people stop without much analysis. If our ambient knowledge is not enough, the next step is usually available and accessible sources of support. Today, that means an internet search for the majority of us but may also include asking friends, consulting a professor or textbook, listening to a parent, etc. This may result in an answer being provided and hopefully, that answer is correct. If our first answer does not work, the next step will often be a trial and error approach in which attempts are made and judgments about the level of success are determined. This might lead to a working solution but may not be effective for long-term solutions to complex problems or be an efficient approach.

Consider your response to being asked, “I have a headache; what should I do?” What comes to mind first, for what you would tell me? Many immediately suggest aspirin or some other pain reliever without asking any questions or thinking any further. Though this may be an answer, the situation may not be so simple. In some cases, the question might not even be the right one to have been asked. A mindful, deliberate analysis will provide insight into why the person has the headache and if a pain reliever is necessary or will even be effective. More mindful analysis and research are needed to determine if the suggested solution is a good one.

There are many reasons why a person might have a headache. Perhaps the person did not eat anything all day or is suffering from a cold. Other reasons are less likely but still possible, such as they have a brain tumor or having been hitting their head against a nearby wall. Though an aspirin might work temporarily to help the person hitting their head against the wall, examining the scenario and root causes of the problem will yield better questions and answers.

There are many types of questions and ways they might be categorized. Directed response questions often include question words like who, when where, and which. These seek a specific answer that is expected or searchable. The simple close-ended, convergent questions rarely require experts or in-depth analysis. Questions including what, why, and how are more open-ended and divergent. These often do not have a single specific answer and are tied to prospective or retrospective analysis and postulation or prediction. These types of questions lead to more complex scenarios that underlie the problems to be faced in the future. Please note that this is an oversimplification at the outset since English is complex. You can ask what time something happened instead of when. The linguistics of questioning will be discussed later as we examine essential questions. Thus, it is the understanding of the scenario in conjunction with the problem and question being examined that lead to a fuller understanding of the approach needed and results sought. For more questions see: https://www.opencolleges.edu.au/informed/features/socratic-questioning/

Responding to Questions as an Expert

In many cases, people are not seeking the best answer to a question or problem. They only wish to find one that is sufficient. A sufficing answer lets us stop working. Unfortunately, as questions and problems grow more complex, sufficing answers or easily searchable responses will not be enough. Nonetheless, the ability to clarify the questions needed to be asked, the quality of the answers found, and, most importantly, how these all fit together is what makes an expert prepared to answer questions and solve problems. Many of us just seek any solution that seems to work or answer the question. For the process described here, especially when dealing with potential problems, the arguments for the course of action to be taken are as important as the best solution put forth. Since potential problems can be dealt with by several different solutions, each with varying probabilities of being successful, having a wide range of potential solutions to choose from and knowing more about the situation is vital for experts to know. Their expertise allows them to understand the range of options and the distinctions among them. At each stage of the process of answering questions and solving problems, experts weigh in and make determinations and judgments based on previous experience and expertise to

leverage knowledge and skills to debug and optimize the process toward a successful outcome.

Any approach to taking effective action relies on the ability to have data and information about the situation, judge factors, and weigh alternatives based on needs, desires, and potential degrees of success. Many disciplines have standard procedures and methods for solving problems and common approaches for dealing with questions and issues. However, in many of those cases, the question is assumed to be known and well-described. When this assumption is wrong or the question being asked is not fully correct, a clearer understanding of the limits of one's approach and the categories involved in the process can be useful for effective practice. Moreover, when interdisciplinary teams come together it is important to have a framework to approach, examine, and solve problems.

Asking the right Question

Much of the work in school and career is about asking the right question and finding the right answer. Assessments have a variety of types of questions to determine a student's ability to display recall and mastery. Other types of assessments are meant to trigger recognition of the need to apply learned skills or adapt existing knowledge and skills to a current scenario. Often an expert is identified by the speed and accuracy of a person to work through this cycle of asking and answering questions. Through a series of experiences, the expert gains theoretical and practical knowledge combined with technical and non-technical skills related to a field or discipline of study. However, this is only part of the overall scope of questioning

Mastery of narrowed sets of questions tied to specific scenarios comes with time and practice. This is valuable as long as the "scenario" remains static. In our dynamic world, this is rarely the case and these types of questions only serve as a baseline or database for reference. Expertise in asking the right question is essential for experts who face the need to solve potential problems, diagnose issues based on past decisions, or deal with issues in dynamic situations. Experts must be able to identify the simpler narrowing questions to define what something is separated from the more complex question of why something is happening or how it came about. Then this can lead to a determination about an approach to apply an existing known answer or fix, search for someone who has solved the same or similar problems, or if new research and action are needed to develop a new solution.

If a user manual or 'Frequently Asked Question' document exists, the shared experience yields the answers or at least provides suggestions. In new situations, this crowd-sourcing may not yet exist so the knowledge base has to be created through the alternatives being tried, tested, refined, and tried again. Convergent factual

questions can be answered with a simple answer or set of choices. Divergent questions require more explanation than a listing of responses. Here the expert will need to provide guidance and explanation and at times may even need to teach aspects of their knowledge and skills to help others understand. In this way, the expert becomes a translator between the discipline and the less informed members of a group or society.

The divergent questions can be categorized in many different ways. One method is by tense so that you identify if the question seeks information about past actions, current happening, or potential future scenarios. Another distinction is to look at the degree to which the knowledge exists and is trustworthy. For many, this is the most common way we envision STEM experts parsing through accepted disciplinary knowledge, cutting-edge research being published by experts, and the newest problems beings solved through experiments, design, and theory development. There are so many different use cases and scenarios; it is not possible to describe each. The different disciplines and organizations each develop and train their members in their methods and approaches to asking questions and solving problems as well as communicating about these within and outside their organizations. These norms and shared vision and metrics are what novices learn as they become inducted into the organizations and develop expertise over time.

Situating the question in Context

The first step of any problem-solving process is becoming aware. This awareness may be generated from within or outside the problem solver. Many times, the awareness is part of a stated task or assignment given to the individual by someone else. In other cases, a person can observe a specific problem or a clear gap in knowledge that they feel must be addressed. In the end, as long as someone perceives a problem, awareness of this problem is achieved. However, the level of awareness and the research associated with this level are vital to the initiation of the problem-solving process. The various factors that surround a problem and limit the actors involved as well as the determination of correctness or successful solution are part of the scenario and are vital to clarify and understand.

When working with others**,** Scenario describes the parameters and chain of events that lead to a specific coming together of individuals and organizations to act upon or answer the question. Defining a scenario is useful when planning strategies, understanding interactions, and impacts at the moment as well as when conducting after-action reports. It includes three categories: your purpose and goal; the participants and those you identify as a target audience; as well as the situation in which the interactions occur.

The expert in these scenarios will need to specify the elements of each of these components as strive to effectively answer questions, solve problems, and/or make plans. Communication and collaboration depend on these factors to specify the moment of interaction so that participants can be prepared and have the proper strategies to be most effective. Scenarios can occur naturally as the state of things where you find the problem to exist. In other cases, a scenario is fabricated so possible future situations can yield plans and allow alternatives to be tested.

Scenario planning has been defined in several ways. Michael Porter (1985) defined scenarios as "an internally consistent view of what the future might turn out to be—not a forecast, but one possible future outcome". Schwartz (1991) defined scenarios as "a tool for ordering one's perceptions about alternative future environments in which one's decisions might be played out". Ring land (1998) defined scenario planning as "'that part of strategic planning which relates to the tools and technologies for managing the uncertainties of the future". Shoemaker (1995) offers, "a disciplined methodology for imagining possible futures in which organizational decisions may be played out" as a definition for scenario planning" (Cher Mack et al., 2001, p. 8).

For many people, the preparation for an upcoming meeting or presentation represents a major problem and scenario to plan for. In these scenarios, it is useful to consider the three components of the scenario and the elements that comprise them. There are three categories to be examined in a scenario: Goal, Target, and Situation. If the sender can see the causal chain of events and the parameters tied to it, the participants can specify and so better understand the factors that influence and affect those involved. He or she will be able to identify the goal and so set objectives to attain it, outcomes that are sought related to it, and the things that demonstrate their attainment. Similarly, the aspects of the identified target can be specified. At times, the target is chosen in others it emerges from the scenario itself. The more information about the target audience that can be gathered and specified, the more effective the scenario can be acted upon. Knowing about the demographics and other information on the target helps develop a profile for the target. Beyond this, knowing what the target knows before the moment of interaction and familiarity with the content is important for refining the content. Beyond these informational items, determining the target's expectations and way of judging communication will provide a great deal of insight into the scenario and increase the overall effectiveness of leaders and speakers. Lastly is the situation that examines the factors of the moment of interaction. The conditions are the physical location and related factors, the circumstances describe the paths that each participant followed to arrive at the situation in the prescribed scenario. Lastly, context looks at the larger concerns that surround two or more of the participants and the impacts that the conditions and

circumstances might have on them as they interact within the moment of the scenario.

Essential Questions and Expert Communication

This leads to the need for formulation of an essential question that drives whatever actions are needed to solve it. Whether making a presentation, writing a report, conducting research, or teaching, having a clear single question is needed to improve understanding. This will aid in the effective communication of an effective expert. However, each discipline and organization may have its approach and set of practices and methodologies for working through problems, common aspects can be found in a general review of the work. Any process or topic can be defined and examined with a component analysis. In this way, a complex topic can be approached generally from a high level and used to establish common ground for teams of collaborators as they work together to negotiate an understanding of their approaches concerning others as everyone works together to solve shared problems and find common solutions.

The Component Model of Communication describes the process of moving a message from a sender to a receiver through a medium/channel. Coding is how the message is packaged to allow and enhance delivery through the channel. Noise is anything that can interfere with the successful transmission of the message. Feedback or interaction is the back-and-forth exchange of messages in packages. Different mediums might include written, oral, multimedia, video, etc. Different channels might be characterized in various ways but one main way is the relationship between the sender and target audience: one-to-one, one-to-many, many-to-one, and many-to-many.

These components and their elements are a way to analyze different communication events we have termed the moment. This leads to the creation of the communication package to increase the likelihood of success for the message being received and acted upon. The message to be conveyed is the answer to the essential question. Experts may not always fully develop the message in this way, but at the heart of an effective communication package is an essential question. Expert communicators focus their package to tell a story that answers a clear well-defined question. To construct this story to match the needs of the scenario, the communicator examines the components and elements of the scenario.

Component Model of scenario

As experts plan for effective communication, having insight into themselves, understanding their target, and awareness of the situation enhances success. First is the question of purpose and goals or “Why” the communication is occurring and

“What” is to be accomplished. The next factor deals with the other participants and the target of the communication to understand expectations. Finally, the third factors relate to where when, and how the various players come together and experience the package.

The goal is an overarching aim for the expected interaction. Within that, objectives are steps or milestones to be attained on the way to the goal. Outcomes are possible results and the understanding of how that will affect the attainment of objectives and the overall goal. Deliverables are the artifacts that are to be produced during the process especially those that are essential to goal attainment. The elements of target deal with the information you know about those you expect to receive the package. It also includes your understanding of what they might expect. Knowing about their demographics and prior knowledge will be useful to tailor the package. Knowing how they might judge you and the message and even factors they might be aware of can still impact the package’s effectiveness and so the success of an expert. All of these might affect how the communication package is perceived, decoded if necessary, and acted upon. Similarly, the elements of the situation deal with those factors affecting the delivery of the package tied to factors leading to and surrounding the moment of delivery and consumption of the message by the desired target.

Creating an effective package to enhance Overall Effectiveness and GOALS

For all types of communication, you are working to produce a package that provides a way to effectively attain your goal with the selected target in the given situation all of which is described by the scenario. When developing a package, being able to generate a storyline that connects and engages with the target audience and moves them from the beginning through the middle content to the end closing is helpful. There are various storylines, and each possible one can be planned out with storyboarding to help connect the plan to the actual moment and aid in preparation.

In the broadest sense, any communication seeks to be effective overall. To that end, the question is: Did the message get through, and did the target act as desired? Measuring this is often seen as the bottom line. However, this is not easy to operationalize and break down to aid learning and eventual mastery. To that end, a variety of scenarios can be defined related to different types of communication types and situations. One major one that I have researched deals with multimedia communication involving video-mediated tools both live and asynchronous. To assist with the understanding of this, I have developed the component analysis of effective presentations and termed these approach the GOALS components. Each of

these components has a set of elements that comprise them which in turn have aspects to be examined and measured. GOALS stands for Graphics, Orals, Alignment, Lucidity, and Synthesis. For more on these components and their elements, see my other resources.

GOALS is a series of nested categories that covered a collection of connected levels. All of these are rated but that rating scale varies as the level of detail increases. This occurs because at the top, most general levels, there are many items to be judged that could comprise a single score and so the impression of an overall effectiveness score of 10 vs one is a large difference. However, at lower, more-detailed levels, the refinement of what is being examined has less of a range and so has fewer items on the rubric. Eventually carried down to the lowest levels, the scale is nearly Boolean marking if it is there or not with some minor difference between good and poor aspects.

Conclusion

There is no simple formula for success in asking and answering questions. The process of communicating has many factors and any two instances may not be the same even if the components seem very similar. Experts must learn to appreciate the variety of required pieces so their knowledge and skill in these areas become part of their experience. In this way, expertise can be developed to allow the expert to not only know things and be able to do things but also can recognize how to collaborate and share that knowledge and skills with others in an effective way.