UNDERTAKING A CONCEPT SYNTHESIS: A STEPWISE APPROACH

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ABSTRACT: *The purpose of scientific research is to identify and investigate phenomena. Sometimes the boundaries of phenomena are not clearly identified. And as a result, the development of theory is defaced. Concepts describe the features, attributes, or characteristics of the phenomenon in the real or phenomenological world that they are meant to represent and that distinguish them from other related phenomena.*

KEYWORDS: undertaking, concept, synthesis, stepwise approach

INTRODUCTION

The purpose of scientific research is to identify and investigate phenomena. Sometimes the boundaries of phenomena are not clearly identified. And as a result, the development of theory is defaced. Concepts describe the features, attributes, or characteristics of the phenomenon in the real or phenomenological world that they are meant to represent and that distinguish them from other related phenomena.The concept is a cognitive symbol that has meaning for the scientific community that uses it (Podsakoff et al, 2016). The roots of the concept structure go back to Aristotle, and it is considered the standard approach for defining and conceptualizing phenomena (Goertz, 2006). A good conceptual definition should identify the set of fundamental characteristics or key attributes that are common (and potentially unique) to the phenomenon of interest. This precision not only clarifies the intension or meaning of the concept (Sartori, 1984) but also prevents the same concept from being used to refer to different phenomena. Concepts serve as the fundamental building blocks of theory, allowing us to organize complex phenomena with a common language that, when done well, facilitates communication between researchers (Sartori, 1984). Theoretical concepts serve several critical functions in the scientific enterprise. Inappropriate definition and lack of conceptual clarity lead to problems in the real or phenomenological world: 1- difficulty to distinguish the focal concept from other similar concepts in the field (Netemeyer, Bearden, and Sharma (2003).2: concept ''proliferation'' (the development of concepts with different names but overlapping conceptual domains) (Le, Schmidt, Harter, & Lauver, 2010; Tepper & Henle, 2011), 3- difficulty in specifying and testing the nomological network of the concept, thus undermining nomological validity. 4- Increasing the likelihood of a mismatch between the concept and measures or manipulations of it (Adcock & Collier, 2001;

Goertz, 2006), 5- increasing the likelihood that operationalizations of the concept (either by measures or manipulations) will be deficient and/or contaminated (MacKenzie, 2003; MacKenzie et al., 2011; Nunnally & Bernstein, 1994; Schwab, 1980).There are many reasons for the difficulty to providing a good conceptual definition, but the most important is the lack of training of scholars to develop conceptual definitions as part of their professional training, and developing good conceptual definitions requires a substantial amount of cognitive effort and disciplined thinking on the part of the researcher (Goertz , 2006).

Scientists have introduced guidelines to develop conceptual definition. Podsakoff and his colleagues recommended a step-by-step procedure to develop better concept definitions: (a) identify potential attributes of the concept by collecting a representative set of definitions, (b) organize the potential attributes by theme and identify any necessary and sufficient or shared ones, (c) develop a preliminary definition of the concept, and (d) refine the conceptual definition (Podsakoff et al, 2016). Walker and Avant also introduced a conceptual synthesis method for the development and explanation of concepts. They introduced eight steps in this method, which are: Subject familiarity, Classification of construct and sub constructs, Rearrangement of clusters, Cluster nomination, Cluster Verification, develop conceptual definition, conform the synthesized concepts to exciting theory. Walker and Avant asserted that the process of conceptual synthesis method can be done in an iterative process, and there is no need to follow step by step (Walker and Avant, 2010).

These quotes indicate the importance of clear and well-defined conceptual definitions in the real or phenomenological world. And the above mentioned methods have been introduced to help this field. Unfortunately, despite these efforts and concerns, the problem of inadequate conceptual definitions remains an issue in the community sciences. So that several researchers have observed that this problem is also widespread. For example, Suddaby noted that one of the more commonly cited reasons for rejecting a manuscript is that reviewers feel the submission lacks construct clarity, (Suddaby 2010). This is consistent with Locke, who took an even more pessimistic view of the field when he concluded that ''as someone who has been reviewing journalArticles for more than 30 years, I estimate that about 90% of the submissions I get suffer from problems of conceptual clarity'', (Locke 2012).

In this view, it seems that the most of the conceptual definitions guides and methods are subjective and theoretical, and it is essential for scientific progress and provide a concrete set of steps that researchers and scholars can follow to improve their conceptual definitions. So our sight is to provide a series of steps that can serve as a guide for researchers, scholars in the community sciences to define a new concept or revise the definition of one that already exists in the field. Finally, we provide some examples from our experience about implementation this method.For

this purpose, In this paper, we present a conceptual synthesis method for the development and explanation of concepts, There are six steps in this path, including: 1- Selecting Focal or Sentinel Concept, 2- Primary literature review around Focal or Sentinel Concept,3- Arriving at (finding & developing) Set of Terms, Meanings, & Referents related to Sentinel Concept, 4- Explication/ Boundary Clarification, 5- Secondary literature review about Attributes of Concepts, 6- Developing a Semantic Network / Model / Theory around Sentinel Concept(figure 1).
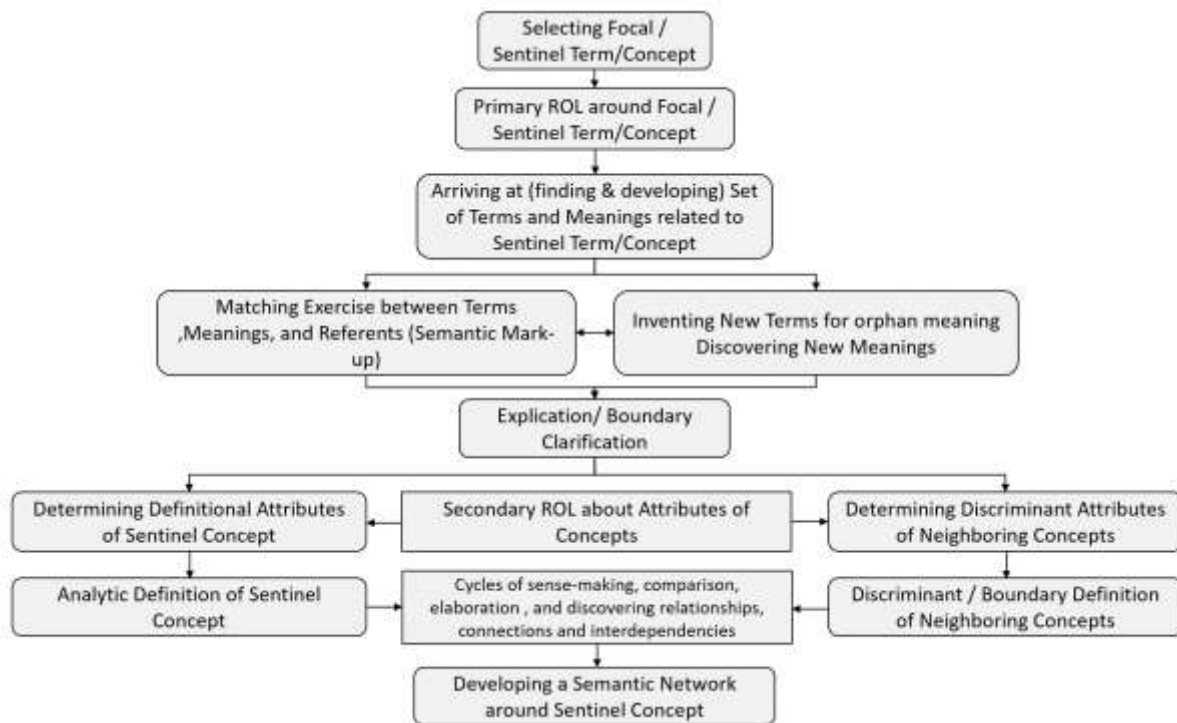

Figure1- summary stages for developing conceptual definition by concept synthesis.

First at al we define what is meant by a concept synthesis, and necessity for doing it. Then we explain all of the stages by details.

Concept synthesis is a useful strategy for developing a standard language about our practice. This method is used to generate new ideas.it provides a method of examining data for new insights that can add to theoretical development. Whenever a new phenomenon or cluster of phenomena are described, the process of concept synthesis has already begun.

At three times, conceptual synthesis is required. In the areas, where there is little or no concept development, in the areas where concept development is present but has had no real impact on theory or practice, in areas where observations of phenomena are available but not yet classified or named(Lenz et al,1995).

Concept synthesis steps:

Selecting Focal or Sentinel Concept

It is often the beginning of a conceptual synthesis by a word. But in the absence of a word, one can express a mental concept without a word for it, and this causes synthesis to be done around the concept of mind. So the first step is to choose a concept or a word.

Primary literature review around Focal or Sentinel Concept

 In the literature review, it is better to look for abstract texts. So, in the development of Semantic Network, it is better to use strategies to achieve abstract literature. In reviewing the texts, no systematic review method is used at all. That is important to find the main contributions to this topic. This is a very important and time consuming step. And; is an iterative process.

Arriving at (finding & developing) Set of Terms, Meanings, & Referents related to Sentinel Concept

First, all the words are listed, respectively, then they are separated from each other based on their abstract amount. Those that are more abstract are used in the domain of the Term and those that are more operational are used in the referents domain.The starting point can be a referent, it can also be a word, or in some cases it is a meaning. This is a kind of mental game. We introduced a model at this stage, which is in the form of a triangle with three angles of the term, meaning and Referent (Fig 2).
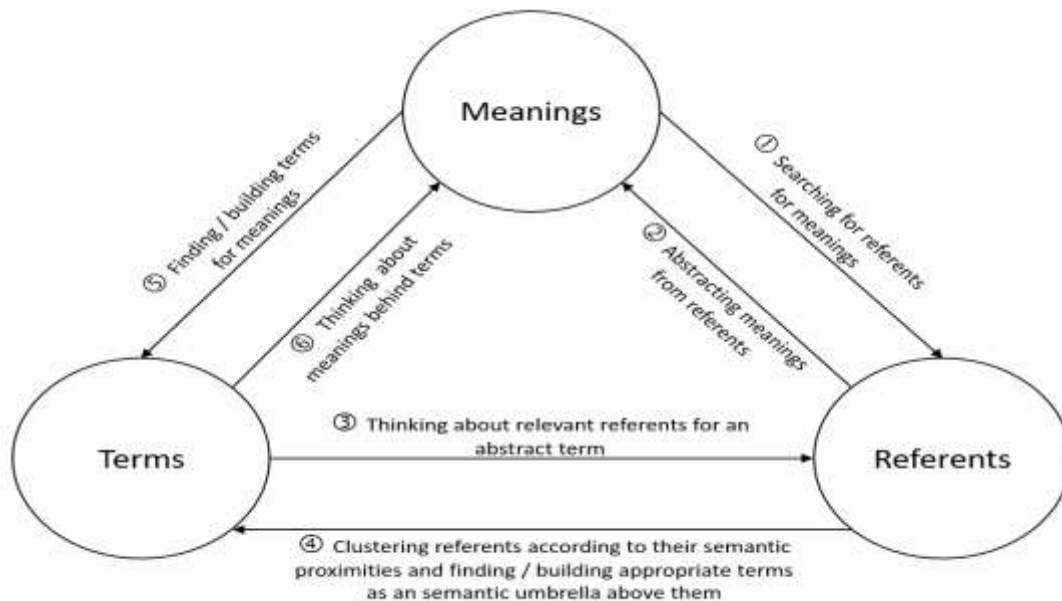
In this model, the referents are external manifestations of the phenomenon, terms are the semantic label for the phenomenon, and meanings is the inner representation of the phenomenon in the

mind. The start of this process can be from any of the corners of this triangle. In this process, each of 6 arrows represent different paths between terms, meanings, and referents.

	from	To	Description	Example
①	Meanings	Referents	Searching for referents for meanings	Searching for examples and external referents for the "process of careful self-focus, aimed at making a good impression" and finding: "self-affirmation", and "self-promotion" as referents for this meaning.
②	Referents	Meanings	Abstracting meanings from referents	Thinking about the cluster of referents: "inner speech", "self-directed speech", "subvocal speech", "covert speech", and "auditory imagery" and abstracting the meaning: "talking to oneself either silently or aloud" from them.
③	Terms	Referents	Thinking about relevant referents for an abstract term	Searching for examples and external referents for "self-regulation" and finding: "altering one's behavior", "resisting temptation", "changing one's mood", and "filtering irrelevant information".
④	Referents	Terms	Clustering referents according to their semantic proximities and finding / building appropriate terms as an semantic umbrella above them	Consider the cluster of referents: "self-worth", "self-feeling", "self-respect", "self-liking", and "self-judgement" and choosing the term "self-esteem" as a semantic umbrella for them.
⑤	Meanings	Terms	Finding / building terms for meanings	Thinking about the condition of "negative, chronic, and persistent self-focus motivated by perceived threats, losses, or injustices to the self" and building the term "self-rumination" for this condition.
⑥	Terms	Meanings	Thinking about meanings behind terms	Thinking about the meaning of "self-disclosure" and defining this term as: "willingness to open up to others and share self-information"

Explication/ Boundary Clarification

In this part of the work, the definitional attributes are used. For example, in the definition of critical thinking: it is a hierarchical concept, universal in various matters and critical. These attributes are meaningful together, this means an analytical definition, and each of these words is a definitional attributes. And when one of them is removed, the definition is defaced, and a change in the concept of definition is created.In the previous step, there was a term, meaning, and a referent, at this stage, the definitional attributes is introduced. This means that the definitional attributes are specified for focal concepts. For example, in the field of educational development, we must look for the definitional attributes about educational development and along with there is a need to look for

discriminant attributes of neighbor concepts, which may be a part of the definitional attributes for focal concepts.

Secondary literature review about Attributes of Concepts:

At this point, there should be an over review on the definitional attributes. The purpose of this work is to achieve the definitions for the main concept its analytic definition, to achieve the Discriminant attributes for neighbor concepts and provide boundary definitions for them.

Developing a Semantic Network / Model / Theory around Sentinel Concept:

In the previous stages, Terms, Meanings, and Referents were created. The boundary between the concepts became clear, by Discriminant attributes, neighbor concepts are defined, and through definitional attributes, analytic definitions for the main concepts were provided. In this section, there is a need to examine the relationship of concepts individually. This connection can be in two forms: 3- semantic model or semantic theory: there is semantic arrangement and not based on causality, in this kind of model, meanings are placed together, that is, when similarities and their proximities were visually evident. 2- Based on causality.3- Hierarchical.

CONCLUSION

A lack of conceptual clarity causes a number of problems—both at the conceptual and the operational levels (Netemeyer, Bearden, and Sharma, 2003). In addition, a lack of conceptual clarity can lead to difficulty in specifying and testing the nomological network of the concept, thus undermining nomological validity. If one does not have a clear idea of what the concept means, it is difficult to identify related concepts or to specify whether they are antecedents, consequences, or correlates of the focal concept. (Tepper & Henle, 2011).

But, it is not easy to specify the attributes or characteristics that capture the ''essence'' of a concept, and developing good conceptual definitions requires a substantial amount of cognitive effort and disciplined thinking on the part of the researcher. Indeed, as lamented by Nunnally and Bernstein (1994), ''no precise method can be stated to outline the domain of variables for a construct properly (Nunnally and Bernstei, 1994). However, even though this may be an intuitive process, we believe that there are ways to structure and guide the process of concept explication through a stepwise approach that we believe will help researchers to develop better analytical definitions.

Although, we described the stages as being discrete and sequential, they actually overlap to some extent, and the concept definition process is iterative in nature. On the other hand, undoubtedly, there are other worthwhile techniques that could be utilized during some of the steps. By this way, it is important to keep in mind that there may be practical limitations that prevent researchers from

implementing all of the recommendations discussed in our approach. Nevertheless, because of the critical role that concept definitions play in the development of valid theories and operationalization of concepts, we strongly encourage researchers in the field to use as many of the techniques that we describe as is necessary to develop clear and concise definitions of their theoretical concepts.

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