

Toward the Development of a Needs Assessment Process for International Contexts: A Model  
for Saudi Arabia

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## **Abstract**

Needs assessment plays a vital role in the field of instructional design. It is considered essential to determine whether instructional needs exist, and to then specify interventions appropriate for the context examined. This process involves the thoughtful analysis of the learner, the task, and the context. Despite the importance of this process, the literature appears to lack recent publications on needs assessment processes in international settings. Given the limited examination of the implementation of the needs assessment process within the context of different countries and cultures, a need exists for the development of a revised needs assessment model for use within international settings. Witkin and Altschuld (1995) have suggested a three-phase model for conducting needs assessments taking place in large organizational change and development contexts. This study attempts to describe the development and the validation process for the three-phase model that has been developed in the United States so that it may be adopted in an international context (Saudi Arabia). Using developmental research methods, the construction and validation of the model for the Saudi context occurred in three phases including: analysis, validation, and revision (Richey & Klein, 2008). In phase one, a comprehensive overview of the literature was used as a theoretical foundation for developing the three-phase model. In phase two, formative evaluation of the model was conducted by two expert reviewers followed by an open-ended survey of practitioners and scholars in the instructional design field (N = 15). In phase three, the three-phase model was further revised and modified based on the results of the formative evaluation. Data analysis procedures followed qualitative methodologies. Triangulation of the findings from the literature review, expert review, and open-ended survey provided the validation for the three-phase model. As a result, a culturally-based model considering contextual, social, cultural, and political aspects was developed for the Saudi context. This model is proposed to enable instructional designers and developers in the Instructional Design field to better understand the local contextual and cultural factors prior to actual implementation of the needs assessment into the new country. Recommendations were given to practitioners choosing to use the culturally-based model in the Saudi context, and suggestions for future research were provided.

# **Toward the Development of a Needs Assessment Process for International Contexts: A Model for Saudi Arabia**

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## **General Audience Abstract**

This paper proposes a new revised model of needs assessment for international context. A previous work called “three-phase model” was developed by Witkin and Altschuld (1995) to help practitioners in the United States to conduct needs assessments taking place in large organizational change and development contexts. Given the limited examination of the implementation of needs assessment process internationally, this study attempts to describe the development and the validation process for the three-phase model to be adopted in an international context (Saudi Arabia). Using developmental research methods, the construction and validation of the model for the Saudi context occurred in three phases including: analysis, validation, and revision (Richey& Klein, 2008). In phase one, a comprehensive overview of the literature was used as a theoretical foundation for developing the three-phase model. In phase two, formative evaluation of the model was conducted by two expert reviewers followed by an open-ended survey of practitioners and scholars in the instructional design field (N = 15). In phase three, the three-phase model was further revised and modified based on the results of the formative evaluation. Data analysis procedures followed qualitative methodologies.

Triangulation of the findings from the literature review, expert review, and open-ended survey provided the validation for the three-phase model. As a result, a culturally-based model considering contextual, social, cultural, and political aspects was developed for the Saudi context. This model is proposed to enable instructional designers and developers in the Instructional Design field to better understand the local contextual and cultural factors prior to actual implementation of the needs assessment into the new country. Recommendations were given to practitioners choosing to use the culturally-based model in the Saudi context, and suggestions for future research were provided.

### **Dedication**

To my father, Hassan Alqahtani, who would be proud and pleased with this achievement.

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In the name of Allah, the most gracious and the most merciful Alhamdulillah, all praises to Allah for strength and his blessing in completing this thesis. Pursuing my doctoral education was once a dream, and it became reality with the encouragement, undying love and continuous support from my amazing husband Dr. Ali Albassami. Ali, thank you for believing in me, inspiring me, and being supportive throughout my educational endeavors.

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# **CHAPTER 1**

## **INTRODUCTION AND NEED FOR THE STUDY**

### **Introduction**

Since the 1960s, the landscape of needs assessment has been well established and easily accessed through the literature. However, there is an absence of literature related to the appropriateness and feasibility of the general needs assessment process within international contexts. A comprehensive review of the literature has revealed that research is lacking for the development and implementation of the needs assessment process taking into account social, political, and cultural considerations. The current needs assessment literature focuses on improving productivity and providing quality products and services (Altschuld & Witkin, 2000). The gap in the literature appears in the lack of recent publications on needs assessment processes in international settings. Most literature on needs assessment initiatives has been published in the past four decades (e.g., Altschuld & Witkin, 2000; Kaufman & English, 1979; Kaufman, Rojas, & Mayer, 1993; Rossett, 1987; Watkins, Leigh, Platt, & Kaufman, 1998; Witkin, 1984; Witkin & Altschuld, 1995; Zemke, & Kramlinger, 1984). These foundational works may be dated, but are still worth citing in establishing the need for internationalizing the needs assessment process. Articles or books from before 1990 were included only when they were frequently referenced in literature or were the primary source for a needs assessment method in the recent articles.

In 1995, Witkin and Altschuld suggested a three-phase model for conducting needs assessments taking place in large organizational change and development contexts like businesses, community agencies, and government institutions (Witkin & Altschuld, 1995). The three-phase model is characterized as a comprehensive focus and includes systematic procedures and steps focusing on the needs assessment process itself. It is also considered the most recent

needs assessment model, which makes it a viable and practical option for extending its use to an international context, such as in the country of Saudi Arabia.

### **Significance of the Study**

This is the first study to internationalize a generalized needs assessment process that would be implemented in a new context with a different set of parameters. This study utilizes prior research to lay the foundation for a sound needs assessment practice that is sensitive to the considerations of an international context. It proposes a set of accommodations and recommendations that may yield the successful adoption of an existing framework for use in a given country. There have been many needs assessment models developed and adopted locally in United States, but these have never been synthesized or examined internationally (e.g., Arthur, 1993; Burton & Merrill, 1991; Darraugh, 1991; Gordon, 1994; Rummler, & Brache, 1990; Robinson, & Robinson, 1995; Rothwell & Kazanas, 1992; Watkins, 2007; Watkins, & Wedman, 2003; Watkins, & Leigh, 2009; Witkin, & Altschuld, 1995). Thus, this study attempts to describe the development and the validation process of the three-phase model (Witkin, & Altschuld, 1995) that has been developed in the United States to be adopted in an international context (Saudi Arabia). That being the case, the study offers a comprehensive overview of:

- Potential use of the three-phase model in the new context;
- Barriers (challenges that have been encountered by participants and the extent to which these are considered challenges for the IDT field) to future implementation of the three-phase model in the new context;
- Accommodations needed for the model to suit the new context.

Employing a developmental research approach, this study adapts the three-phase needs assessment model to form a framework for building and maintaining relevant and appropriate

needs assessment practices for the Saudi Arabian context. The description of the developmental process contributes to the literature concerning developmental research products, and may lead to further research projects using the same model. At a minimum, methodologies and tools related to the needs assessment process would need to be translated to the Eastern context, as it is assumed that existing methodologies would need to accommodate different cultural settings. This research is also intended for practitioners who are looking for a systematic approach to conducting needs assessment in the Saudi context as the basis for introducing a training, development, or change program or initiative.

### **Purpose Statement of the Study**

The purpose of this study was to internationalize a general needs assessment process that has been implemented in a Western context (the United States) for application in a Middle Eastern country (Saudi Arabia). Unlike many other Middle Eastern countries, Saudi Arabia was chosen for this study because it is a closed society and is facing a number of social, religious, political, and economic changes (Al-Shammari, 2009; Jamjoom, 2012). This study describes the development and the validation process for the three-phase model of needs assessment for the Saudi context based on a comprehensive literature review, expert review, and an open-ended survey. The study design consisted of three phases within the validating process including analysis, validation, and revision. As a result, a culturally-based needs assessment model considering contextual, social, cultural, and political aspects was developed for the Saudi context.

### **Benefits of the Study**

The findings from this study contribute to the instructional design literature, as they provide data that can be used to build a theoretical framework for internationalization of needs assessment in an Eastern context. The findings from the study emphasize the importance of conducting context and learner analysis before conducting any needs assessment practices. As a result, a culturally-based needs assessment model considering contextual, social, cultural, and political aspects was developed for the Saudi context. The culturally-based model is proposed to enable practitioners in the field to better understand the local contextual and cultural factors prior to actual implementation of the needs assessment into the new context. The implications from this research have helped to generate discussion about the impact of context in instructional design: needs assessment, and implications for the use of an existing “first world” needs assessment model within a developing nation.

### **Implications for Practice**

The long-established three-phase needs assessment model is unique from most other models in that it includes facilitating factors that are specific to academic settings. While the model is focused on higher education, many of its elements are useful to all organizations, both inside and outside of academe (Altschuld, 2010; Witkin, & Altschuld, 1995). In fact, the culturally- based model developed would ideally be used by instructional designers and developers in Saudi Arabia who may be unfamiliar with the needs assessment process and would need further guidance and support (Ghufli, 2014). In addition, this model can help other audiences such as professional training developers and designers; who are not needs assessment experts, but are engaged in the field and can benefit most from the finite process prescribed and assessment results.

## **Research Design**

Given the nature of forming a needs assessment model for the Saudi context, a developmental study appears to be the most appropriate research methodology. Developmental research is considered different from other traditional research methodologies in the field of education. According to Richey and Klein, this research emphasizes the study of learning as a result of designing unique instructional interventions. It is a formative approach that can provide a rich and efficient information on theoretically and empirically tested design principles and methods to create a solid ground for designers' choices and timely feedback to improve their products (Richey & Klein, 2005). In addition, this method is perfect to generate methodological directions for the design and evaluation of such products (Ross et al., 2007). Weston et al. (1995), as described by Richey and Klein (2007), used only three phases in an instructional design model: analysis, design, and evaluation. Using a Type 2 developmental research model based on the design employed by Weston et al., it will be possible to inform the practice of instructional design through creating a new version of the three-phase model for the Saudi context through analysis (literature review), design (the new version of the three-phase model), and evaluation (expert review and open-ended survey).

## **Document Organization**

Chapter One has provided the background information and theoretical foundations for the study. Additionally, Chapter One has introduced the major themes addressed by the study, including the need for the study, the purpose statement, and potential benefits. Chapter Two is an extensive review of relevant literature. This chapter explores the theoretical foundations of needs assessment practices locally and internationally, and provides a comprehensive overview of related models and theories. Chapter Three explains the methodology used to conduct the study.

This chapter includes a description of the study design, the culturally-based model development, participants, procedures, survey and review instruments, data collection, and data analysis.

Chapter Four provides the data analysis and results from the expert review and open-ended survey. It also outlines how the model is to be further revised based on reviewer feedback.

Chapter Five summarizes the study and describes the implications of the study.

## **CHAPTER 2**

### **REVIEW OF LITERATURE**

#### **Introduction**

Attention on internationalizing needs assessment has led to a body of literature on the topic of needs assessment as a whole. Since the 1960s, needs assessments (NA) have become increasingly popular in different disciplines. Even though needs assessments are widely appreciated and used in business and industry, the roots of needs assessments are within the educational field. According to Witkin (1994), needs assessments were initiated through the Elementary and Secondary Education Act (ESEA), and were required by some grant agencies in health, education, and social services as part of their evaluation. Consequently, several varieties of needs assessment studies have appeared in the United States during the 1980s and early 1990s, each with its own assumptions, scope, tools, and procedures. Articles or books from before 1990 were included only when they were frequently referenced in literature or were the primary source for a needs assessment method in the recent articles. All come with the same interest in assessing needs along with the responsibility of improving productivity and providing quality products and services. Due to the lack of resources related to internationalizing needs assessments in the literature, this phase of the study addresses the current literature on needs assessment in a way that seeks to provide a conceptual framework for the internationalization of needs assessments within the Saudi context.

#### **The Concept of Needs Assessment**

Since the 1980s, the needs assessment has continued to offer a useful and rational approach to identifying and addressing issues in education, business, health, and other social work (Altschuld, 2010; Braden, 1996; Dick, Carey, & Carey, 2001; Tessmer, 1990). Each

discipline has its own perspective on needs assessment. Therefore, a number of concepts and a wide variety of models are available today, and all are concerned with resolving problems and achieving the intended purpose of the assessment. However, considerable confusion still exists throughout the literature about such questions as: 1) what is a “need?” 2) what is a “needs assessment?” 3) when and where should needs assessments be made? and 4) if a needs assessment is necessary, which of the many available models should be used? While there is no correct answer for these questions, understanding the fundamental concepts related to the needs assessment process is necessary for anyone who plans to engage in the process and use the resulting data for further educational planning and accomplishment.

The term “needs assessment” can be found within various scholarly journals and publications including: *Journal of Education and Training Studies* (JETS), *International Journal of Human Resources Development and Management* (IJHRDM), *American Journal of Evaluation* (AJE), and *International Society for Performance Improvement* (ISPI). Most literature centers on the concepts of educational and social programming to advance human learning and performance while also focusing on issues of efficiency and cost-effectiveness. There is considerable literature available on the history of needs assessment and an equally large amount of literature on needs assessment methods and tools.

### **Using Needs Assessment in Professional Fields**

Throughout the literature, it is noticeable that needs assessment has been a useful approach in a variety of programs and settings, and can be applied in various professional fields. For instance, studies about the change process, instructional program improvements, evaluation of instruction, producing desired outcomes, making decisions regarding instructional materials, consulting skills, and a great many other topics appear relevant to the practice of needs



assessment (Altschuld, 2010; Braden, 1996; Dick, Carey, & Carey, 2001; Tessmer, 1990). To bring some order to the considerable research and knowledge base for needs assessment, and to categorize the relevant areas of inquiry, three major areas have been identified in recent years: instructional design, evaluation, and training and development fields, as represented in Figure 1.

**Needs assessment and the instructional design field.** In the instructional design field, needs assessment has been emphasized as one way to improve effective training programs aiming to improve performance (Dick, Carey, & Carey, 2001; Braden, 1996; Holton, Bates, & Naquin, 2000; Rossett, 1995). Accordingly, needs assessment plays a significant role in gathering data and information to assist professionals in identifying instructional goals and objectives, making decisions, and generating responsive recommendations about how to solve problems and improve performance.

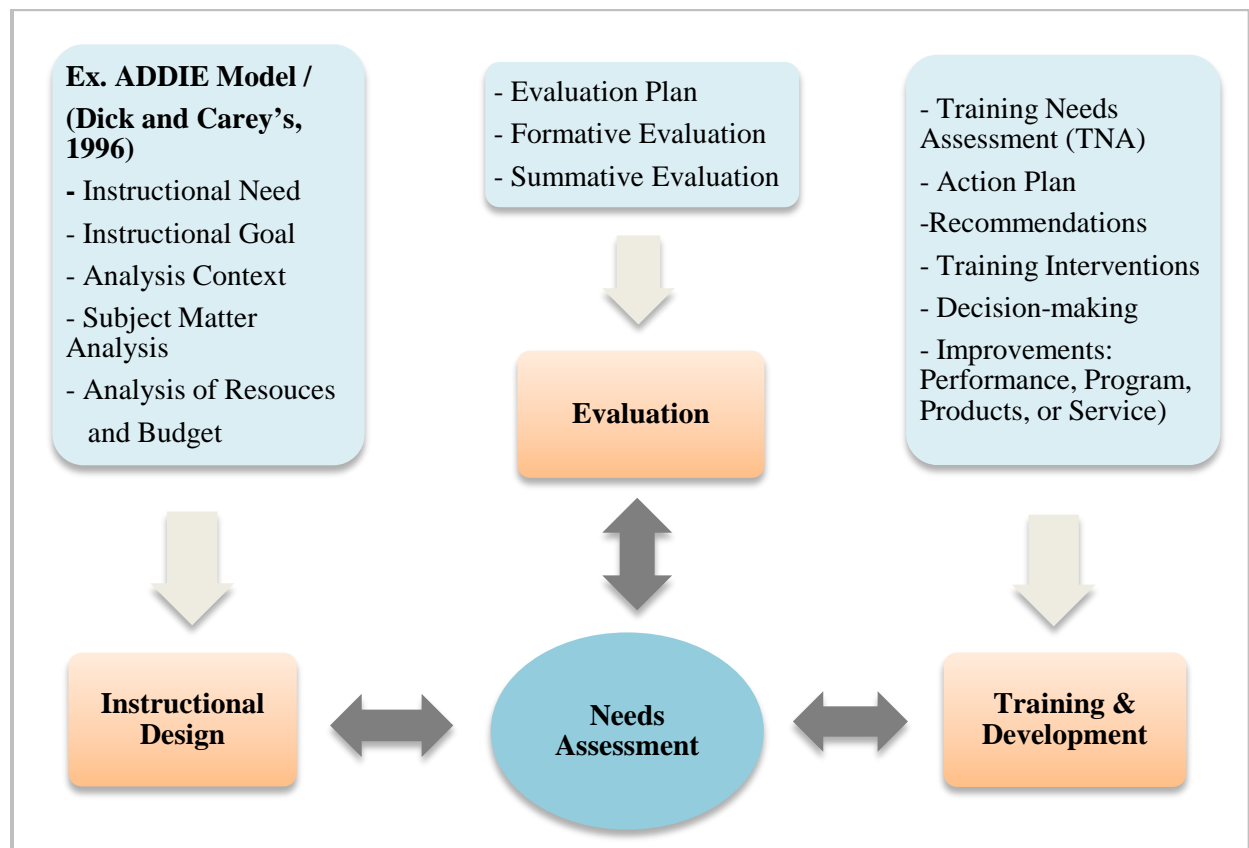
Burton and Merrill (1991) stated that the needs assessment should often be the first step in any systematic approach to the development of any instructional materials or training programs. Rossett (1995) and Jonassen, Tessmer, and Hannum (1999) also contend that the needs assessment process is designed to develop appropriate instructional and informational programs, materials, or solutions yielding desired outcomes. It is commonly used in the “Analysis Phase” of instructional design to search for the information needed to make decisions regarding the instructional goal and objectives, analysis of the context, and analysis of the resources. Without taking this step, or by basing programming decisions on intuition rather than information, the instructional design process will not produce reliable outcomes. Thus, it is necessary to note that conducting a needs assessment is viewed as an important step toward improving the chance of success for instructional programs.

**Needs assessment and the evaluation field.** There is evidence for the connection between needs assessment and its practice in the evaluation field. Guyette (1983) indicated that needs assessment is often considered a type of evaluation, fitting into the overall process of assessment. However, Baehr (2009) stated that needs assessment and evaluation are used for different reasons with both having similar steps. Similar to evaluation, needs assessment uses formative and summative evaluation methods to determine the effectiveness of the assessment. Often, formative evaluation is performed as an ongoing process that allows for feedback to be implemented during the development of the needs assessment, while the summative evaluation is used in assessing the value of completed needs assessment processes.

As a result, the findings from the evaluation process would help to determine the quality of the performance and outcomes from the needs assessment in making future decisions (Witkin & Altschuld, 1995). Equally, needs assessment involves the process of evaluation to describe and diagnose the need. In the evaluation field, needs assessment is used to analyze problem areas within the need to be addressed. Needs assessment is used to collect the baseline data used to meet the needs of the evaluation (Rossi, Freeman, & Lipsey, 2004). Based on the previous discussion, it is clear that understanding how evaluation fits into the assessment process, and how evaluation and assessment work together would add value to the knowledge base and key concepts of needs assessment literature.

**Needs assessment in training and development.** Likewise, needs assessment also falls under the umbrella of the training and development field. In this field, needs assessment has been deemed essential for conducting an effective training and development program (Al-Khayyat, 1998). In training and development, needs assessment is frequently called Training Needs

Assessment (TNA) because it designs training solutions or interventions to solve the needs of individuals and the organization (Leatherman, 2007).



*Figure 1: Scope of the research and knowledge base related to needs assessment in professional fields.*

Usually, needs assessment in the training and development field exists to resolve a particular weakness associated with the organization or individuals requiring training. Further discussion regarding this matter will be provided later in this paper. The important point here is to indicate how needs assessment is often used in the training and development field in ways that can enhance the knowledge base and the conceptual framework for this approach.

## **The Definition of Needs Assessment (NA)**

In reviewing the literature concerning the definition of needs assessment, many scholars have contributed in providing many of the fundamental concepts associated with needs assessments (NA), and have broadly shared their insights within this area of research (e.g., Altschuld, 2010; Altschuld & Witkin, 2000; Kaufman & English, 1979; Kaufman et al., 1993; Rossett, 2009; Watkins et al., 2012; Witkin & Altschuld, 1995; Watkins & Kaufman, 1996; Witkin, 1984). Although other researchers have experimented with needs assessment methodology, Kaufman is considered one of the most significant scholars in providing foundational concepts and tools for needs assessment (Kaufman, 1992, 1998; Kaufman & English, 1979; Kaufman et al., 1993; Watkins & Kaufman, 1996).

A number of definitions for needs assessment have been proposed by needs assessment and evaluation scholars, all influenced by the needs assessment perspectives held by authors or advocates. Kaufman and his colleagues have extensively described needs assessment (Kaufman 1972, 1977, 1988; English & Kaufman, 1975; Kaufman & English, 1979; Kaufman et al., 1993), defining it as a, “systematic set of procedures undertaken for the purpose of setting priorities and making decisions about program or organizational improvement and allocation of resources” (Witkin & Altschuld, 1995, p.4). This approach has directed attention toward outcomes and views the needs assessment as a systematic producer that is used to improve programs, services, organizational structure and operations. Needs assessment is also defined as a process of identifying and prioritizing the gap between current and desired results (Kaufman, 1992; 1998; Watkins & Kaufman, 1996; Watkins et al., 2012). This definition is the most commonly used in the literature to describe needs assessment. It implies that the gap should be recognized and accurately defined to provide practical decisions and solutions that are relevant

to the need. The gap between the present state (what *is*) and the desired state (what *should be*) was defined as “need,” regardless of whether the topic under discussion was an institution, small group, or other system (Kaufman, 1992).

**The concept of “need.”** Across the literature, there is an emphasis on the meaning of the word “need.” However, a fair amount of confusion has surrounded the general accepted and practical definition of “need.” Kaufman placed significant attention on the conceptual analysis of the term “need” by noting that the *noun* and the *verb* have quite different meanings in needs assessment approach. He was the first to urge always using “needs” as a *noun* and never as a *verb*. Need as a *noun* refers to the gap in terms of results, not the gap in means or resources (Kaufman et al., 1993; Kaufman, 1997). Accordingly, the need as *noun* is neither the present nor the desired state in a given situation. It is the gap between them which refers to the problem or concern. The gap or need can be described as desire, interest, or deficiency, as they all require performing a needs assessment. After defining the exact need, the needs assessment can be used to improve current conditions and determine necessary interventions (Witkin & Altschuld, 1995; Watkins et al., 2012).

In addition to this, it is advisable by Pennington (1980) to consider the “need” as a gap between a current and desirable set of circumstances. Circumstances can be defined and specified in terms of needed proficiency and competencies including, but not limited to knowledge, skills, attitudes, or performance. Moreover, Burton and Merrill (1991) have summarized six categories of educational needs that are used for planning and conducting a needs assessment. These include normative needs, comparative needs, felt needs, expressed needs, anticipated or future needs, and critical incident needs. Even though each type of need

reflects different issues, all focus on determining a gap between what is and what should be (Burton & Merrill, 1991)

However, confusion arises when the word “need” is used as a *verb* (Burton & Merrill, 1991; Watkins et al., 2012; Witkin & Altschuld, 1995). While the word “needs” represents the means (process), or solution strategy rather than a discrepancy, using need as *verb* means to jump into a desired outcome before defining the gaps in results and the solutions that will close those gaps. Although it is often tempting to mix potential solutions (that is, activities or resources) with needs, needs assessment would be more effective when focused exclusively on results to start, because there will be plenty of time for identifying potential solutions later in the process (Witkin & Altschuld, 1995).

Focusing on results and identifying needs as a gap helps to distinguish between people’s *needs* and *wants*. Both are important, but each offers different information to inform final decisions. According to Watkins et al. (2012), *needs* (gaps between current and desired results) are essential for improving performance while *wants* typically refer to the resources, activities, methods, or solutions that people prefer as the only option for moving ahead. In this case, needs assessment is used as a process to balance *needs* and *wants* to accomplish desired results (Watkins et al., 2012).

**Need and needs assessment.** According to the literature, needs assessment is a process of identifying the needs and placing them in priority order on the basis of the available resources to get preferred outcomes (Kaufman, 2000; Kaufman & Watkins, 1996). Often, prioritizing the needs is based on allocating resources like goals, time, costs, funds, equipment, etc. Once the need has been established, then the real work of the needs assessment begins: learning how the program should be designed in order to maximize its potential for success.

Completing a needs assessment requires a clear instructional goal aligned with measurable objectives, and an organized assessment plan that would help to make decisions about priorities for program or system improvement (Watkins et al., 2012; Witkin & Altschuld, 1995).

Accordingly, developing an assessment plan allows determining goals, planning methods, and creating a structure for assessment that will give the information needed to conduct a successful effort. Kaufman and Watkins (1996) stressed the importance of identifying the problem, the causes of the problem, and a selection of solutions that could be implemented to solve that problem. By clearly identifying the problem, a precise goal can be defined and can be directed toward developing and implementing a viable and applicable solution.

Depending on the determined goal, all subsequent assessment decisions involving objectives, data collecting and analyzing methods, resources needed, budget, etc. must fit under it and support it (Watkins et al., 2012; Witkin & Altschuld, 1995). Accordingly, needs assessment can identify the gap between the desired goals and the current status, can be an effective tool to clarify problems and identify appropriate interventions or solutions, can be used for improvement in individuals, education, organizations, or communities, and can also refine and improve a product such as training or services (Altschuld & Witkin, 2000; Burton & Merrill, 1991; Watkins et al., 2012; Witkin & Altschuld, 1995).

### **Benefits of Needs Assessments**

The literature covers a variety of views related to needs assessment benefits and reasons for conducting them in many disciplines. According to the literature, needs assessments can be decision-making processes, change-oriented tools, methods for description, and analytical procedures (Altschuld & Witkin, 2000; Kaufman & Watkins, 1996; Watkins et al., 2012).

Effective needs assessment can provide the foundation for planning to identify problems and

set goals for future actions to improve learning, training, development, and performance (Burton & Merrill, 1991; Sleezer, Russ-Eft & Gupta, 2014). Watkins et al. (2012, p.25) stated that, “Needs assessments can provide justifications for decisions before they are made.” According to Watkins and others, needs assessments can provide justification for decisions related to systems that are not working, poorly trained personnel, damaged equipment or procedures, and other organizational issues (Watkins et al., 2012). Once these deficiencies are specified, needs assessments can improve the quality of decisions, thus leading to improvements in performance and the accomplishment of desired results. Additionally, needs assessment can be a useful tool when the context and the scope of the process is clearly identified, when there is both opportunity and commitment to change, and when resources are available to do an adequate job (Witkin & Altschuld, 1995).

Regardless of the context in which a needs assessment occurs, the purpose is to get a complete picture of the current condition from many sources to balance the desire for quality against the constraints of time and resources (Watkins et al., 2012). For instance, in the education field, needs assessments can be used for writing accreditations reports for a school or district, for assessing needs related to educational services and products, and for designing new and effective educational programs at local, state, regional, and national levels (Witkin & Altschuld, 1995). Needs assessments can also be useful in providing a general overview of demographics data (e.g. housing patterns, income, poverty, and unemployment) and providing a basic understanding of the level and type of government services available (e.g. health care, higher education, public transportation, and parks). Assessing needs in such situations and having diagnostic information about the current conditions would greatly increase the possibility of success and avoids costly mistakes (Sleezer, Russ-Eft, & Gupta, 2014).



Conversely, a needs assessment might be inappropriate, if not a waste of energy and resources, under certain circumstances (Witkin & Altschuld, 1995). For example, producing data through the needs assessment process is likely to be irrelevant to gaps requiring action. Thus, it is important to carefully examine the context of any proposed needs assessment to make significant improvements regarding the need.

Given all of these benefits associated with needs assessment, it is obvious why so many in the fields of training, community, international development, and performance advocate systematic needs assessment. More specifically, in the educational field, educators use needs assessment to ensure that educational interventions are relevant and address learner needs (Burton & Merrill, 1991). Needs assessment presumably contributes to a broad range of other useful activities in the instructional design literature including planning, analyzing, setting evaluation, resource allocation, and decision-making for improving teaching and learning.

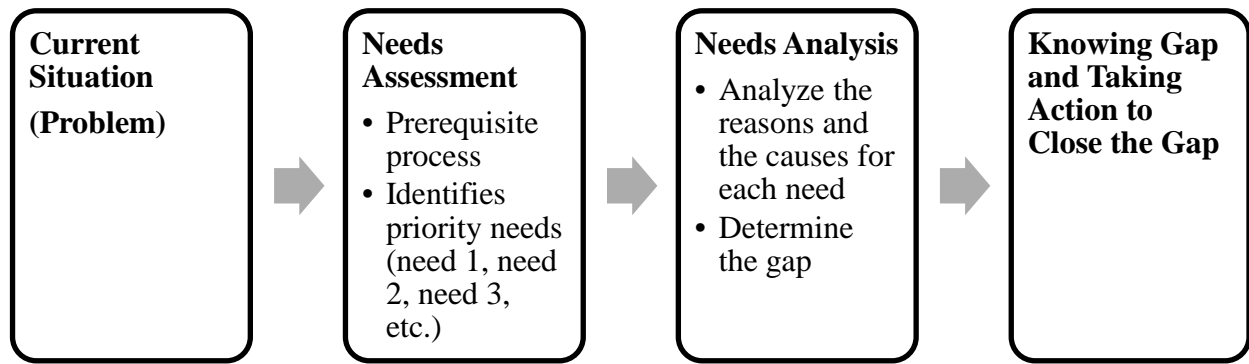
### **Needs Assessment and Related Terms**

Across disciplines in psychology, philosophy, science, sociology, and politics, the term needs assessment has taken on several definitions and terms and has led to a broad range of content. Watkins et al. (1998) emphasized that the wide application and use of the term “need” for different reasons has often impeded the usefulness of the needs assessment contribution. Since there has been a great deal of confusion and debate over the definition of the term “need,” it is not surprising to come across a variety of definitions for “needs assessment.” According to the literature, confusion begins with the many terms that are related to needs assessment including: need identification, need analysis, gap analysis, goal analysis, training needs analysis, front-end analysis, needs surveys, and demand analysis (e.g., Altschuld & Witkin, 2000; Csete, 1996; Kaufman & English, 1979; Kaufman et al. 1993; Watkins &

Kaufman, 1996; Watkins et al. 1998; Witkin, 1984; Witkin & Altschuld, 1995). Csete (1996) noted that the terms needs analysis, front-end analysis, goal analysis, task analysis and strategic planning might be used as synonyms for needs assessment. In addition, Witkin and Altschuld (1995) stated also that the need identification and need analysis are parts of the total process of needs assessment. Watkins et al. (2012, p. 15) indicated that, “Gap analysis, needs analysis, and performance analysis are occasionally used as synonyms for needs assessment, yet they are more frequently (and more accurately) defined as needs assessment tools.” Various distinctions have been made among these terms to reduce the synonymity, as discussed below.

### **Needs Assessment and Needs Analysis**

Watkins and Kaufman (1996) made a distinction between needs assessment and needs analysis. They claimed that a needs assessment should be designed to identify the “needs” for driving useful and justifiable objectives and placing them in priority order. Conversely, the needs analysis should be designed to determine the reasons and causes of the “needs” by using appropriate plans, methods, and tools for meeting the needs, and determining the solution requirements. In addition, research by Triner, Greenberry, and Watkins (1996) described needs assessment as a prerequisite process for needs analysis. After the assessment identifies the needs and places them in some order of priority, analysis should take the process one step further to investigate the reasons and causes for the need. Priority, or order of importance, is usually based on such factors as the extent of the need and the resources available. Depending on these identified needs, appropriate interventions or actions should be chosen to eliminate or minimize the need, as shown in Figure 2. Even though needs assessment and needs analysis are considered different, they are still very important and have the same purpose in assessing and analyzing the potential for positive change in different contexts.



*Figure 2: Illustration of the relationship between needs assessment and the needs analysis*

### **Needs Assessment and Training Needs Assessment**

Another such distinction has been made between the needs assessment (NA) and the Training Needs Assessment (TNA). The acronym TNA is interchangeably or simultaneously used for training needs assessment and training needs analysis to emphasize the aspect of identification and assessment as well as analysis (Dingle, 1995). It is also defined as an, “ongoing process of gathering data to determine what training needs exist, so that training can be developed to help the organization accomplish its objectives (Brown, 2002, p.569).” Accordingly, TNA is a diagnostic process that attempts to identify a variety of organizational needs that can potentially be satisfied through training or other means. In addition, TNA helps to determine which type of training is the solution or part of the solution to build the bridge between what is and what ought to be (Triner et al., 1996). As these definitions suggest, TNA can be the process of separating the organization’s needs in order to determine whether training is the right solution to a workplace problem or not.

However, some have argued that beginning with training as the desired solution reduces the value of the needs assessment. Watkins and Kaufman (1996, p.13) stated, “Although the term ‘training needs assessment’ is popular in the field, it seems to be an oxymoron. If you know that training is the solution, why do a needs assessment?” Additionally, “a more accurate label for

what is called “Training Needs Assessment” is “Training Requirements Analysis (p.13).”

Scholars have suggested that the term “Training Requirements Analysis” is used to determine if the training is a solution or part of the solution to meet the context need, whereas “Training Needs Assessment” is used to design an appropriate form of training that will respond to trainees’ needs (Triner et al. 1996; Watkins & Kaufman, 1996).

Moreover, Clarke (2003) indicated that TNA is the best option to improve individual and organizational performance. Witkin and Altschuld (1995) found that the magnitude of discrepancies between current and desired levels of skill in performing a technical task should lead to set priorities for training needs assessment. Accordingly, TNA can be used to examine and understand the performance and skill discrepancies at the individual level as well as at organizational level. The purpose of such a comprehensive description of TNA is to diffuse confusion regarding simultaneous and interchangeable uses of these terms.

According to Cekada (2010), in comparison to TNA, “Needs assessment should serve as the first step in designing an effective training program” (p. 33). Needs assessment is to set the order of proprieties for needs and determine the criteria for selection of solution(s) for making future decision(s) across numerous contexts (Watkins et al., 2012). Accordingly, before selecting any interventions (e.g. training, job aids, job redesign, or hiring procedures), a needs assessment should collect data required to generate new ideas and alternatives for dealing with the need, assuring the solutions, and evaluating the training delivered.

None of the related terms discussed above are completely applicable, nor does one replace another. However, understanding the relative contribution of each approach in terms of its strengths and limitations provides appreciation for the needs assessment construct and helps

to add significant value to the literature. Aside from considerable potential for confusion, the term needs assessment (NA) is the one most often used in the literature and in this study as well.

### **Internationalization of Needs Assessment**

The concept of internationalization has become a topic of scholarly discussion and debate since the late twentieth century in many fields (Welch & Luostarinen, 1988). Regardless of the fact that internationalization is involved in many practices in economic, industrial, and educational organizations and communities, some of its aspects are still in need of more detailed introduction and elaboration within the educational field (Arabkheradmand et al., 2015). According to the literature, internationalization of higher education tools and practices is a relatively new phenomenon under the umbrella of the internationalization concept as a whole (Welch & Luostarinen, 1988; Arabkheradmand et al., 2015). Globalization and internationalization are related but not the same thing. Globalization is the context of economic and academic trends that are part of the reality of the 21<sup>st</sup> century. Internationalization includes the policies and practices undertaken by academic systems and institutions (and even individuals) to cope with the global academic environment. The motivations for internationalization include commercial advantage, knowledge and language acquisition, enhancing the curriculum with international content, and many others. Specific initiatives such as branch campuses, cross-border collaborative arrangements, programs for international students, establishing English-medium programs and degrees, and others have been put into place as part of internationalization. Efforts to monitor international initiatives and ensure quality are integral to the international higher education environment (Altbach & Knight, 2007).

The landscape of needs assessment is well-established in the literature. However, there are difficulties with NA literature identified in the context of internationalizing needs

assessment. Conducting NA with a large sample size has led to different terms in the literature including, but not limited to: a needs assessment, an extensive NA, a statewide NA, a regional NA, a national NA, and an organizational NA (see Anderson & Heyne, 2000; Anderson & Deck, 1989; Hannon, 2000; Holton III, Bates, & Naquin, 2000; Gaber, 2000). These terms were constructed to address potential problems that relate to differing populations. While it is possible to describe the various types of needs assessments in general terms, it may be more helpful to describe the needs assessment approach in specific detail.

As mentioned earlier, the roots of the current period in needs assessment history are well documented and can be traced back to the mid-1980s. By the mid-1980s, a majority of states were administering needs assessments as part of their evaluation processes. However, according to Witkin (1994), in the public education context, the number of needs assessment projects dropped dramatically in the United States, especially for local education agencies. While early scholars have experimented with providing foundational concepts for needs assessment literature, Belle Ruth Witkin is considered the earliest scholar in the development of the needs assessment literature (Altschuld, 2004; Witkin, 1977). Witkin published a widely recognized and cited work on the topic of needs assessment in 1977. Her work in the article, “Needs assessments kits, models and tools” (Witkin, 1977), and the article, “Needs assessment since 1981: The state of the practice” (Witkin, 1994) are considered the most scholarly cited theoretical works on the history of needs assessment practices (see Altschuld, 2004; Holton III et al., 2000; McCullough, 2011; Watkins et al., 1998; 2012).

Based on the researcher’s exploration of the current literature base, there is limited guidance regarding the key concepts and procedures of internationalizing the needs assessment approach. This is noticeable since there has been a continuous call for more publications

centered on planning and conducting needs assessment (Altschuld & Witkin, 2000; White & Altschuld, 2011; Witkin & Altschuld, 1995). The lack of research is a cause for concern. In a review of needs assessment studies that took place from 1981 to 1993, Witkin (1994) found that the major problem with needs assessment in the past has been the view that the process was overwhelming. Assuming that organizations and agencies spent much time achieving agreements on goals, there was no time and energy left for assessing the needs related to those goals (Witkin & Altschuld, 1995). Burton and Merrill (1991) noted that NA at higher levels (national, state, district, organization, or school) is normally geared towards goals. Thus, higher-level goals tend to be global, broad, and difficult to achieve requiring more time and resources.

Often, limited resources affect the amount and the type of the data that can be collected, the choice of the data analysis, and the identification of alternative solutions. According to Witkin and Altschuld (1995), effective needs assessments do not have to be costly, nor do they have to be performed at the most complex level. Rather, it depends on the purpose, data needed for the NA project, and available resources (e.g. personnel, equipment, facilities, funds, and timing) that can be arranged for ahead of time to accomplish the task. In addition, as Watkins et al. (2012) emphasized, a well-designed needs assessment requires detailed goals, objectives, data analysis, deliverables, and timelines. Otherwise, the effectiveness of the needs assessment efforts will be reduced.

A current search of the literature yielded over 3,230 reports of studies in the United States and other countries in which the term “needs assessment” appeared as a descriptor. However, from 1990 to 2013, only 45 reports of studies have appeared on the current practice of needs assessment. A closer review of these 45 studies shows that only one study used the term “large-scale needs assessment” in a training context (Holton III et al., 2000), while a majority of the

studies reflected a wide range of contexts and experiences such as large-scale studies, large-scale long range planning, large-scale system change, large-scale needs assessment survey, etc.

Although these studies may provide valuable insights into how large-scale studies are conducted in general, there is limited information available regarding a number of key procedures in the large-scale needs assessment process in terms of the sample size, purpose of the study, type and complexity of data analysis, cost, and generalizability of results. For instance, Holton and his colleagues commented directly in the first paragraph of their methodology, “Noticeably absent from the literature is any discussion of how to approach a large-scale needs assessment” (Holton III et al., 2000, p.251). Even though Holton III et al.’s study provides evidence for the current practice of a large-scale needs assessment, lack of literature has led Holton and his colleagues to develop a methodology that can be used for improving performance in a training context. This study reveals the absence of a solid base in the theoretical and analytical foundations necessary to pursue further research in the area of large-scale needs assessment.

In addition, a review of reports and projects that involve large-scale needs assessments across various contexts shows different sets of models and methodologies that are used to assess existing needs. Few reports (e.g. MGT of America, Inc., 2001; 2006; Higher Education Coordinating Board, 2011) attempt to define and represent the minimum requirements for large-scale needs assessment, while others directly use the needs assessment methods to guide the assessment (e.g. CHPS Consulting, 2001; Michigan State University Extension, 1998; National Hepatitis C needs assessment, 2003; Ontario Health Promotion Resource System, 2005; Taxes Health Information Technology, 2012). Accordingly, large-scale survey, interview, and focus group methods are the most commonly used among reports.



Unlike large-scale needs assessment studies, reports tend to be more narrowly focused and are generally smaller in scope (Weinbach, 2005). Therefore, reports conducting large-scale needs assessment are heavily focused on the needs assessment methodology, data analysis, and the interpretation of the results to determine the value of the needs assessment process. They often do not cover literature relevant to conducting large-scale needs assessment. Rather, they include a brief overview of the organization's problem, a series of research questions and objectives related to the context, methods for collecting needs assessment data, the findings, and the recommendations. Altschuld and Witkin (2000) noted also that findings from the large-scale needs assessment reports and their implications are the most important for organizational action. Accordingly, the intent of these reports is to communicate findings and recommendations so that stakeholders can take future action. Despite the wide range of large-scale needs assessment applications, it is worth mentioning at this point that there is still no common definition or format across the studies and reports as to what constitutes a large-scale needs assessment.

### **The Procedure of Internationalizing Needs Assessment**

Although guidance for conducting a large-scale needs assessment has not been made explicit, Altschuld and Kumar (2010) and Watkins et al. (2012) suggest that a large-scale needs assessment requires a more detailed and formal process and should be designed to take place in organizational change and development contexts within businesses, community agencies, and government institutions. The authors agree that large-scale needs assessment can be a beneficial and practical tool to improve the performance of large organizations and their contribution to society. Altschuld and Kumar (2010) and Watkins et al. (2012) suggest the use of a standard three-phase model. Such a model was developed by Witkin in 1984, and was revisited by Witkin and Altschuld (1995), by Altschuld and Witkin (2000), and by Altschuld and Kumar (2010).

Compared to other needs assessment models, this three-phase model is prevalent in the existing literature focusing on process improvement and the achievement of organizational goals for individuals and small groups. Although conducting needs assessment on a large-scale level seems like a complex task, using the three-phase model would help to ensure the credibility of the outcomes in a given analysis (Watkins et al., 2012).

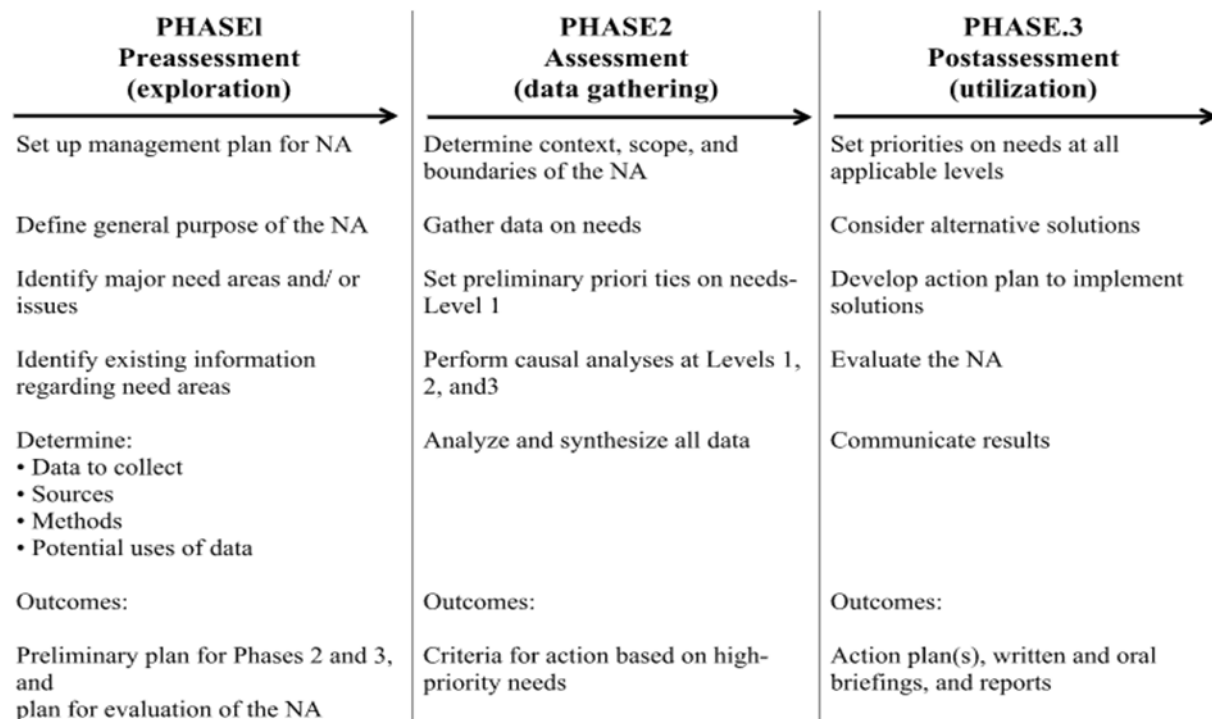
### **Three-Phase Model of Needs Assessment**

The standard three-phase needs assessment model can identify the exact needs of a large-scale system, provide useful and practical procedures for collecting and analyzing data, and interpret the data for future change (Watkins et al., 2012; Witkin & Altschuld, 1995). To clarify, however large the system is, the three-phase model provides a general plan that can be used for assessing needs, as shown in Figure 3. Witkin and Altschuld, represented these processes within the following three phases: pre-assessment (exploration), assessment (data gathering) and post-assessment (utilization). These steps occur in a sequence and each phase results in a written product (Witkin & Altschuld, 1995).

#### **Pre-Assessment Phase (Phase I)**

The pre-assessment phase is the foundation for all other phases in the model including the use of the findings for program planning and implementation. The major function of the pre-assessment phase is to conduct a preliminary investigation of major need areas and issues as well as the existing information concerning need areas, and to determine the size and nature of the needs assessment. Also, in order to recognize what is already known about the target group, a needs assessor works with an advisory group called the Needs Assessment Committee (NAC). The NAC is broadly representative of stakeholders in the system (agency, organization,

institution, etc). Unlike small-scale needs assessment, conducting needs assessments at a large scale often requires substantial funding and effort. Thus, it is important in this phase to have a management plan for all the general requirements of the needs assessment like personnel, time, cost, environment, equipment, and so on. Additionally, potential data sources, methods, budget and potential uses for data are planned. At the end, initial design plans for Phase II and Phase III are developed, and criteria are set to evaluate the whole needs assessment.



*Figure 3: Three-phase model of needs assessment (Witkin & Altschuld, 1995).*

### **Assessment Phase (Phase II)**

Once the preliminary analysis has been done, the design for the assessment phase (Phase II) should be established. The purpose of this phase is to conduct an extensive, formal needs assessment predicated on what is and what is not learned in Phase I, determine the relative priorities of needs, and conduct causal needs analyses to identify possible solution strategies. In addition, the scope, context, and boundaries of the needs assessment are determined to set the

direction of the needs assessment in this phase. Both the needs assessor and NAC collect data and information as required to perform appropriate analyses at the different points in the formal needs assessment.

In Phase II, the method selection for gathering data depends on the context and the purpose of the needs assessment such as social indicators, organizational or agency records, demographics data, results from educational assessments, and program evaluation reports (Witkin & Altschuld, 1995). The data-gathering methods may be constrained by certain characteristics such as the target group, size of the context, cost, and time. After collecting data, the results are analyzed, synthesized, and interpreted and the criteria for action based on high-priority needs are initially determined. All of these activities add valuable details for managing an assessment from beginning to end.

### **Post-Assessment Phase (Phase III)**

The needs assessment process is not complete unless plans are made to use findings in a practical way. The post-assessment phase (Phase III) helps to use results for change. It is designed to be a bridge from analysis to the use of the findings. However, many needs assessment studies do not include such a phase. Moreover, many organizations fail to use the results of needs assessment in any way at all (Witkin & Altschuld, 1995). Thus, the activities under Phase III are required to interpret the findings and suggest alternative ways to address the needs. In Phase III, the roles of needs assessor and NAC require setting priorities and criteria for solutions, weighing alternative solutions, and developing action plans for implementing solutions such as program changes or other interventions. It is at the end of Phase III that the needs assessment itself is evaluated, and the results and recommendations for action are communicated to decision makers and stakeholders. The results of a needs assessment are summarized in an

assessment report or presentation, although the assessment will often continue on until the findings have been communicated to most of the involved partners.

Conducting a needs assessment can be complicated, challenging, and expensive. However, by following the three-phase model, needs assessments can be conducted in a relatively short time period and at an acceptable cost (Watkins et al., 2012). The three-phase model is comprehensive, as it consists of sub-phases adding depth to the scope of the model. Moreover, this model provides systematic procedures to focus on process improvement and the achievement of organization goals (Altschuld & Kumar, 2010). Thus, conducting a needs assessment in an organizational context by using the three-phase model would help to inform decisions within the context of larger projects, and would manage complex choices about what actions should be taken to accomplish results. This may be attributed to the fact that with formal needs assessment processes, a variety of analysis procedures and potential improvement activities can be effectively used to create multifaceted initiatives that improve performance from many angles and perspectives (Altschuld & Kumar, 2010; Sleezer et al., 2014; Watkins et al., 2012; Witkin & Altschuld, 1995).

Reviewing the literature has provided the general requirements for completing a needs assessment, and has indicated the importance of conducting needs assessments in education, social services, and government agencies. Accordingly, the three-phase model is commonly seen as a way to conduct the needs assessment process across a wide array of contexts and at higher levels. This model can identify specific needs within a large-scale system, provide useful and practical procedures for collecting and analyzing data, and interpret the data for future change. Given the limited examination of the implementation of the needs assessment process within the context of different countries and cultures, a need exists for the development of a revised needs

assessment model for use within international settings. Such a model should take into consideration the social, cultural, and political aspects of determining learning and performance gaps and addressing those needs in relevant and culturally sensitive ways.

### **Culture and Instructional Design**

The field of instructional design and technology (IDT) is diverse and always developing rapidly. With educational technology exchange around the world, the interest in recent years in the interaction between culture and educational technology is growing (Hofsted, 1984; 1991; Rogers, Graham, & Mayes, 2007; Yon, 2000). The growth and the diversity of the field, however, poses challenges to educators and practitioners in providing educational practices that are sensitive to the needs of learners from culturally and linguistically diverse backgrounds (Adamopoulos, 1997; Kinuthia, 2012).

According to the literature, much of the background for discussion of culture in IDT has been borrowed from other fields (e.g. Hofsted, 1984; 1991; as cited in Rogers et al., 2007). Thomas and his colleagues have asserted that culture has been overlooked, and particularly in the analysis phase of instructional design models (Thomas, Mitchell, & Joseph, 2002). The lack of attention among instructional designers appears noticeable in the important areas of cultural diversity and designing instruction cross-culturally (Henderson, 1996; Rogers et al., 2007; Subramony, 2004; Thomas, et al., 2002).

For this reason, Powell and Branch have started to provide the field of instructional design with definitions and process guidelines for incorporating culture into the design of instruction (Powell, 1997a; 1997b; Branch, 1997). Culture is defined as, "the sum total of ways of living, including values, beliefs, aesthetic standards, linguistic expression, patterns of thinking, behavioral norms, and styles of communication, which a group of people has developed

to ensure its survival in a particular physical and human environment (Powell, 1997a, p. 15).” Henderson (1996) has also suggested that culture is a manifestation of the patterns of thinking and behavior that result from a group's adaptation to its changing environment (p. 86). Since shared values and beliefs are a common definition throughout the various sources, the definition of culture used throughout this paper will be the shared beliefs and values of a group of people. Most specifically these shared beliefs and values are examined within the context of designing instructional materials.

Various models have been developed for exploring and understanding cultural dimensions in the field. A well-known model has been developed by Reeves and collaborators (Reeves, 1992; Reeves & Reeves, 1997), and consists of 14 pedagogical dimensions of interactive learning on the Internet, as shown in Figure 4. In Reeves’ cultural model, each dimension represents on a continuum with a graduated range of values from one extreme to the other. Based on Reeves’ work, Henderson developed a multiple cultural model, which promotes the idea of integrating multiple cultural dimensions into instructional design. According to Henderson, “minority ethnic groups or developing nations looking for technological solutions to their educational and training needs will not be well served by packages designed for a majority Western culture” (Henderson, 1996, p. 93).

In addition, Thomas and his colleagues have proposed that the cultural elements of intention, interaction, and introspection need to be added as another dimension in the ADDIE (analysis, design, development, implementation, evaluation) model (Thomas et al., 2002). Moreover, Rogers, Graham, and Mayes offered a metaphor of building bridges in cross-cultural instruction to suggest how an increased sensitivity to cultural differences can change the practice of instructional design (Rogers et al., 2007). Accordingly, designing instruction should be

flexible enough to accommodate culturally diverse perspectives, rather than simply containing pre-determined content (Collis, 1999; Henderson, 1996; Rogers et al., 2007, Thomas et al., 2002).

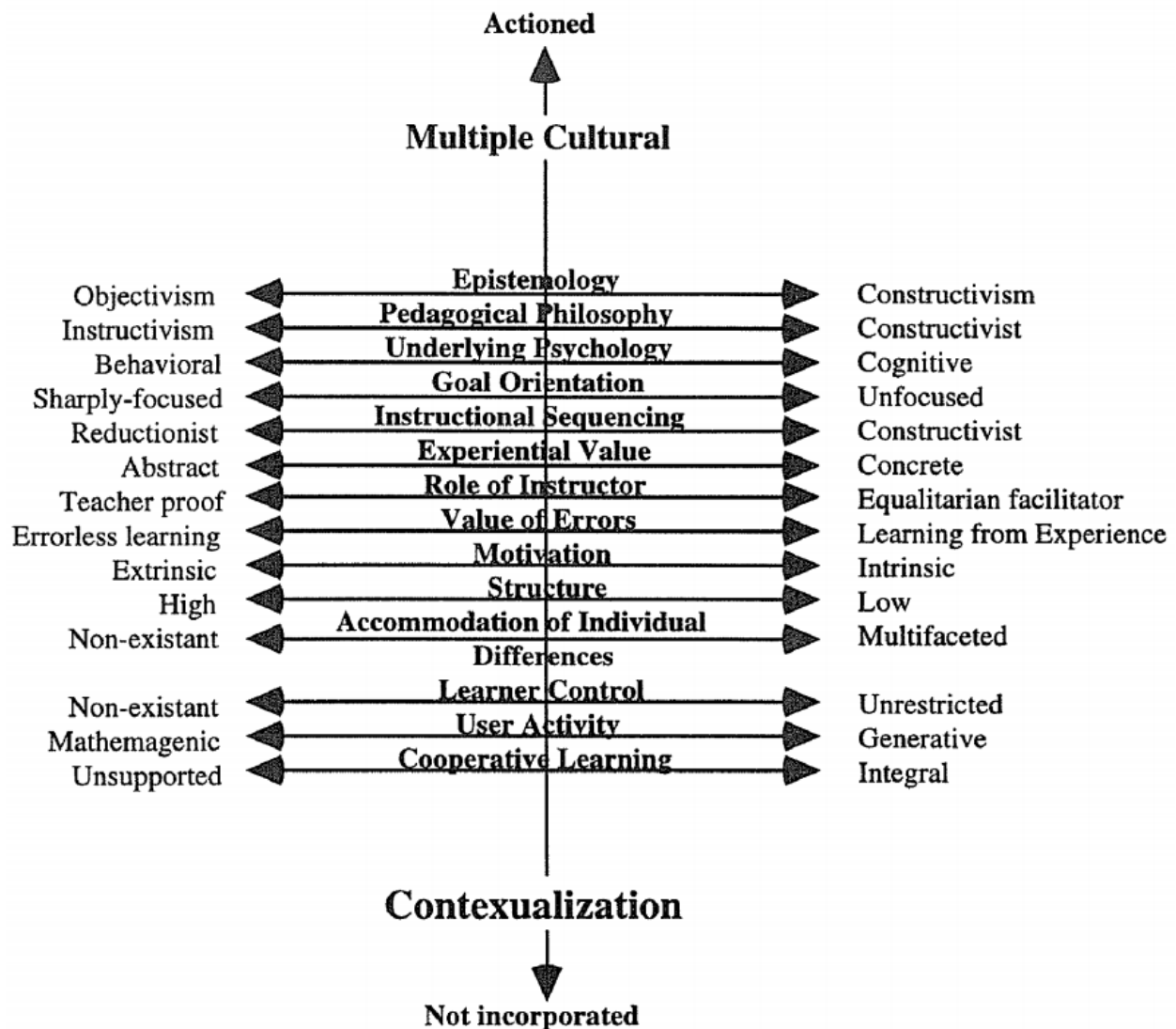


Figure 4: Reeves' cultural model (Reeves, 1992; Reeves & Reeves, 1997).

Despite the increasing emphasis on the fundamental concepts of culture, more debate and research are needed to determine the role of culture in instructional design practices. Rogers and others have noted that understanding culture can lead to alternative forms of instructional design applications in different cultural contexts (Rogers et al., 2007). According to the authors, both



instructional designers and learners are potentially affected by their cultures (Henderson, 1996; Rogers et al., 2007). Accordingly, cultural and social expectations should be identified from the context and learner analysis and evaluation. Authors have, therefore, emphasized the importance of considering the context and learner analysis in order to utilize instruction or instructional design models that are iterative as well as culturally grounded (Rogers et al., 2007; Thomas et al., 2002).

Thus, culture can affect the way learners accept and use instruction. Many cultural factors like learner background, values, and beliefs affect the perception of learning (Bentley, Tinney, & Chia, 2004). Therefore, it has been highlighted that analyzing learner needs while considering their culture should not stop at the analysis phase. Instead, it should be a part of the construction of knowledge and reviewed at all phases of the design process (Thomas et al., 2002). In addition, Henderson (1996) has stated that designers also need to be aware of their own particular cultural traditions and instructional biases. Instructional designers can unintentionally perpetuate their own cultures when designing instructional materials (Henderson, 1996; Rogers et al., 2007).

According to the literature, it is important for designers to be aware of the influence of culture and its incorporation into design, in order to keep cultural biases to a minimum (see, Bentley et al. 2004; Chen & Mashhadi, 1998; Chen, Mashhadi, Ang, & Harkrider, 1999; Henderson, 1996; Kawachi, 2000; Looi, 2003; Mayor & Swann, 2002; McLoughlin, 1999; McLoughlin & Oliver, 2000; Monajemi, 2003; Robinson, 1999; Spronk, 2004; as cited in Rogers et al., 2007).

Although a handful of researchers have begun to explore cultural issues in instructional design, very few formal studies have been conducted and the results of the studies have been inconclusive. The broad effects of culture within instructional design need to be examined in

more detail (Bentley et al. 2004; Henderson, 1996). For this reason, there is a gap, and more exploration is needed on how cultural considerations might influence the design process (Rogers et al., 2007). As instructional design becomes increasingly global, it is important for instructional designers to have an understanding of the different educational values and cultural expectations of learners around the world as well as the impact of those differences on learning. This is important in order to maintain a competitive advantage in today's educational world. As such, there is a need to develop new theories and conduct empirical studies in order to provide more cultural guidance for the successful design and delivery of cross-cultural instruction or models.

### **Cultural Context of Saudi Arabia**

Based on the findings of the literature review and results from an ongoing empirical study, as well as on personal experiences within the Saudi context, a detailed description of Saudi cultural context is discussed here. Kingdom of Saudi Arabia (KSA) occupies most of the Arabian Peninsula with about 830,000 square miles areas and a population of over 32 million. According to government data, more than half of the Saudi population is under the age of 25 (Central Department of Statistics and Information CDSI, 2016). Saudi Arabia is also well known as the birthplace of the religion, Islam, which is one of the largest religions in the world. The country receives a large number of foreigners who are Muslims every year for the Islamic practices of *Haj* and *Umrah*, which must be conducted at least once in a lifetime. The private sector is also dominated by foreign labor since the discovery of oil in 1930. Foreigners work in technical positions, agriculture, cleaning, and domestic service industries. The biggest attraction for these foreigners is the tax-free status of Saudi Arabia. This means that the country's population includes approximately 10 million or 33% non-nationals living in the country legally for work or other purposes.

Since culture can be described as the product of a group's values, norms, and experiences as well as an individual's life histories (Canino & Guarnaccia, 1997), Saudi culture is characterized as a Muslim and Arabian tribal society. Many attitudes and traditions in this culture are derived from Islamic and Arab civilizations. Although Saudi Arabia has recently faced numerous social, religious, political, and economic changes, the country remains a strongly conservative and traditional society oriented toward religious and family institutions (Luna, 1998). The society as a whole values behavior displaying generosity, hospitality, and a willingness to support family members. Politically, the Saudi government follows the Islamic law. The king has the absolute executive power of government. All ministers, regional governors, senior military officers, and ambassadors are selected by the king. With oil discovery in 1930, the economy of Saudi Arabia has improved and become dominated by petroleum and its associated industries. Saudi Arabia's Western links were strengthened through this development (Erffmeyer, Al-Khatib, Al-Habib, & Hair, 1992). Even though Saudi Arabia has never been under the direct control of a European power, westernization and globalization in the region has increased. Westernization is a complex concept that has been defined in the literature in many different ways. It refers to the influence of Western ideas, values, and practices in non-western countries (Thong, 2012). A good example would be the Middle Eastern exposure to Western technologies and (military) lifestyles after the 1990 Middle East war (Erffmeyer, Al-Khatib, Al-Habib, & Hair, 1992). In the forefront of this exposure was Saudi Arabia. This exposure has contributed to an accelerated opening up of Arabic culture to Western ideas (Erffmeyer, Al-Khatib, Al-Habib, & Hair, 1992).

Following Westernization, the Saudi government adopted major economic development projects to contribute to Saudi Arabian modernization. With economic growth, the Saudi

government has improved the standard of living by providing a free education, free medical care, modern universities and hospitals, and making Saudi Arabia into a tax-free state. The Saudi government has also made huge efforts to modernize and diversify the domestic economy to encourage business investment in the non-oil sector (Jamjoom, 2012). For instance, the government has made an attempt at "Saudizing" the economy in the private sector organizations, replacing foreign workers with Saudi nationals. However, this policy has been resisted by the private sector due to several implementation issues (Ramady, 2010).

According to Al-Rasheed and Vitalis (2004), Saudi Arabia is constantly struggling with accommodating its Islamic society alongside rapid modernization and the force of globalization. However, any contributions to the Saudi Arabian modernization efforts are welcomed as long as Islamic values are preserved (Erffmeyer, Al-Khatib, Al-Habib, & Hair, 1992). Below is a discussion of the need for internationalizing needs assessment models to the Saudi Arabian context.

### **Adoption of the Three-Phase Model**

Saudi Arabia faces a number of demographic shift challenges, including a growing youth population, under-employment and unemployment, and a lack of qualified graduates with adequate training needed to build up industrial development. Therefore, the government has attempted during the last two decades to address its economic and social challenges by diversifying its economy, opening up to foreign investment, and reforming its higher education system. However, education reform in the kingdom has not gone far enough (Courington & Zuabi, 2011). In order to best utilize the country's next greatest resource (its people), education reform must solidify fundamental liberal freedoms and increase broad-based educational opportunities. Social realities such as gender inequality, ingrained into the culture and laws, and

the inadequacies of the public sector education system challenge Saudi Arabia as it moves forward.

For example, women are a critically underutilized resource in the Kingdom (Oates, 2011). Women's higher education currently receives only about 18% of the funds that men's higher education receives. Saudi women constitute 68% of university graduates, but only 14% of the workforce, most being employed in the Kingdom's single-sex education bureaucracy or in health care (Hamdan, 2005). While business, law, and engineering are now open fields of study for women, on the premise that working opportunities in these fields will become more widely available to women in the future, women continue to take courses primarily in the areas of social sciences and communication.

Recent unrest in Saudi Arabia has put a spotlight on the need for educational reform. In 2003, the government has introduced the policy of *Tatweer*, which means “reform.” The *Tatweer* vision is to create a distinctive and innovative style of education that builds high-quality citizens for the knowledge economy. *Tatweer* aims to develop curricula that provide students with the technical expertise, entrepreneurial skills, and technological tools necessary to foster economic activity and meet the needs of the private sector in the Kingdom. These reforms have yet to make a noticeable impact on youth performance in the job market and within society.

According to Booz Allen Hamilton's 2008 report, a true measure of the success of the Saudi education system reform is the system's ability to produce highly qualified graduates who can create and achieve social goals. All Saudis, men and women alike, must be afforded the same equality of opportunity for innovation and creativity to impact their development. While the push for education reform in the Kingdom shows positive signs of a modernizing regime, reform will be slow and will continue to face enormous obstacles. Unemployment in the

Kingdom continues to trend upward, and will pose serious risks to overall development (Maroun et al., 2008).

On the 25th of April 2016, Saudi Arabia's government unveiled a long-term economic blueprint for life in a world with low oil prices. Titled "Saudi Vision 2030," the plan includes regulatory, budget, and policy changes that will be implemented over the next 15 years in the hope of making the Kingdom less reliant on crude. It aims to build a prosperous and sustainable economic future for the Kingdom, according to the press release. Concerning education, the Vision 2030 aims to bridge the gap between higher education and the requirements of the labor market outcomes. It also aims to enhance the development of public education and guide students toward appropriate functional and professional choices.

Despite the shift in policy for Saudi Arabia, the education system is particularly difficult to reform because it is traditionally one of the main areas where conservative clerics have influence (Kinninmont, 2006). Kinninmont observed that asserting technocratic control over education may require a power struggle with the clerics. Indeed, a visit to the Kingdom is enough to see the pervasiveness of religion in everyday life. From gender segregation to religious police at the shopping mall, Saudi Arabia's governmental, social, and thus educational structures are rooted in the state-supported interpretation of Islam. Until women have equality of opportunity in education and employment, education reform cannot reach its full potential (Oates, 2011). The historian, Lacey, who spent four years living in Saudi Arabia researching the story of the Saudi Kingdom concluded, "reform in Saudi Arabia had never been a simple matter, [and will never be given the religious mentality of people] (Lacey, 1981)."

Hence, adoption of some kind of needs assessment framework could be useful as part of an overall move toward greater standardization and control. Needs assessment would be a step

toward achieving more accountability for outcomes, and more objective decision-making about achieving those outcomes (Altschuld & Witkins, 1995, 2000; Knox, 2002; Pennington, 1980; Queeney, 1995). This comes at a critical time for Saudi Arabia, when the economy is facing overall reductions and adjustments. A needs assessment tool could be used to guide processes of allocation of resources and changes to training and education in line with larger economic trends and plans.

Therefore, an inclusive exploration of needs or "gaps" between current conditions and desired conditions through a comprehensive needs assessment can be an effective tool to clarify problems and identify appropriate interventions or solutions associated with the education system reform. Needs assessment that is designed for the Saudi context, and involves many people within the educational system can help to enhance the quality of policy or program decisions, thus leading to improvements in performance and the accomplishment of desired results.

### **Need for Needs Assessment Models Within the Saudi Context**

Within the instructional design field, needs assessment plays a significant role in gathering data and information to assist professionals in discovering the root causes of educational problems and selecting appropriate interventions. Burton and Merrill (1991) stated that needs assessment is a crucial first step in any systematic approach for developing instructional materials or training programs. Without taking this step, or by basing decisions on unsound practice, the result of many initiatives would not be successful.

Different needs assessment models have been proposed by well-known scholars, and are based on a variety of professions and applications. However, none of these models were validated or applied in any international context including that of Saudi Arabia. The gap in the

literature appears in the lack of scholarly activities exploring needs assessment in international settings and specifically the culturally, socially, or political sensitive aspects, e.g. the Saudi-Arabian context. According to the literature, there is no model of needs assessment that has been introduced or validated in Saudi Arabia. To support needs assessment in Saudi Arabia, efforts should be directed toward providing access to appropriate literature and models that might be operational in this context. In addition, the study of an actual model can be instrumental in providing the Saudi context with an understanding of what successful needs assessment does and provides.

The three-phase model is unique from most other needs assessment models in that it includes facilitating factors that are specific to academic settings. While the model is focused on higher education, many of the elements within the model are useful to all organizations, both inside and outside of academe. Thus, the developed model would ideally be used by instructional designers and developers in Saudi Arabia that are not very familiar with the needs assessment process, and therefore need guidance when planning needs assessments. Watkins et al. (2012) stated that, “Needs assessments can provide justification for decisions before they are made (p.25).” For instance, needs assessment provides justification for decisions related to systems that aren't working, poorly trained personnel, damaged equipment, procedures, and other organizational wrongs. The audience would therefore be training developers, instructors, and instructional designers who are not experts, but are engaged in the field and can benefit most from the finite process prescribed as well as the end results of such an assessment. Once these deficiencies are specified, needs assessment would improve the quality of those decisions leading to improvements in performance and the accomplishment of desired results. Based on the discussion of this section and the preceding one, providing a needs assessment model for



building and maintaining a sound practice for the Saudi context may help to fill the gap in the literature, and also inform higher education organizational and professional development practices.

### **Summary**

Conducting a needs assessment can be complicated, challenging, and expensive. However, by following the three-phase model, needs assessments can be completed in a relatively short period of time and at an acceptable cost (Altschuld & Kumar, 2010). In this chapter, the author has addressed the current literature on needs assessment in a comprehensive way to provide a conceptual framework for the internationalization of needs assessment into the Saudi Arabian context. This chapter also discussed the foundations of needs assessment practices locally and internationally, and has given an overview of needs assessment models and theories. In addition, this chapter provided justifications for choosing the three-phase model to internationalize needs assessment processes into Saudi Arabia. The model itself was utilized to demonstrate its usefulness when planning needs assessment. Compared to other needs assessment models, the three-phase model is highly respected in the existing literature, in which it has been found to provide a clear guidance on how to manage a successful assessment within a unique context (Altschuld, 2010; Watkins et al., 2012). As the purpose of this study was to internationalize a needs assessment process to be applied in a Middle Eastern country (namely, Saudi Arabia), this study described the development and the validation process for the three-phase model within the new context based on a comprehensive review of the literature, expert review, and open-ended survey. The study design consisted of three phases for the validating process including: analysis, validation, and revision. The description of the study design and the developmental process for the model will be discussed in the next chapter, Chapter 3.

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **Introduction**

The purpose of this study is to develop an internationalized needs assessment model and to examine its viability and potential effectiveness in the context of a specific country. Saudi Arabia has served as the context in which an internationalized needs assessment model was explored. This chapter describes the development and evaluation process used in the validation of the three-phase needs assessment model for the Saudi context. It sets out the methodology that guides the empirical elements of this research, enabling relevant data to be collected and interpreted to develop the final model. The chapter starts with a description and justifications of the selected research design. Subsequently, it provides a thorough description of areas related to recruitment and research participants, instruments for data collection, procedures and study timeline, data analysis, and study approval. As a developmental study, this chapter discusses the data collection procedure chosen, consisting of three sequenced research methods: literature review, expert review, and open-ended survey. Finally, it ends with a summary of works involved in conducting the research.

#### **Research Design**

##### **Developmental Research**

As the purpose of this study was to describe the development and the validation process of a three-phase model for the Saudi context, developmental research appears to be the most appropriate research methodology. This research method is defined as the, “systematic study of design, development, and evaluation processes with the aim of establishing an empirical basis for the creation of instructional and non-instructional products, tools, with new or enhanced models

that govern their development (Richey & Klein, 2007, p. 1).” It is considered a unique research method to the instructional design and technology field aiming to create new knowledge grounded in data systematically derived from practice (Klein, 2014). The importance of developmental research to the IDT field is based on its ability to bridge the gap between educational practice and theory in addition to providing solutions to relevant problems (Ross, et al., 2007). It is a research method connected to real-world practice seeking to provide reliable, usable information to both practitioners and theorists (Richey & Klein, 2008). In 2014, Klein presented a paper at the AERA’s Design-based Research Conference held in Philadelphia, PA, the purpose of which was to distinguish design and development research from design-based research. Klein emphasized that there is a distinction between *doing* design and development and *studying* the process.

According to Richey and Klein, developmental research emphasizes the study of learning as a result of designing unique instructional interventions. It is a formative approach that can provide a rich and efficient information on theoretically and empirically tested design principles and methods to create a solid ground for designers’ choices and timely feedback to improve their products (Richey & Klein, 2005). It focuses on *studying* the process and impact of specific design and development efforts (Klein, 2014). Thus, it can be used to produce models and principles that can guide the design, development, and evaluation processes. As such, doing development and studying development are two different enterprises.

Developmental research leads to knowledge production and can help reach this goal through two large categories of studies: (1) product and tool research, and (2) model research, referred to as Type 1 and Type 2 (Richey, Klein, & Nelson, 2004). Type 1 developmental research often involves the development of an instructional product or tool using instructional

design processes, specific project phases, or the development or study of a tool used by instructional designers (Richey & Klein, 2007). In its simplest form, Type 1 developmental research emphasizes specific product or program design, development, and evaluation processes, and often the entire design and development process is documented (Richey & Klein, 2007).

Type 2 developmental research, on the other hand, relates to studies of the development, validation or use of design and development models. It focuses on specific instructional design models and processes themselves, rather than demonstration. Type 2 studies often involve constructing and validating unique design models and processes, as well as identifying those conditions that facilitate their successful use (Klein, 2014; Ross et al., 2007;).

Depending on the type and the focus of the project, studies of developmental research vary in terms of the extent to which the conclusions are generalizable or contextual. Product and tool research (Type 1) typically involves studies that describe and analyze the design and development processes used for particular projects and are, to a great extent, context specific. In contrast, model research (Type 2) is not tied to a specific project, which allows studies to be more generalizable than product studies (Klein, 2014; Richey & Klein, 2008).

**Philosophical foundations for using developmental research.** As the focus of this study is to internationalize the needs assessment process, the Type 2 developmental research methodology seemed most appropriate. It is a formative approach that can provide rich and efficient information on theoretically and empirically tested design principles and methods to create a solid ground for designers' choices, and timely feedback to improve their products. In addition, this method is perfect for generating methodological directions for the design and evaluation of such products (Ross et al., 2007).

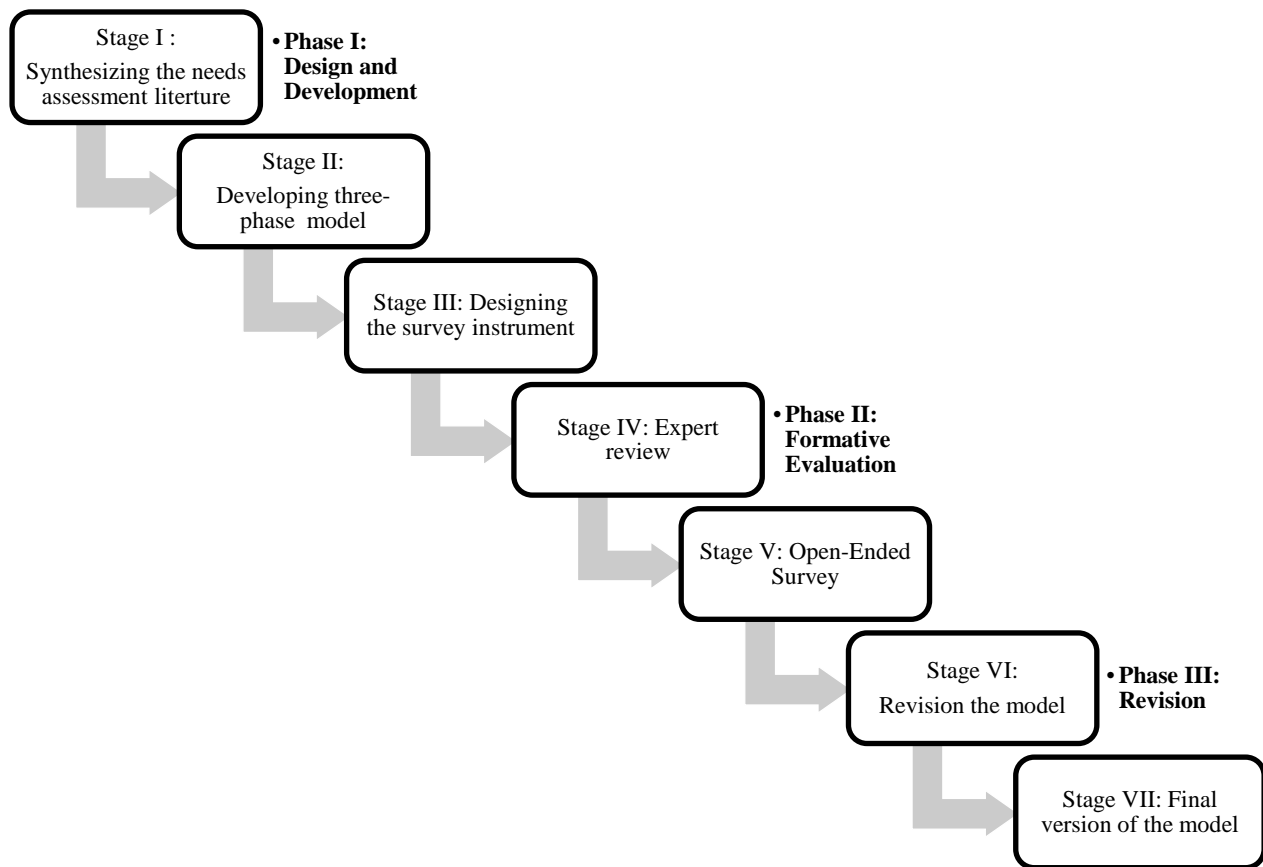
As prescribed by Weston, McAlpine, and Bordonaro, (1995), this study used program development research consisting of three phases: analysis, design, and evaluation. According to Richey and Klein (2008), using a Type 2 developmental research model based on the design employed by Weston et al.,(1995), it will be possible to inform instructional design processes involved in creating a new version of an internationalized three-phase model through analysis (literature review), design (the new version of the three-phase model), and evaluation (expert review and descriptive survey).

Using a Type 2 developmental research approach, this study was executed over three phases: (a) Phase One: The design and the development of the three-phase needs assessment model for use in an international context, (b) Phase Two: Formative evaluation, and (c) Phase Three: Revision process. The first phase consisted of an analysis of literature and the synthesis of the literature to establish the conceptual foundations for the study. Commonly cited studies and articles in needs assessment practices locally and internationally served as the content and foundation for the needs assessment model development (Richey & Klein, 2007; Weston et al., 1995). The second phase focused on the formative evaluation of the model by two expert reviewers followed by a survey of a small group of practitioners and scholars who are familiar with the Saudi Arabian context. The third phase was an analysis of the findings from the evaluation and the revision process of the model. Triangulation of the findings from the literature review, expert review, and descriptive survey provided the validation of the three-phase model and developed the culturally-based model for Saudi Arabia.

### **Stages of Model Development for the Saudi Context**

Much attention is paid to systematic documentation, analysis, and reflection on the entire design, development, and evaluation process and on its outcomes in order to contribute to the

expansion and specification of the methodology of design and development (Richey & Klein, 2008; Van den Akker, 1999). Figure 5 represents the outline of the development of the internationalized three-phase needs assessment model being recommended. This outline helped the researcher to coordinate the development process used by documenting each step and also served as a memory aid at later stages.

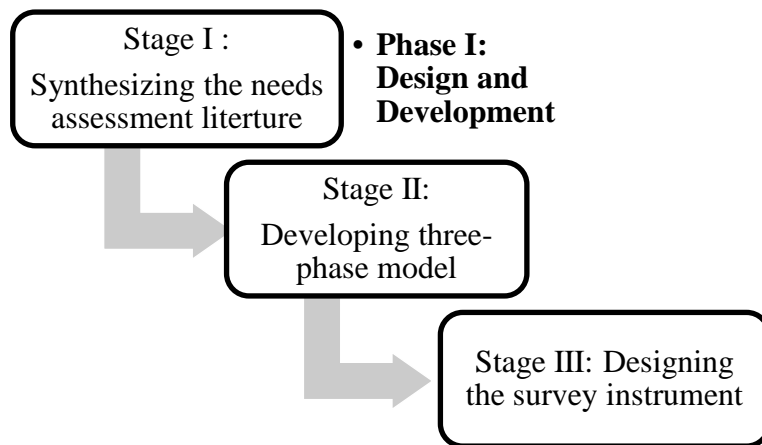


*Figure 5:* Graphic representation of the stages of development for the three-phase model within the Saudi context.

### **Phase One: Design and Development.**

Phase One of this study began with a review of the literature on the theoretical and practical considerations for internationalizing needs assessment processes. Drawing from a comprehensive literature review, the three-phase model was chosen and modified for future

implementation for use in Saudi Arabia. This model of developmental research is a process that involves applying a diverse body of research and thinking to individual instructional design tasks (Richey & Klein, 2007). In addition, this phase represented the design and the development of the open-ended survey for the experts and professionals in instructional design, mostly in conducting needs assessments locally and internationally (Figure 6). The purpose and details related to the survey design are discussed as follows.



*Figure 6: Phase One: Design and Development.*

### **Stage I: Synthesizing the Needs Assessment Literature**

In this stage, the literature on needs assessment locally and internationally was reviewed to determine what models, if any, had been developed or investigated. There are a number of different models proposed by well-known researchers for specific needs and professions (eg., Arthur, 1993; Burton & Merrill, 1991; Darraugh, 1991; Gordon, 1994; Hannum & Hansen, 1989; Johnson, 1996; Kaufman, Oakley-Brown, Watkins, & Leigh, 2003; Mager & Pipe, 1997; Murk & Wells, 1988; Nelson et al., 1995; Ostroff, & Ford, 1989; Rossett, 1987; Rummler & Brache, 1990; Robinson & Robinson, 1995; Rothwell & Kazanas, 1992; Watkins, 2007; Watkins & Wedman, 2003; Watkins & Leigh, 2009; Witkin & Altschuld, 1995; Zemke & Kramlinger,

1984). However, none of these models were validated or applied to another international context. In addition, topics and methods related to needs assessment have received limited attention in the recent scholarly literature. In fact, most literature on such initiatives has been published in the past four decades (e.g., Altschuld & Witkin; Kaufman & English, 1979; Kaufman et al., 1993; Watkins & Kaufman, 1996; Watkins et al., 1998; Witkin, 1984; Witkin & Altschuld, 1995).

These foundational works may be dated, but are still worth citing to establish the context for internationalizing the needs assessment process. Moreover, only two articles in recent literature represent discussions of needs assessment models in detail. These two articles by authors Watkins, Leigh, Platt, and Kaufman in 1998 and 2000 compare several models based upon organizational emphases and the usage of key terminology, each to assist professionals in examining the problems and opportunities facing their organizations (Watkins, Leigh, Platt, & Kaufman, 1998; 2000). Due to the aforementioned limited attention in the scholarly literature, the author investigated all existing models related to needs assessment to determine which one could yield the best predictions for internationalization of the process.

The literature review produced 20 needs assessment models published over 30 years, varying widely in levels of detail and breadth of application, as shown in Appendix A. Many of these models were found within the instructional design field or have been derived from training and organizational development (Watkins et al., 1998). However, only 18 needs assessment models were included and reviewed in this study. Out of 20, two models developed by Harless (1975) and Gilbert (1978) were not discussed since these two models focus on measuring individuals' performance discrepancies within one's organization, which is considered out of the scope of the study. Even though the review of the existing literature focuses only on what has



been done in the past 10 years, certain earlier studies were also reviewed as important in shaping a framework of internationalizing the needs assessment process.

**Summary of the needs assessment models reviewed.** Appendix A illustrates a summary matrix of all 18 needs assessment models reviewed. Many of the model descriptions were taken from the Watkins et al. (1998) article, and from the comparison of needs assessment literature (eg., Kaufman & English, 1979; Kaufman et al., 1993; Watkins & Kaufman, 1996; Watkins et al., 1998; Witkin, 1984; Witkin & Altschuld, 1995). All 18 models are differentiated and are not consistent in terms of their goals or the steps included. Each model possesses a number of underlying statistical and methodological assumptions, which the researcher has carefully considered before making the selection of a model that may suit the Saudi context. The 18 models discussed in this study were analyzed in terms of:

- The purpose of the model,
- The beneficiary of model results related to three types of primary clients and stakeholders: societal, organizational, individuals and small groups (Kaufman, 1992; 1998),
- The target audience, or the intended practitioner or user of the model (government, business, and education), and
- The context within which each model has been applied (locally or internationally)

As shown in Appendix A, a total of five needs assessment models were developed in the mid to late 80s (Hannum & Hansen, 1989; Mark & Wells, 1988; Ostroff & Ford, 1989; Rossett, 1987; Zemke & Kramlinger, 1984). All five models have the common purpose of determining training needs, conducting organizational effectiveness studies, and performing task analysis. Perhaps one of the most widely used by business and industry is Rossett's (1987) *Training Needs*

*Assessment Model*. This model seeks to reduce the gap between “optimal” and ‘actual” individual and small-group performance (Rossett, 1987). One year later, Murk and Wells (1988) introduced the *System Approach Model (SAM)* as an integrated nonlinear model of instructional design that features needs assessment as a component. “SAM model is used as diagnostic instruments to assess learners' needs, to establish meaningful instructional objectives, to set up and properly administer a realistic budget, to ensure a logical agenda of activities, and to evaluate procedures appropriately (Murk & Wells, 1988, p.47).” Although this model is considered useful for defining learner entry skills, knowledge, attitudes, and abilities, there was no detailed discussion on how to achieve that desired consequence from such activity (Watkins et al. 1998).

As a group, all five models proposed in the 1980s serve a particular purpose in distinguishing between training and non-training solutions for employee performance improvement in government and business industries. Although findings from these models are useful in decision-making, many practitioners believe it is difficult to demonstrate how individual performance results affect desired organizational and societal success (Watkins et al. 1998). As a consequence, these models would not be suitable for internationalization of needs assessment processes into the Saudi context. This is due to their limited focus on determining training needs, conducting organizational effectiveness studies, and performing task analysis in only government and business industries. In addition, there are inadequate resources on the detailed process of applying each model, perhaps due to their relatively early entry to the field.

In the 90s, most of the available models were proposed for experts in government, business, and education working with both internal and external clients. More attention has been given to the education sector, aiming to include needs assessment processes as an integral

component of any instructional design process, such as in Burton and Merrill's (1991) *Four-Phase Model*, and Rothwell and Kazanas' (1992) *Needs Assessment for Planning Model*. Both models utilize the instructional goal and focus on the application of needs assessment in the development of instructional materials. On the other hand, the *Front-End Analysis Model* by Gordon (1994), and *Robinson and Robinson's Performance Relationship Map* by Robinson and Robinson (1995) emphasize training and non-training solutions to individual and team performance discrepancies.

In 1995, Nelson and his colleagues introduced their *Content-levels Framework* for training needs assessment. It was a modified version of Ostroff and Ford's (1989) *Content-levels application matrix*. It focuses on the processes and inputs at the organizational, small group, and individual levels rather than external results. Similarly, the *Three-phase Model of Needs Assessment* by Witkin and Altschuld (1995) emphasized the process over accomplishments or the organization's goal for individuals and small-groups. Following this model, needs assessment can occur over three phases: pre-assessment (exploration), assessment (data gathering), and post-assessment (utilization). The model provides in-depth steps for conducting a successful assessment (Watkins et al., 2000; Altschuld, 2010).

In 1997, Mager and Pipe developed a model to aid in the analysis of performance (Mager & Pipe, 1997). The *Performance Analysis Model* is designed for analyzing performance discrepancies and making adjustments at individual levels. The purpose of analysis is to select the appropriate solutions for the performance problem. Although this model is presented as a comprehensive flowchart with questions and directions leading to specific answers, it does not explicitly detail a process by which alternate solutions are generated (Watkins et al., 2000). Similarly, Kaufman's (1992, 1996, 1998) *Organizational Elements Model (OEM)* uses a

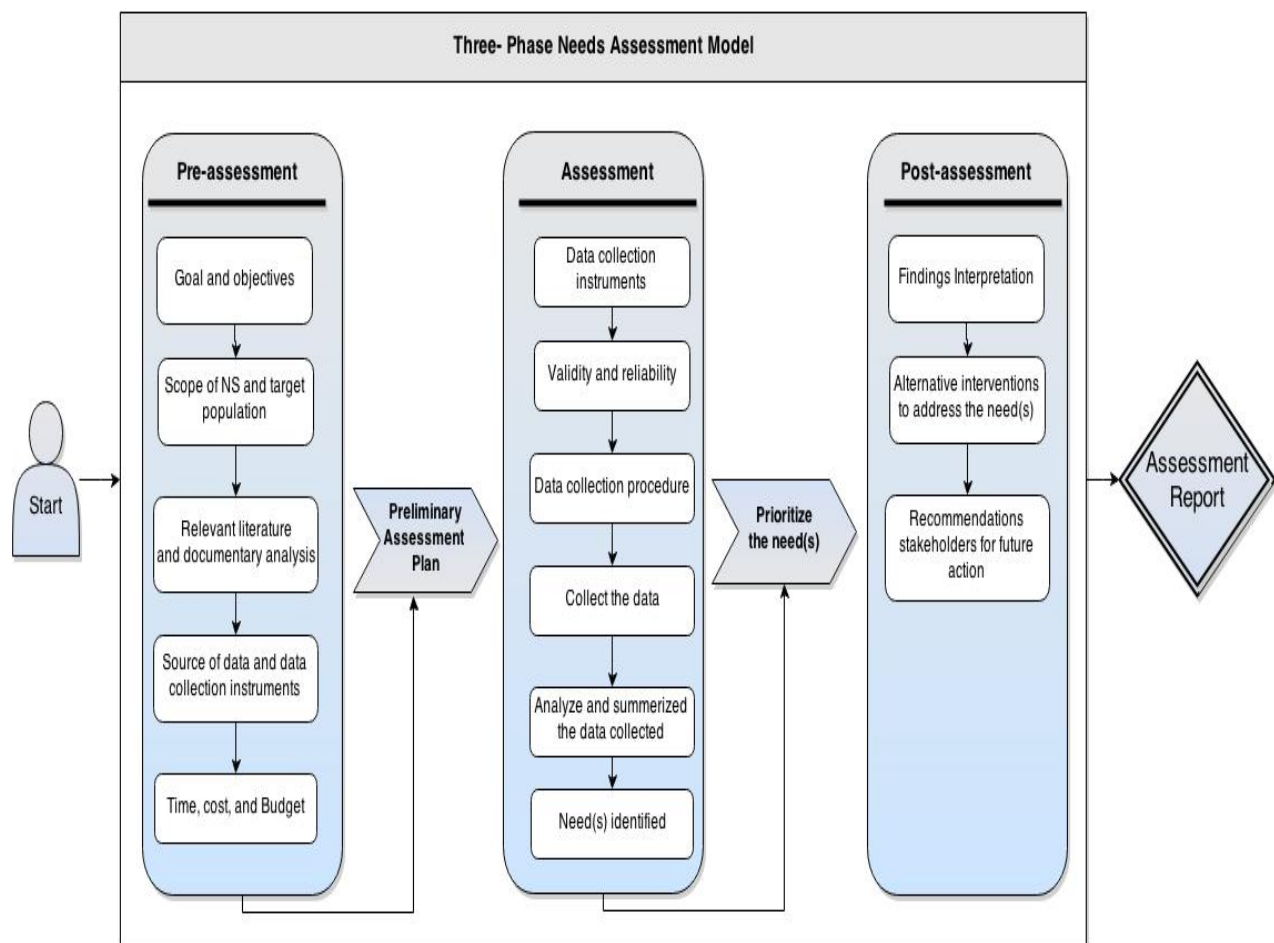
systemic approach to look at gaps in performance. OEM is the only needs assessment framework reviewed that formally addresses differentiating between a company's means (what it uses and does), and its ends (what it produces) (Watkins et al., 1998). This model was later revisited and recommended for performance improvement in Kaufman, Oakley-Brown, Watkins, and Leigh's book (2003), and in Watkin's book (2007).

As the purpose of this research stage is to determine which model yields the best guidance for internationalizing the needs assessment process for the Saudi context, the researcher critically examined the nature and role of each model for choosing the most appropriate features of a needs assessment model for this context. Each of the reviewed 18 models examined have strengths and weaknesses within a variety of professions and applications involving needs assessment processes. In addition, they all address the target audience of the model, problem analysis, and benefits of the assessment results. Even though these models are appreciated in the existing literature and widely used in different disciplines (government, business, education), none of these models were discussed for their use internationally, as shown in Appendix A. Reviewing the literature showed that all existing needs assessment models were developed and adopted locally within western countries such as the United States and countries within Europe. To this date, there is no evidence that these models have been successfully adopted in other international contexts. Thus, this study proposed to consider the revision of the three-phase model of needs assessment for use in an international context, specifically Saudi Arabia. The rationale behind this selection is discussed as follows (Stage II).

## **Stage II: Three-Phase Model of Needs Assessment**

In this stage, a revised version of the three-phase model of needs assessment was proposed and developed for internationalizing the needs assessment process for use in Saudi

Arabia. Based on reviewing the literature, the three-phase model was revised and updated by the researcher for the formative evaluation process, as presented in Figure 7. The reason of proposing a revised version of the three-phase model was to demonstrate its usefulness when planning to conduct needs assessment in Saudi context. The changes made in graphical representation of the model based on reviewing the literature. Compared to other needs assessment models, the three-phase model was chosen to be revised because it has been recently examined in the literature, with clear guidance provided on how one can manage a successful assessment within a unique context (Altschuld, 2010; Watkins et al., 2012).



*Figure 7: A revised version of the three-phase model for internationalizing needs assessment for use in Saudi Arabia*

In addition, the three-phase needs assessment model found in the literature is considered the only needs assessment model proposed for planning and conducting needs assessment processes in detail (Altschuld, 2010; Watkins et al., 2000). In 2010, Altschuld described the three-phase model in depth along with subtleties in implementation into his *Needs Assessment Toolkit* book (Altschuld, 2010). The three-phase model is also the most recent needs assessment model reviewed in the literature, and it provides complete guidance in conducting the needs assessment process. Ideally, the revised version of the model would be used by instructional designers and developers in Saudi Arabia that are not familiar with the needs assessment process and that could benefit from guidance on how to employ such a process. Therefore, the users would be training developers, instructors, and instructional designers who are not needs assessment experts, but are engaged in the field and can benefit from the revised internationalized model, as well as the end results of such an assessment.

### **Stage III: Design of the Survey Instrument**

To enhance the quality of this research, the researcher engaged in the systematic development of an open-ended survey (Appendix G) used for data collection. The survey was designed in order to explore the views of IDT scholars and professionals regarding how to best internationalize the needs assessment process for use in the specific setting of Saudi Arabia.

**Sequential steps for survey development.** The design of the survey took four sequential steps. A brief description of each of the five steps is presented as follows:

**Step 1: Background.** In this initial step, the purpose, objectives, and research questions of this study were examined. Through a review of the literature, a framework for an international needs assessment process was proposed to understand and determine existing needs while taking into account the specific considerations for the given international context. Also, determining the

audience, their background, their educational/readability levels, access, and the process used to select the respondents were part of this step.

**Step 2: Survey conceptualization.** After developing a thorough understanding of the research, the next step was to generate statements/questions for the survey. The survey instrument was developed based on constructs that are supported by appropriate theoretical and conceptual foundations. Variables related to an internationalized three-phase model of needs assessment were distilled from the literature into an open-ended survey for respondents.

**Step 3: Format and data analysis.** In Step 3, the focus was on writing questions, the selection of appropriate scales of measurement, questionnaire layout, format, question ordering, font size, front and back cover, and proposed data analysis. The survey (Appendix G) was developed using Qualtrics and consisted of 28 questions including both open-ended and closed-ended questions. Depending on respondent answers to specific questions, respondents would get certain follow-up questions. The survey consisted of seven pages. The first page consisted of a description of the study and consent information. On the second page respondents were asked about their demographic information. The third page was about the proposed model and its potential use in the Saudi context. The fourth page was about potential barriers to implementing the model within the Saudi context. On the fifth page, respondents were asked about accommodations for using the model in Saudi Arabia. On the sixth page, respondents were asked about the potential impact on the Saudi culture of adapting the revised three-phase model, and on the seventh page, they were asked about recommendations for changing the model for more effective use within Saudi settings.

**Step 4: Establishing validity and reliability.** After the Institutional Review Board (IRB) application was approved (see Appendix B), a draft of the open-ended survey was prepared for

establishing validity and reliability. External reviewers were used to establish reliability and validity (Creswell, 2007). The content validity of the survey was enhanced by two expert reviewers. These expert reviewers provided input on the clarity of the survey questions, and the alignment of the survey questions with the research goal. Based on this input, several modifications were made to the survey questions.

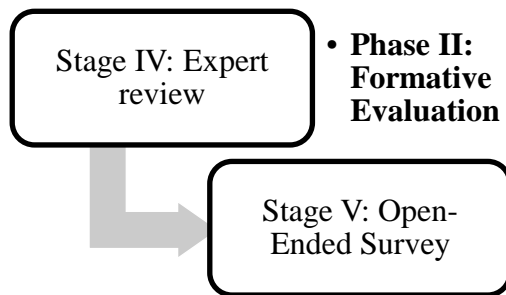
### **Phase Two: Formative Evaluation**

Phase II consisted of a formative evaluation of the revised version of the three-phase model of needs assessment for the Saudi context. According to Van den Akker (1999), formative evaluation holds a prominent place in developmental research in that it provides the information that feeds the cyclic learning process of developers during the subsequent loops of a design and development cycle. Tessmer (1993) advocates the use of formative evaluation within developmental research by stating that, “a formative evaluation is the systematic tryout of instruction for purposes of revising it (p. 8).” Formative evaluation is useful in that it allows for a focus on locating intervention shortcomings in a current (draft) version, and then generates suggestions for how to improve those weak points (Richey et al., 2004; Ross et al., 2007).

The formative evaluation in this developmental research was therefore designed to investigate the capabilities of the revised three-phase model for the Saudi context, and to provide valuable feedback with the goal of improving the model’s final design. In order to get feedback from different perspectives, two methods of formative evaluation were incorporated into the design: expert review and an open-ended survey aimed at increasing the quality of the model for the Saudi context, as shown in Figure 8. These two methods were undertaken according to the methods described by Tessmer (1993), who suggested choosing formative evaluation methods



based on several aspects, and especially aspects that can best provide information related to how users will experience the three-phase model in its final form.



*Figure 8: Phase II: Formative Evaluation.*

In addition, Patton (2002) recommended triangulation of multiple methods of data collection to strengthen the findings of the study and improve the validity and reliability of the research. Triangulation of findings from expert reviews and the open-ended survey were used to ensure the quality of the proposed three-phase model under the development process. Expert reviews were gathered first to obtain an in-depth understanding of considerations for internationalizing the needs assessment process, followed by the open-ended survey to validate and extend these findings with a larger sample. Overall, data triangulation improved the study's validity, as multiple data sources were used to understand a single phenomenon.

#### **Stage IV: Expert Review**

In developmental research, validity can effectively be achieved through expert evaluation (Van den Akker, 1999). Expert review was chosen as the first method because experts provide an intrinsic evaluation of the instruction, meaning that the focus is on the model's content accuracy or technical quality, rather than on learner performance or overall effectiveness (Tessmer, 1993). In this case, instructional design experts were asked to evaluate the proposed three-phase model based on their particular expertise with practicing needs assessment locally and internationally.

**Participants.** After the Institutional Review Board (IRB) application was approved for this phase of the study (see Appendix B), the model and open-ended survey were sent to two expert reviewers: Dr. Ross Perkins, an expert of needs assessment in the field of instructional design, and Dr. Abbas Johari, an expert in the field of instructional design in international settings. They were chosen for their expertise related to needs assessment, and their experience working in international settings and the field of IDT in general. These expert reviewers were asked to sign an online IRB consent form prior to engaging in the study. The consent form can be found in Appendix C.

**Data collection.** Upon completion of the internationalized model and the open-ended survey, the expert reviewers were asked to review these items. The evaluation was conducted at a distance. First, the expert reviewers evaluated and validated the proposed three-phase model for internationalizing needs assessment for use in Saudi Arabia, using a rubric that can be found in Appendix D. According to Van den Akker (1999), validity in developmental research refers to the extent that the design of the intervention is based on scientific knowledge (content validity) and all components of the intervention are consistently linked to each other (construct validity). If the intervention meets these requirements, it is considered to be a valid, high quality intervention. The evaluation rubric for the expert reviewers was therefore based on the model's content accuracy, relevance to the Saudi context, and model consistency (whether the model was logically designed), rather than focusing on learner performance or overall effectiveness. In addition, expert reviewers were asked to evaluate the model from the perspective of usability, like: ease of use, intuitive flow, and barriers to implementation in the Saudi context, and accommodations made on the model to suit the Saudi context (see Appendix D). The feedback provided by the experts was used to create a revised and internally validated the proposed three-

phase model (Richey, Klein, & Tracey, 2011). Following this, expert reviewers were asked to review the open-ended survey based on its clarity and alignment with the research question using a rubric that can be found in Appendix E. They were also given the opportunity for open written feedback in the rubric. The written feedback was followed up with a Skype interview to help clarify unclear suggestions in the review feedback, lasting between twenty and thirty minutes. The timeline for the expert reviews was about two weeks. An additional two weeks were needed to synthesize the data obtained from the expert reviews. Based on the input from the expert reviewers, the three-phase model and the survey were revised for the next stage. The results of the expert review are presented in Chapter 4.

### **Stage V: Open-Ended Survey**

The second method of formative evaluation chosen was an open-ended survey (Appendix G), given to needs assessment scholars and professionals in the IDT field. Although it could be conducted as a traditional survey to gather input from members of the major stakeholder groups concerning needs assessment and practices in local and international literature, the open-ended survey was judged to be a stronger methodology for a rigorous query of experts and scholars. This method was selected to prompt respondents to express their views and opinions in detail on internationalizing the needs assessment process into the Saudi context through introducing the proposed three-phase model. In addition, the open-ended survey was selected to collect maximum and directional data from target populations to understand the different perspectives of various stakeholder groups, and to make decisions based on information gathered on translating and accommodating the proposed three-phase model to the Saudi context.

**Participants.** According to Van den Akker (1999), respondent samples in formative evaluation within developmental research compared to respondent samples for other research

purposes focus in depth on a relatively small sample that is selected purposefully. Creswell and Plano Clark (2011) recommend also using a small purposeful sample in the first phase of the research and a large sample in the second phase. A small purposeful sample of needs assessment scholars and professionals was therefore used for the expert reviews ( $N = 2$ ), and a larger sample for the open-ended survey ( $N = 15$ ) from the same population. To prevent bias, the participants that were previously used as experts were not contacted to participate in the survey.

**Data collection.** As the target population included needs assessment scholars and professionals, recruiting participants to complete the survey was a challenging and time-consuming process. Although there was a need for 10 – 12 participants out of a potential pool of 25, the process of recruiting participants and collecting the survey data took around three months (March – May 2016) in three different stages. Adding some extra weeks to the project timeline was necessary to allow ample time to network and find the right people who were willing to participate in the survey. As shown in Table 1, a total of 25 needs assessment scholars and professionals were contacted and emailed to complete the survey. This email included a brief description of the study and an invitation to participate (Appendix F). Consent was implied by the return of the completed survey. By the end of May 2016, the survey was completed by five respondents, partially completed by ten respondents, and never completed by 11 respondents. A total of 15 responses are therefore included in the data analysis ( $N = 15$ ).

### **Stages of Recruiting Participants**

**First stage.** In the AECT 2016 conference held in Indianapolis, IN, the researcher had the chance to communicate with Dr. Abbas Johari, who recommended potential participants for completing the survey. Initially, a total of seven scholars and professionals representing a wide

variety of backgrounds and geographic locations were contacted by email to complete the open-ended survey. The survey was sent out to the participants for the first time on March 9, 2016. After one week, reminder emails were sent on March 16, 2016. The second set of reminder emails was sent on March 23, 2016. Only one respondent out of seven responded completely to all survey questions, three respondents partially completed it, and three respondents never completed it. Respondents who only partially completed the survey closed the survey at some point during their answering process. Even though there was another option in the email to answer the same survey questions online by using Skype, none of the respondents selected that option (see Appendix F).

Table 1

*Stages of recruiting participants to complete the survey*

	<b>Time</b>	Total of emailed Respondents	Survey completed	Partially completed	Never completed
First Stage	March – April	7	1	3	3
Second Stage	April	10	2	4	4
Third Stage	April – May	8	2	3	4
<b>Total</b>	<b>May</b>	<b>25</b>	<b>5</b>	<b>10</b>	<b>11</b>
<b>N</b>	<b>-</b>	<b>-</b>	<b>15</b>	<b>-</b>	<b>-</b>

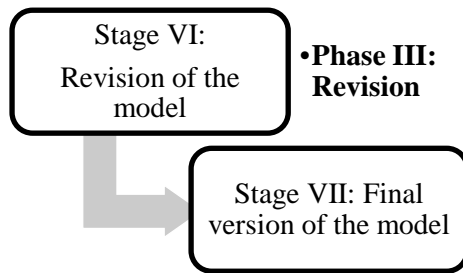
**Second stage.** Several adjustments were made to the survey questions to make them easier for respondents to understand and faster for them to complete. Following this change, a new group of needs assessment scholars and professionals were selected from the local and international literature in different countries (such as Canada, Asia, Africa). A total of 10 scholars were contacted by email to complete the survey on March 27, 2016. After the second

and the third reminder emails on April 13, 2016, the survey was completed by two respondents, partially completed by four respondents, and never completed by four respondents, as can be seen in Table 2. At that point, the response rate was still low and the data collected was insufficient for making useful conclusions to validate the proposed model.

**Third stage.** A group of needs assessment scholars and professionals were selected and recommended from the literature. A total of eight scholars were contacted by email to complete the survey on April 21, 2016. Reminder emails were sent to the respondents three times. By the end of May 2016, the survey was closed and completed by two respondents, partially completed by three respondents, and never completed by four respondents, as can be seen in Table 2. After these three stages of recruiting respondents, the survey was completed by five respondents, and partially completed by ten respondents. A total of 15 responses are therefore included in the data analysis ( $N = 15$ ). Respondents answering less than one complete survey question were excluded from the study.

### **Phase Three: Revision**

Developmental research explores the development process through formative evaluation and revision (Richey et al., 2004; Van den Akker, 1999 ). Once the proposed three-phase model of needs assessment was reviewed and evaluated, a plan for how to incorporate evaluation findings was determined. Data collected during Phase Two was used to inform the revision process and develop the final model for the Saudi context. This process included the recommendations or modifications suggested by the expert reviewers, and was used to guide improvements for the model (Figure 9).



*Figure 9: Phase III: Revision.*

### **Stage VI: Revising the Model**

This stage included an analysis of the findings from the formative evaluation. Findings from the expert review and open-ended survey provided validation for the three-phase model design. Based on the feedback provided, a plan for revision was formed. Expert reviewers identified several areas for improvement. At this stage, common areas identified by expert reviewers and their recommendations for improvement were explored. Additionally, a discussion of how the model would be revised to incorporate reviewer suggestions was created.

### **Stage VII: Final Version of the Model**

This is considered the last stage of the validation of the proposed three-phase model for internationalizing needs assessment for use in Saudi Arabia. As a result, a culturally-based needs assessment model considering contextual, social, cultural, and political aspects was developed for the Saudi context. This model is developed to enable practitioners in the field to better understand the local contextual and cultural factors prior to actual implementation of the needs assessment into the new context. A detailed description of the culturally-based model for the Saudi context discussed in the following chapters 4 and 5.

## **Summary**

Developmental research leads to knowledge creation in the field of instructional design, and provides validation of the process (Richey & Klein, 2009). Incorporating input from experts and practitioners, developmental research allows for the creation and validation of instructional design models and processes. In this chapter, design and development research methods were outlined and the steps required to complete the study were discussed including: 1) the design and development of the three-phase model of needs assessment, 2) formative evaluation, and 3) the revision process. Adhering to these phases increased the rigor of this study (Yin, 2009). The researcher was prepared for an ethically responsible study that involved human participants. The potential research site and participants were identified, and the IRB approvals received. A variety of methods for data collection and analyses increased the trustworthiness of the findings.

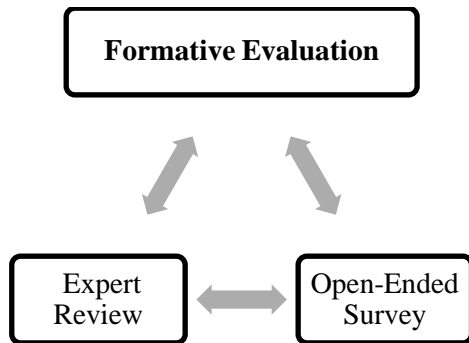


## **CHAPTER 4**

### **DATA ANALYSIS**

#### **Introduction**

Design and development research methods were used to conduct the study in three phases. In phase one, a revised version of the three-phase model was developed. In phase two, a formative evaluation of the proposed model was conducted using expert reviews and an open-ended survey given to scholars and professionals within the IDT field (Figure 10). In phase three, revisions to the model were made based on the evaluation results from the previous stage. This chapter presents a summary of the data analysis and findings from the expert review and the following open-ended survey. It also provides a discussion of the expert recommendations proposed to revise the proposed version of the three-phase model for the Saudi context.



*Figure 10: Formative Evaluation.*

#### **General data analysis procedures**

The procedures for analyzing the data collected in the present study were organized into two sections: (1) expert reviews, and (2) the open-ended survey. Qualitative analysis was used for the data collected during each section. The qualitative interview data were manually transcribed and typed in May, 2015, using Microsoft Word. For each group, the data were imputed verbatim and labeled per line by expert last name, then summarized first per survey

question, and finally, categorized by the appropriate area in the model. Each of the transcripts was coded two times for identifying major categories and themes. After the second reputation of coding, the identification of themes was mainly achieved. The obtained data were incorporated in the revised model.

## **Expert Reviews**

The expert review process was developed to initiate validation of the proposed three-phase model, for internationalizing the needs assessment process in general, and for Saudi Arabia in particular. The study adopted this technique to identify an initial set of themes that affect adapting the model to the Saudi context. Two experts agreed to review the model and the survey using a predetermined set of evaluation criteria (see Appendix D). Dr. Ross Perkins (Boise State University) served as an expert on needs assessment in the field of instructional design, and Dr. Abbas Johari (Cameron University), who is a Muslim, represented expertise in cultural and religious practices in international settings. The review was conducted in two steps. The first step consisted of evaluating the internationalization of the three-phase model to the Saudi context and determined if the evaluation criteria were met. Next, expert reviewers were asked to review the open-ended survey based on its clarity and alignment with the research purpose, using a rubric that can be found in Appendix E. The second step included a follow-up conversation during an interview to help clarify unclear suggestions in the feedback provided, and to allow for expansion upon reviewer comments.

**Data analysis.** Experts examined the criteria for the model and the open-ended survey and gave their suggestions. Feedback from reviewers was collected and transcribed. Once done, it was separated into two sections: 1) the three-phase model transcript, and 2) the open-ended survey transcript. Each section was analyzed separately in order to investigate any relevant

themes or emphases specific to a particular section. All personal notes were also utilized to develop an initial list of codes and themes for each section. The feedback from expert reviews was transcribed and coded by the researcher manually using Microsoft Word. A whole text analysis was used to analyze the feedback for each transcript, which was based on the analytic procedures developed by Glaser and Struss (1967, as cited in Hein, 2013) and Corvin and Strauss (2008, as cited in Hein, 2013). This procedure is characterized by identifying, coding, and categorizing patterns within the data. Common themes for improving both the model and the survey emerged from the information collected. These were a focus during the follow-up conversations with the reviewers. Overall, many suggestions were given that if incorporated would benefit the model and the survey. Comments were also given that provided support to certain ideas while other comments identified areas of confusion. Below, most comments are direct quotes; changes were only made to comments that either revealed an expert's identity, or that were confusing and needed clarification.

**Expert reviewer's feedback on the proposed three-phase model.** The qualitative results gave a more detailed picture about expert perceptions of the model. Experts provided several examples and recommendations for improving the model presented and discussed in the chapter. Below is a discussion of the findings that is organized according to two main categories: a) context analysis, and b) cultural characteristics including general consideration, political sensitivity, and Islamic attributes. Although the categories are presented as separate discussions, they are to be viewed holistically and not in isolation from one another. The following section is a summary of the feedback received from the reviewers on how to enhance the model to suit the Saudi context.

**Context analysis.** Reviewers noted the absence of conducting a context analysis during the pre-assessment phase.

Reviewer 1: “I wonder if a bit more \*context analysis\* might be in order? It is impossible to do a needs analysis without first having examined the context closely.”

Reviewer 2: “In my humble opinion, this may be possible if the researchers expand on the Pre-assessment phase (relevant literature and context analysis) by offering another phase or at least another level that clearly helps to understand the context before applying the model.”

Below, further feedback is provided from the expert reviewers in the follow-up interview for improving the model.

Reviewer 1: “Yes. There is a need for conducting context analysis in which that model would take place”. “So people could have potentially a lot of needs but those needs may not be related. Aren’t you making this model for the Saudi context? You should meet needs based on the environment.”

Reviewer 2: “Aren’t you making this model for the Saudi context? You should include context analysis to determine if this model exists is suitable for the Saudi context.”

Based on the expert reviewers’ suggestions, it seems necessary to consider the “context analysis” as a step in the pre-assessment phase of the three-phase model. According to Tessmer and Richey (1997), context has a complex and powerful impact upon successful performance-based learning and plays a significant role in facilitating the achievement of many instructional interventions. Jonassen (1992) also notes, "context is everything" to instructional design. Context is defined as, “a multilevel body of factors in which learning and performance are embedded (Tessmer and Richey, 1997, p. 87).” Moreover, the context analysis is an examination of, “physical and psychosocial factors that affect learning...a phenomenological approach to instructional design in that it seeks to describe the learning ‘as it is’ in the real-world... (Tessmer & Harris, 1992, p. 15).” According to Tessmer and Richey (1997), these contextual factors’ physical, social, and instructional aspects interplay to influence learning.

A number of scholars advise conducting a context analysis as an initial step of any project before approaching a new context. Tiene, Futagami, and Perkins have developed a number of multimedia projects in different international contexts (Tiene & Futagami, 1987; Perkins, 2003). They provide examples of some situations or circumstances that suddenly appear against the introduction of these projects. For example, it is very difficult to introduce educational technology or e-learning programs into countries facing challenges with either technology adoption or easy access to electrical power (Perkins, 2003). According to the authors, a proper context analysis would assist designers significantly to describe the learning environment in a way that would bring into focus the contextual factors, including available resources that exist in a situation (Tiene & Futagami, 1987; Perkins, 2003). It would seem that context analysis certainly, “takes place before decisions are made upon instructional strategies, media formats, and evaluation strategies (Tessmer and Harris, 1992, p. 16).” The analysis process can also take place as part of or in addition to the needs assessment (Perkins, 2003).

With this preface, it might be significant to incorporate a context analysis as an integral part of the three-phase model. The purpose of the analysis is to better understand the new context, which will inform decisions in the subsequent stages of the process. From the context analysis, it is possible to determine the social, political, physical, and cultural contextual factors before actual internationalization of the model into the Saudi context. In addition, early assessment of the context would help overcome any risk associated with uncertainty regarding the new context (Albassami & McCoy, 2015). Context analysis would also yield better understanding of the new context, and assist in choosing the right solutions for challenges or barriers that might impede the internationalization process (Perkins, 2003).

Dean (1994) and Tessmer and Richey (1997) indicate a number of outcomes the context analysis can provide, and which this study considers in aiming to make the right accommodations for the three-phase model to be adopted in Saudi Arabia. The outcomes of the context analysis can help to:

1. Identify those who can help guide the needs assessment process,
2. Provide another way of specifying the assessment goals and objectives,
3. Assist in developing appropriate activities relevant to the process,
4. Define the format of a program and describe the availability of required resources (e.g. financial, physical, human resources, etc.),
5. Determine the enabling and impeding factors to implement the assessment (e.g. cultural, political, economic, etc.),
6. Mitigate the effect of inhibiting factors and secure or exploit facilitative factors, and
7. Monitor the contextual factors during the internationalization process of needs assessment in the new context.

The abovementioned outcomes were compelling reasons to consider the use of context analysis in this study. Thus, the three-phase model will be revised to include the context analysis as an initial step before the actual internationalization of the needs assessment. Information gathered from analyzing the context will be used to deliver an appropriate needs assessment suitable to the Saudi context.

***Cultural characteristics.*** Reviewers indicated that the characteristics of Arabian culture differ from those of Western communities. Thus, different (or enhanced) needs assessment models need to be applied in Arabian contexts despite the continuing tendency for these contexts to adopt pure Western models. Similarly, the three-phase model was developed and adopted successfully in the United States. Reviewers believe that it is crucial to consider the

discrepancies in cultural characteristics prior to the actual internationalization of the model into the Saudi context.

Cultural characteristics are an important aspect of understanding the context. Culture is a system of beliefs, customs (habits and practices), values, attitudes, and lifestyles of particular people. Culture can refer to groups of people such as nations or more specific groups, such as a shared belief among organization members encouraging instructional innovation (Tessmer & Richey, 1997). The culture of a person will influence the way he or she perceives gender (male/female), ethnicity, language, religion, age, disability, sexuality, cultural diversity, patterns of thinking, behavioral norms, and styles of communication (Powell, 1997, p. 15). A cultural assumption is when it is assumed that a person has particular values and attitudes based on their cultural background. Understanding cultural assumptions and how they work will help to analyze the context.

Reviewers provided several comments regarding cultural assumptions about the Saudi context. However, few comments were identified for each of the three sub-categories, and the primary focus on this topic was on cultural characteristics for introducing this model to the Saudi context. Therefore, the three sub-categories were collapsed into one overall category (cultural characteristics). A description of each sub-category follows.

*General cultural considerations.* Reviewers found that cultural considerations for the Saudi context were lacking in the model.

Reviewer 1: “The phrase, ‘International Context’ is too general. One must consider cultural assumptions of the model’s audience. What level of trust will your sample have that you will not share their data? Could they feel that any negative answers could be leveraged against them, no matter your promises of privacy? The IRB will be mostly foreign to them, I suspect.”

Reviewer 2: “This model has potential if you bring culture to it.” “There is a need to say something about having instructions that suit Islamic culture and has to be ethical.”

Additional feedback was provided by the expert reviewers in the follow-up interview for improving the model.

Reviewer 1: “People because of politics not be honest giving you feedback or this model. This may make them very concerned about the type of the data that going be used.” “Writing first of all as SAUDI, and then as Women from Saudi Arabia because obviously the culture condition of women there in SA is quite being different than men.” “there might be some cultural assumptions that they are made that have been influenced by US.”

Reviewer 2: “The model should something good for Saudi and Islamic culture.” “You ask the Muslim society and you should educate the western people about us Muslim culture.” “The model should be something good reflecting your country and culture.”

Both reviewers suggested better incorporation of “general considerations” in the model for a given context. It is possible that understanding and appreciating the cultural differences and diversity of the model’s audience may lead to creating the appropriate needs assessment for the Saudi context. Saudi Arabia has a unique culture in itself. It is characterized as a Muslim and tribal culture. Many attitudes and traditions in this culture are derived from Islam and Arab civilization. Thus, the cultural considerations of the three-phase model may include: religion, language, gender, traditions, and values. Considering those factors may impact the content of the model itself, and the process and results of needs assessments in general (Bentley et al., 2004). The responses from this question helped in formulating the open-ended survey related to cultural considerations in the adaption process of the model. In addition, the model will be revised to include the “general considerations” necessary to deliver a suitable needs assessment for a specific context.

*Political sensitivity.* Reviewers identified political sensitivity as an area for improvement in the three-phase model.



Reviewer 1: “People because of politics not be honest giving you feedback or this model. This may make them very concerned about the type of the data that going be used.”

Reviewer 2: “The model should something good for Saudi society and for Islamic culture.”

Additional feedback was provided by the expert reviewers in the follow-up interviews for improving the model.

Reviewer 1: “You should be very keen on be aware of political sensitivity. My understanding that some of the institutions have a close connection to the government and to the king, in particular... if faculty members are critical resources or critical of it at the university, then what kind of message does that send to founder and what kind of reactions and implications that could have.” “I have never been to Saudi Arabia, but I know a little bit about it of having friends from Saudi Arabia and having actually formal students from Saudi Arabia...so I know a little bit of the cultural context. So let me think that changing is involving certainly...Saudi Arabia in 2016, it is not Saudi Arabia 15 years ago.”

Reviewer 2: “Please report carefully and try to place some weight on the fact that, as you have mentioned, “Saudi Arabia is ... the most closed society” the overall findings cannot be conclusive and are introducing some initial understanding of this complex analysis.” “Muslim culture is very proud culture.” “The model should be something good reflecting your country and culture.”

Politics in Saudi Arabia is different from anywhere else. The Kingdom of Saudi Arabia is a monarchy. The king has the absolute executive power of the kingdom and the government. All decisions are made by the king based on consultation among the senior princes of the royal family and the religious establishment. Saudi politics and systems are derived from Islam. The system of government functions using laws from a principle called *Sharia* law, which is based on Islamic law. It is a precise interpretation of the *Qur'an* (Algar, 2002). *Sharia* law in Saudi Arabia has a strong tribal functionality and identity that has shaped the character of Saudi society (Al-Rasheed & Vitalis, 2004). For instance, the implementation of *Sharia* law in Saudi Arabia

involves public separation of men and women within most public places, institutions, and business arenas. These rules keep society orderly, honor tradition, and show respect for God.

However, Saudi Arabia is different from the place it was even thirty years ago. With increasing technology, education, scholarships, and exposure to many sources of knowledge, “Saudis are no longer passive recipients of official narratives. They are more experienced and articulated in producing their own version of ‘being Saudi’ (Al-Rasheed & Vitalis, 2004).”

Authors argue that Saudi Arabia has been changing recently as a result of globalization. The big change in the Saudi politics related to women’s rights happened this year 2016 when the king allowed women to vote and run for office in municipal council elections. The evolving nature of the political and social status of women reflects the need for sensitivity to such changes in the Saudi context to enhance the three-phase model.

Based on the feedback provided by the expert reviewers, the open-ended survey was revised and formulated regarding the importance of considering such factors at early stages of the model before actual needs assessment takes place in the Saudi context. It is also possible to revise the model to include “political sensitivity” in order to deliver a suitable needs assessment for the Saudi context.

*Islamic attributes.* Another area that reviewers have identified for improving the model to suit the Saudi context is a consideration of the Islamic attributes.

Reviewer 1: “In this particular case, I think you need to address in your study the fact you are :1- a women form Saudi Arabia, but you are living and studying in U.S. at the present.”

Reviewer 2: “Muslim culture is very proud culture.” “Bring some of the instructions that related to Islamic art so the audience feel that they belong to that process of the model. This sounds difficult, but you need something to publish. There is nothing out there about Islamic art/justice, etc.”

Additional feedback was provided by the expert reviewers in the follow-up interviews regarding the need to improve the model.

Reviewer 1: “Writing first of all as a Saudi, and then as a woman from Saudi Arabia, because obviously the culture condition of women there in SA is quite being different than men...I have never been to Saudi Arabia, but I know a little bit having friends from Saudi Arabia and having actually some formal students from Saudi Arabia, so I know a little bit the cultural context”

Reviewer 2: “The proposed international needs assessment model needs to include at least a few attributes of an Islamic cultural model.” “In your following survey, you should ask your participants, “do you think there is a need for the model to have Islamic attributes on it or not?” “There is a need to say something about having instructions that suit Islamic culture and have to be ethical.” “Ask questions about the details of attributes like justice.”

The reviewers’ formative feedback provides guidance for incorporating “Islamic attributes” in the three-phase model. The Islamic religion is considered the most important feature of the Saudi context. Islamic attributes represent the availability of Islamic norms and practices based on the guidelines of the *Qur'an*; the central religious text of Islam. Although the shortage of literature is more noticeable regarding Islamic attributes (Battour, Battor, & Bhatti, 2014), these attributes are commonly known as factors related to the values, beliefs, justice, art, and beauty of Islam. It is assumed that those Islamic attributes will be included within the analysis of context and the audience for the three-phase model in Saudi Arabia. Considering those Islamic attributes within the analysis of the context would help to provide an appropriate needs assessment model for the Saudi Muslim context.

In conclusion of this section, expert reviewers have provided very helpful feedback on revising the open-ended survey and the proposed three-phase model. It is clear now how the model can be revised for improvement. Based on the initial feedback provided, the pre-assessment phase of the model will be revised to include the two key elements: a) context analysis, and b) cultural characteristics, including general cultural consideration, political

sensitivity, and Islamic attributes. The following is the expert reviewer feedback for the open-ended survey of scholars and professionals in the IDT field.

**Expert reviewers' feedback on the survey instrument.** After evaluating the proposed three-phase model by the expert reviewers, they were asked to review the open-ended survey to ensure its clarity and alignment with the research purpose and the IDT field's best practices, using a rubric designed by that can be found in (Appendix E). They were also given the opportunity for open written feedback in the rubric. This feedback was followed up with a Skype interview to help to clarify unclear suggestions in the feedback provided in the review. Each interview lasted between twenty and thirty minutes. The results of the expert reviews are detailed below. Comments and suggestions for the survey's improvement are listed below with their corresponding steps.

***Questions structure.*** Respondents suggested a number of considerations to enhance the overall design of the survey in order to ultimately yield a better understanding of the contents and thus, increase the response rate.

Reviewer 1: "Questions that you have in your survey I thought tended to be fairly pointed in terms in critical. I don't think that critical-thinking questions are bad way to ask questions, but I'm not sure how those questions interpreted culturally." "It seems that should be question built in the model that helps assess the context. If the model goes out helping to analyze needs. It is important to analyze the context first. Then the question should be adjusted based on the context." "Make sure the tone of the questions is reflective of the type of tone one could expect within that cultural context."

Reviewer 2: "Where have these survey questions come from? Researchers offer two rubric questions for each research question. Why they are not three for four? What is the rationale of their selections?" "In your following survey, you should ask your participants, "do you think there is a need for the model to have Islamic attributes on it or not?" "There are lots of grammar and layout shortcomings in these documents that needs to be taken care of immediately, for example, "Research Question."I believe this must be (Research

Questions.)”

*Suggestions and possible solutions.* Based on the findings above, the author has derived the following suggestions and possible solutions.

- Add questions to the survey instrument related to the need for including context analysis, cultural consideration, and Islamic attributes into the three-phase model.
- Rephrase the tone of some questions to ensure reliable and actionable responses.
- Make some grammar and spelling edits, such as adding words that were accidentally forgotten or left out.

*Qualitative data collection.* Similarly, the respondents provided key comments on how to enhance the data collection experience in this study.

Reviewer 1: “It would be good sit down and think about possible influences or motivations behind your questions.” “It is entirely likely that the new context (ex. living as a grad student in the US) in some way influences one’s perception of the study context.”

Reviewer 2: “For quite a while, I have been teaching instructional design and I edited many papers regarding the subject. I always encourage researchers to use qualitative methods of assessments, specially, if their participants were in an international context with all its cultural complexity.” “I strongly suggest that it should be followed by qualitative research data collection methods to explore the cultural events.” “Timing. Omit the time limit from the survey.”

*Suggestions and possible solutions.* Based on the findings above, the author has derived the following suggestions and possible solutions.

- Remove the time limit from the survey setting.

*Examples and rounds of data.* Expert reviewers also recommended several considerations to improve the survey through examples and rounds of data.

Reviewer 1: “The target audience (mostly novices to needs analysis) may well see your needs analysis model as step-by-step. Among those in your sample who, on the other hand, are experts, they are more likely to use such a model

holistically. One way around this might be to provide those inexperienced with NA models some case examples.”

Reviewer 2: “I also think the researchers may need to think of bringing a few elements into the new model by perhaps obtaining a few rounds of data. Allowing students, employers, and faculty first exchange (intertwined) ideas in a complete and smaller-scale model and then, from the same participants, expand the model by obtaining inputs from the following surveys.”

*Suggestions and possible solutions.* Based on the findings above, the author has derived the following suggestions and possible solutions.

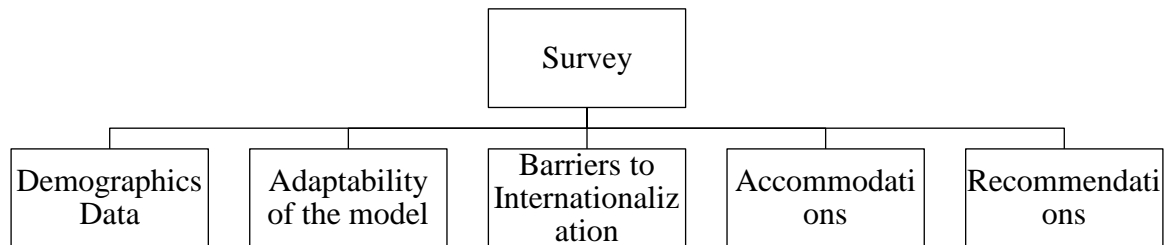
- Provide some examples to guide the user of the model through the needs assessment process.
- Revise the model and attach survey questions for the next formative evaluation step involving the needs assessment scholars and professionals in IDT. The revised survey can be found in (Appendix G).

Based on the feedback provided, the survey was revised for the next formative evaluation step involving the needs assessment scholars and professionals in IDT. The data analysis and the results of this stage are detailed below.

### **Open-Ended Survey**

With the aim of exploring the possibility for internationalizing the revised version of three-phase model into the Saudi context, an open-ended survey was chosen as a second formative evaluation method. The survey consisted of five sections: demographics data, adoptability of the model, barriers to internationalization, accommodations, and recommendations (Figure 11). It was sent to 25 needs assessment scholars and professionals in the IDT field. Data were collected from 14 out of the 25 potential participants, and the author

conducted the analysis according to the five sections indicated above. Findings and results are discussed in detail below.



*Figure 11: Organization of Survey Data Review.*

**Data analysis.** Survey questions were derived from the literature review and expert review. The objective of using open-ended questions was to reaffirm the findings of the expert review with a wider audience. Each of the aforementioned five sections has a number of questions related to the purpose of the study. Initially, the overall data were transcribed and analyzed looking for similar topics and themes. Individual questions were then analyzed.

Based on the responses, codes and categories were identified qualitatively. Each code was constantly compared and contrasted to other codes to identify their distinctive characteristics. A combination of topic and analytical coding was used for the findings. The examination of the data involved making notes on underlying meanings. These notes were clustered into similar topics, and the lists of topics were created from the results. Data were clustered according to similarities, divided into the main four sections, and used to generate lists. The lists reflect the major themes that emerged from the survey results and include four main areas: adaptability of the model, barriers to internationalization, accommodations, and recommendations, as shown in Table 2.

These four themes resulted from the analysis of the open-ended survey and can be used as starting points to apply model in Saudi Arabia other countries. Although the themes are

presented as separate discussions, they are to be viewed holistically and not in isolation from one another. A more detailed description of each theme discussed below.

Table 2

*A summary of themes and categories of participants' feedback*

Themes	Categories
Adaptability of the Model	<ul style="list-style-type: none"> <li>• Model future use by novice and experts</li> </ul>
Barriers to Internationalization	<ul style="list-style-type: none"> <li>• Cultural Barriers:               <ol style="list-style-type: none"> <li>1. Language</li> <li>2. Gender Inequality</li> <li>3. Political Sensitivity</li> <li>4. Resistance to Change</li> </ol> </li> <li>• Model complexity</li> </ul>
Accommodation to the Model	<ul style="list-style-type: none"> <li>• Context analysis</li> <li>• Audience analysis</li> <li>• Relevance examples</li> </ul>
Recommendations	<ul style="list-style-type: none"> <li>• Simplifying the model</li> <li>• Translating the language and terminologies</li> <li>• Involving local expertise</li> <li>• Localizing the content</li> <li>• Communicating with stakeholders</li> <li>• Pilot study of the model</li> </ul>

The following section discusses the general description and characteristics of the respondents. This includes: the respondent's role in needs assessment practices, respondent subject area and target population, and the respondent's prior experience either working in Saudi Arabia or a similar context or experience in adapting needs assessment practices (theories, processes, models, etc.) internationally.

**Description of the respondents.** A total of 25 needs assessment scholars and professionals were contacted and emailed to complete the survey. Out of 25, the survey was completed by five respondents, partially completed by ten, and never completed by 11. The



respondents answering less than one complete research question were excluded from the study. A total of 15 responses are therefore included in the data analysis ( $N = 15$ ), making the response rate nearly 60%. Babbie (1990) suggested that a response rate of 60% is good, and that 70% is very good. This is considered a good response rate, although it is less important if the purpose of the study is to gain general insight into the internationalization of the three-phase model. Conversely, a higher response rate is significant and notable in quantitative studies, when results are being generalized to a larger population (Baruch, 1999).

Out of 15 respondents, five females and ten males completed the survey. These respondents represent seven countries, including: the United States, Canada, Asia, Taiwan, Malawi, Namibia, Turkey, and Iran. The country with the most respondents was the United States ( $N = 7$ ), followed by Canada, Africa, Asia, and the Middle East, each with  $N = 2$ .

***Needs assessment role.*** The respondents reported their role in needs assessment with the option of choosing multiple roles. Out of 15 respondents answering this question, 10 (67%) were involved with needs assessment as teachers, 12 (80%) as researchers, 11 (73%) as designers of training and curriculum development, and 2 (13%) reported having other roles. All respondents reported having more than one role. Related to prior experiences of needs assessment, only one participant had over 15 years of experience. Another had 11-15 years, five participants had 6-10 years, seven had 1-5 years, and one had less than one year of experience (Figure 12).



*Figure 12: Years of experience related to needs assessment.*

**Target populations.** In the survey, needs assessment scholars and professionals were asked which target populations they worked with. This was meant to elicit information about how long the participants may have been teaching or researching needs assessment. More importantly, it would also elicit information about how the participants entered the field as well as their backgrounds and interests. Furthermore, respondents had the option of choosing multiple roles including not limited to: community agencies and health care, business (employee training), higher education (as faculty, students, and administrators), teacher and parent education and training, K-12 education, social studies, and others. Out of 15 respondents answering this question, 15 (100%) of the respondents worked most often within higher education, 9 (60%) worked with teacher and parent education and training, and 7 (47%) of the respondents worked in the business sector for training employees, as shown in Figure 13. In addition, 8 (53%) of the respondents indicated that they have also worked with other populations such as community and

health care agencies, K-12 education, social studies, international training on nuclear security, and government and non-governmental organizational (NGO) learning.

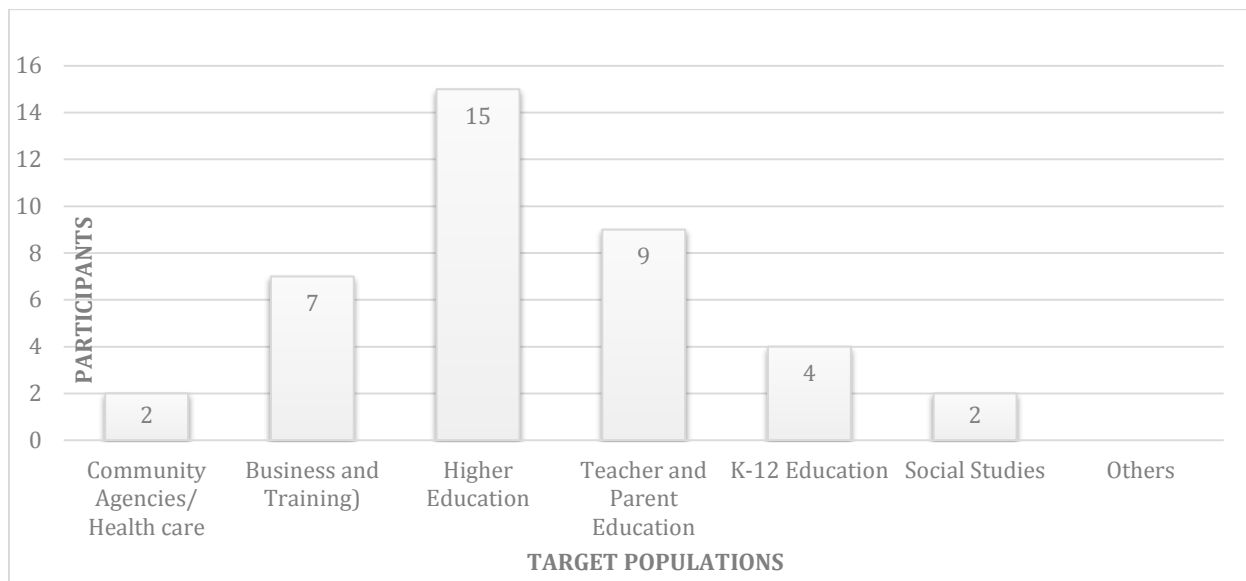


Figure 13: Number of respondents working with specific target populations.

**Prior experience with the Saudi context.** In the survey, respondents were asked background questions related to prior experience in Saudi Arabia or similar contexts in the Middle East. The reason for asking such questions was to help the researcher gain insight as to whether answers were based on respondent perceptions or actual experiences. Out of the 15 who attempted to answer the question, only 7 (47%) of the respondents had worked with the Saudi context or similar contexts like: Kuwait, Malaysia, and Jordan. These countries are located in the Middle East and share the Islamic religion and Arab culture. While the other 8 (53%) of the respondents had no experience with the Saudi context, two of the respondents indicated that they had worked with other international countries such as Malawi, Malaysia, China, Pru, and Mexico.

In addition, respondents were asked whether they perceived any challenges, differences, or similarities between the Saudi context and other contexts they have experienced. A few of the

respondents indicated that they had no prior experience with such contexts. However, the majority of the respondents provided some examples of challenges, differences, and similarities between the Saudi context and other contexts.

***Similarities.*** Every nation has its own unique historical and cultural heritage and way of life. However, the respondents found some similarities between the Saudi context and other contexts they worked in. Compared to other contexts, the respondents agreed that Saudi Arabia has potential for becoming a more advanced country. They indicated that the Saudi context is in need of having a needs assessment tool in order to guide the process of making necessary changes to training and education. Below are some comments provided by the respondents:

Respondent 1: “This comes at a critical time for Saudi Arabia, when the economy is facing overall reductions and adjustments. A needs-assessment tool could bring a guiding process to allocation of resources and changes to training and education, in line with larger economic trends and plans.”

Respondent 2: “I have never been to Saudi Arabia, so I cannot outline the challenges, differences and similarities. However, Malaysia is a similar context. It has strong Islamic influences and is trying to adapt to a modern world.”

Respondent 3: “I think the main similarity between the Saudi context and other context that I worked in is: reaction to innovative technology.”

***Challenges and differences.*** The respondents indicated that all international assignments are challenging. This includes considering the cultural characteristics and differences within each context in the process of designing or adapting any training materials. The respondents mentioned the importance of understanding the different characteristics and perspectives within a specific context to avoid making implicit assumptions about successful design.

Respondent 1: “All international assignments are challenging and rewarding because each country or community is not the same and vary in many aspects.”

Respondent 2: “Differences within a culture is challenging. I have students from many countries. One challenge is that sometimes we do not understand each other's traditions and requirements.”

Respondent 3: “The most challenging is describing and knowing cultural diversity within context boundaries and across them.” “It is a mistake to assume culture and institutional knowledge and ontologies are similar in western.”

In addition, the respondents indicated that Saudi Arabia has a unique cultural context, as it has its roots in Islamic religious practices. Religion and Arab culture shape the social identity and structure of the Saudi context. However, the respondents found difficulties with this context arising from factors such as cultural characteristics, religion, and gender, as described below.

Respondent 1: “Challenging– including: not understanding the culture and how people in Saudi Arabia interact with each other, especially the role of gender plays in the society.”

Respondents 2: “The main characteristics of Saudi cultural is: Social expectation on gender.”

Respondent 3: “From a simple standpoint, it is sometimes difficult for a woman to talk with a man frankly, and vice versa, in many conservative cultures. I think in a community setting this could be hard, but perhaps it is easier for us women, because women COULD talk with us, though they may not be able to talk with a male researcher...I'm not sure, though.”

The social structure has a significant impact on a designer’s work and approach.

Kaufman (1992) has stressed the importance of aligning needs assessment with societal values and goals. One such structure concerns the role of men and women. Unlike men, women have different roles and responsibilities in the Saudi society. Both social norms and conservative religious beliefs have a significant effect on the women’s lives in that society (Mobaraki & Söderfeldt, 2010). For example, women are not allowed to drive in Saudi Arabia although there is no official law that bans them from driving. Instead, the practice is deeply held by local customs and traditions of the Saudi culture. Mobaraki and Söderfeldt (2010) support that by stating, “local interpretations of Islamic law affect women’s legal and social status in Saudi Arabia (p. 116).” As mentioned earlier, recent changes in laws and policies regarding women’s

rights provide an example of how the changing context within SA should be taken into consideration in the design of learning experiences.

**Internationalization of needs assessment practices into international contexts.** In regards to internationalization of needs assessment internationally, 9 out of 15 participants (60%) mentioned that they did not acquire such knowledge or experience. The remaining participants (43%) indicated that they had dealt with some international contexts before. In their responses, these participants focused on challenges to internationalization and how they have overcome these challenges in effective and resourceful ways.

As mentioned above, a list of themes defined by consistence and reoccurring statements emerged from the analysis of the responses. These themes focus on the different factors affecting the internationalization process for the three-phase model into an international context. The responses reflected four distinct themes that were used to direct the analysis of this study: adaptability of the model into the Saudi context, barriers to internationalization, accommodations to the model, and recommendations. The following section discusses each theme and its finding in detail.

***Adaptability of the model.*** The first theme was related to exploring the potential of using and adapting the three-phase needs assessment model to the Saudi context. The participants were asked if the model could be used as it was proposed by Witkin and Aslted (1995). Out of 15 respondents answering this question, 13 agreed that there is a need to translate the model to suit the Saudi context as it has the opportunity for internationalization. They also indicated that the model could be applied as it is with consideration for the documentation of the internationalization process and allowing for necessary adjustments.

Respondent 1: “I think the model could easily be applied as is, as long as you are flexible.”

Respondents 2: “Since this may be its first application in Saudi Arabia, I would suggest you apply it as is, but try to be flexible for the stakeholders. You MAY need to adjust as you go.”

Respondent 2: “I think the model has some promises to be adaptable to new context; however, you would use the process yourself in that context in order to learn what works and what doesn't work.”

Respondent 4: “I think you can accomplish that in the model as it exists, especially in the pre-assessment section. The model as I interpret it is broad enough that it gives guidance, but you can deviate for how you accomplish each stage/steps.”

Furthermore, the majority of the respondents strongly recommended exploring the context and the audience's needs and expectations, and adapting the model accordingly. They stated that it could be done by conducting analyses of the context and audience of Saudi Arabia and incorporating the results into the adaptation process. The respondents emphasized that adapting the model according to the characteristics of the Saudi context, and to the audience's needs would greatly enhance the chances of delivering the model and conducting the needs assessment successfully.

Respondent 1: “It would definitely need to be translated, and it would be best to use examples and case studies that represent the local context.”

Respondent 2: “Your model should be flexible and adaptive to accommodate the cultural scenarios while still focusing on the model goals and objectives of the needs assessment.”

Respondent 2: “The tool (means the model) can take many forms and should be adapted to fit your specific evaluation and context.”

Respondent 3: “I think your plan should be adapted to your specific evaluation needs and context. Additionally, it is important to remember that your evaluation plan is a living, dynamic document designed to adapt to the complexities of the environment within which your model is implemented.”

Although the adaption process can be done based on the context and audience's characteristics, there was a consensus on the model complexity and the need for incorporating a few accommodations to the model in order to suit the Saudi context. A few respondents mentioned that the three-phase model needs simplicity, clarification, and supported materials that are appropriate for the new context.

Respondent 1: "ID concepts are often packaged as complex procedural models. These models can be inflexible and unwieldy when it is used. I would look for the simplest, most straightforward conceptual models, supported by job aids, forms, and lists as appropriate for any given use."

Respondent 2: "I guess it would probably be better to create a new model that was essentially Saudi. I would have to be made by Saudis and for Saudis for the Saudi context. Assessments have to be appropriate for context"

Respondents 3: "You might consider a simpler model that conveys basic values of needs assessment for improvement - and makes the purpose (program improvement, cost-effective use of resources) more salient."

***Model future use by novice and experts.*** In addition to the adaptability of the model, the respondents were asked: 1) how might the level of audience knowledge and experience affect the internationalization success, and 2) what is the best scenario to introduce the model to a new context? The majority of the respondents mentioned that they had dealt with more novices than experts when conducting needs assessment. They strongly suggested spending more time with the target audience (novice to expert) to explain and clarify the process of conducting the needs assessment using the three-phase model.

Respondent 1: "I have often dealt with more novices than experts. The key is to use simple direct language and to clarify for novices what they will gain from the project."

Respondent 2: "I have often worked with both novices and experts. My best advice is to take your time with novices and give them time to understand the research. Also if you can provide them ideas about ways THEY CAN



USE and apply the research, too, in their own lives or work, that would be good.”

Respondent 3: “If you mean to have I dealt with students who were both novices and experts in needs assessment, most of those I've dealt with have been novices or slightly familiar with the process.”

Respondent 4: “Mostly novices, as we were dealing with an area that was fairly new in my country. So we had to take our time explaining what the idea was all about. Once they understood, it was easy to collect the needed information.”

Respondents also recommended using simple and direct language, or hiring a translator from the local culture to explain the model. Consistent with findings from the literature, respondents highlighted that using local experts and case studies would definitely help to provide a better understanding of the model and its suitability to the new context, positively impacting the internationalization process (Bentley et al., 2004; Rogers et al., 2007).

Respondent 1: “Used a colleague from the local culture.”

Respondent 2: “I have dealt with both novice and experts. I have provided a simple overview of the context at the very beginning.”

Respondent 3: “For both, local cases or examples could help clarify the model for dissemination. These could be included in a position paper that introduces the model to the Saudi population. These examples could be simple and straightforward, intended to illustrate the basic steps.”

Based on the overall feedback from the respondents regarding the potential adaptability of the three-phase model into the Saudi context, there were three main findings. First, there was an agreement that the model could be used and adapted to the new context with consideration of cultural characteristics and audience needs. Second, there was a consensus on the model complexity and the need to incorporate a few accommodations into the model to suit the Saudi context. Lastly, the three-phase model could be used by novices and experts if it were well explained and simplified while considering the local attributes discussed in the next pages.

***Barriers to internationalization.*** The second theme explored was related to identifying barriers and challenges regarding the internationalization of the three-phase model into the Saudi context. Analysis revealed a consensus that there might be possible barriers to implementation of the model into the new context. The respondents reported two types of barriers they assumed were related to implementing the model. These included the cultural barriers and the model complexity. The following is a detailed discussion of each major barrier, with its associated sub-barriers.

***Cultural Barriers.*** The cultural barriers associated with the Saudi context were a major point of discussion among all participants. The majority (14 out of 15) of the respondents acknowledged that such barriers needed to be considered and taken into account during the adaption process of the three-phase model. Furthermore, the respondents mentioned that the researcher must be conscious of the culture's impact on the model's audience and how it might affect the final delivery of the model.

Respondent 1: "One of the biggest barriers is to making sure that things translate cross culturally."

Respondent 2: "Theoretical terms do not always translate easily across languages and cultures; you need to be careful about this step"

Below is an overview of four cultural barriers that have been encountered by participants, and the extent to which these are considered challenges for adapting the proposed three-phase needs assessment to the Saudi context. The respondents reported that cultural barriers are those associated with language, gender, political sensitivity, and resistance to change.

***Language.*** Language was identified by the respondents as a main cultural barrier to internationalizing the three-phase model into the Saudi context. As the target audience for the model speaks the Arabic language, most of the respondents found that the English version of the

model is neither applicable nor relevant to that context. They stated that the language barrier would make it difficult for the audience to understand and get the necessary information from the model, and moreover, may influence the process of the needs assessment itself.

Respondent 1: “Lots of barriers - language, misunderstandings, very different goals and terminologies those are hard to understand.” “Local language should be used.”

Respondent 2: “Theoretical terms do not always translate easily across languages and cultures. The term 'instructional' for example, in many parts of Europe denotes a strident, controlling, teacher-centered view of learning - so even the term 'instructional design' is contested.” “This may affect the needs assessment itself.”

Respondent 3: “One of the biggest barriers is to making sure that things translate cross culturally. Same words and same concepts can mean different things in different cultures. The challenge is to ensure that you’re asking not only the right questions, but asking them in the context that they are understood in that culture.”

The respondents agreed that the language barrier has a broad impact on adapting the three-phase model to the Saudi context. They provided several recommendations to overcome this barrier, which will be discussed in the recommendations section.

*Gender Inequality.* Gender inequality was acknowledged by the respondents as a second cultural barrier to adapting the model to the Saudi context. The respondents indicated that a designer’s gender may influence the data collection process or the results of the needs assessment model during its internationalization. Unlike using surveys, the respondents stated that a female designer might face challenges in collecting data from face-to-face interviews with male participants. This, however, might not occur with female participants. In other words, a female designer may not be able to get reliable data from male participants because of the Saudi cultural constraints regarding interaction with men. Saudi women are required to limit the

amount of time spent with men to whom they are not related. Conversely, the data might be more accurate if the participants were female participants matching the designer's gender.

Respondent 1: "I think you will have a good experience adapting this model in Saudi Arabia, if that is your home country. Might there be any issues with men not listening because you are female? If so, an influential stakeholder in the setting, male if that is required, would be helpful."

Respondent 2: "You might have some challenges to internationalization with respect to cross-gender interactions. A female designer may be able to get more reliable data in a face-to-face interview with female participants, whereas their data may not be as reliable from male participants who might have to fill out a survey rather than participate in a face-to-face interview with the female designer."

Gender inequality continues being a critical challenge around the world. However, it appears to be more difficult in Saudi Arabia. As stated before, the Saudi culture has specific gender roles that can be considered distinctly male and female. In addition, the cultural structure affects gender equality significantly (Alsaleh, 2009). Moreover, topics regarding women's rights and roles have been a subject of many debates and discussions among both conservative and liberal scholars in the country (Hamdan, 2005). According to the author, women's achievements in higher education become the focus of any discussion on keys to social development in Saudi Arabia. Regarding this matter, one respondent suggested including a case study of gender and higher education, and focusing on this throughout the needs assessment process. She stated that this case might be an appealing topic to introduce the three-phase model to its target audience.

Respondent 3: "A case related to gender and higher education through the whole process would be interesting"

Respondent 4: "I think local case studies would definitely help understanding and implementation of the model. The closer any training or assessment process is to the real world, the better the transfer of skills and information to the real-world context."

The majority of the respondents agreed that gender inequality in Saudi society should be taken into account. A few however, were not sure about the potential impact of the designer's gender on the data collection procedure during the internationalization of the three-phase model into the Saudi context.

*Political sensitivity.* Political sensitivity was also recognized by the respondents as a cultural barrier that should be examined before internationalizing the three-phase model into the Saudi context. Considering the unique political context of Saudi Arabia, the respondents indicated that the governmental regulations and policies should be carefully examined in analyzing the target's context. They stated that it could potentially be done by involving local - "influential leaders" into the process of the needs assessment. Success of such an effort, however, requires more time, effort, and resources to enhance the adaption process of the model. This could also become a major barrier as well.

Respondent 1: "Perhaps influential leaders are more important to have on board? Perhaps governmental regulations would need to be carefully examined, but this is the case in most places. Perhaps groups could not be mixed males and females? I don't know that, though",

Respondent 2: "Another barrier is that a new idea mostly involves the need for learning...which requires that an individual exerts more time and effort to get used to it. This combined with the lack of perceived benefit becomes a major barrier."

Respondent 3: To different degrees: leadership, motivation, participation, culture, and resources determine the success of any implementation."

In addition, the respondents expected that difficulties might arise when the audience of the model become either unwilling to cooperate or uncomfortable about sharing necessary information during the data collection procedure. The respondents considered the unwillingness or resistance to honestly sharing data to be an important factor related to the political sensitivity

of the Saudi context. As some topics may be considered politically sensitive, the model's target audience may feel anxious and less comfortable sharing their opinion during the needs assessment process. This would result in disruption of the purpose for the needs assessment – generating reliable and unbiased data in support of a specific need.

Respondent 1: “One barrier is freedom of speech. If one is unable to gather information from people who may be affected by the possible implementation, then the needs assessment should not be conducted as you will not have accurate information on which to make recommendations”

Respondent 2: “It is a political thing. People's tendency to guard information that might make them or their organization look bad.” “If I am unable to obtain adequate information, I do not conduct the needs assessment as any information arising from it will be unreliable”

Respondent 3: “I think there might be resistance to cooperation if participants do not see the data collection instruments first and have an opportunity to comment on them.”

According to the responses, resistance to participate does not only impact the data collected, but also affects the success of internationalizing the model itself into the Saudi context. In this context, it seems that both political sensitivity and government regulations play a major role in collecting the needs assessment data and internationalizing the three-phase model.

*Resistance to change.* Resistance to change was identified as the fourth cultural barrier to internationalization of the model into the Saudi context. In addition to resistance to cooperation, respondents expected that there might be some resistance to the three-phase model itself based on entrenched interests and cultural practice. They believed that resistance to change is influenced by: cultural, motivational, social, and environmental factors.

Respondent 1: “There may also be resistance to change, and resistance to honestly sharing information that could make the participants look bad.”  
“Leadership, motivation, participation, culture, and resources determine the success of any implementation”

Respondent 2: “I don't know enough about the Saudi culture, but I would expect some resistance to the model based on entrenched interests and cultural practice - e.g., letting the boss determine needs and involve in the process.”

Respondent 3: “Another barrier is that a new idea mostly involves the need for learning...which requires that an individual exerts more time and effort to get used to it. This combined with the lack of motivation, and perceived benefit becomes a major barrier.”

The respondents mentioned that increased resistance to change can also result when the audience's lack of understanding, motivation, and perceived benefit to change make the adaption process even more difficult. They suggested that analyzing the context is important to understanding the fundamental motivations behind the resistance. In addition, the respondents stated that involving local expertise from the local context can reduce the resistance. They claimed that audiences for the model needed time to adjust their thinking, their job performance, and their social relationships to any changes made.

***Model Complexity.*** Unlike cultural barriers, model complexity was explored as the second main barrier to internationalization of the model into the Saudi context. Upon its first application in the new context, the respondents emphasized that there is a need to reduce the complexity of the model to make it useful and practical. Based on their responses, the level of complexity was associated with the model's steps and inner logic. They suggested that if the model is too difficult or complex, the audience may lack understanding and curiosity to learn.

Respondent 1: “Problem that might arise is the model's complexity. Some people may not understand the steps and inner logic and resist based on their lack of understanding.”

Respondent 2: “ID concepts are often packaged as complex procedural models. These models can be inflexible and unwieldy when used. I would look for the simplest, most straightforward conceptual models, supported by job aids, forms, and lists as appropriate for any given use.”

In this section, cultural barriers and the model complexity were identified as the main barriers to the success of the internationalization process of the three-phase model. The impact of these barriers may be significant and varied. Respondents recommended that researchers be particularly sensitive to these challenges, and that they critically examine the cultural context and its available resources (e.g. money, time, etc.) in order to provide a useful and practical version of the model for the Saudi context. They also identified several other challenges, such as challenges related to the model reliability including:

- Lack of resources to provide stable services (i.e. money, time, expertise, etc.),
- Lack of communication and planning with stakeholders leading to problems in continuity and stability,
- Lack of connection between formal institutions and local cultures or traditions, and
- Lack of locally developed support and over-reliance on external supports and resources.

However, the majority of the respondents expected that these barriers and challenges could be eliminated or reduced by including accommodations to the model, which are discussed below.

**Suggested accommodations.** The third theme explored was related to identifying the important accommodations to the three-phase model prior to internationalization into the Saudi context. The respondents were asked about more specific accommodations that they considered to be important. As the model consisted of three phases, analysis revealed that the *pre-assessment phase* needed the most attention and adjustment to suit the Saudi context. Some respondents differed in their views on the importance of adjusting the model. A few respondents stated that the model would not require major changes or adaptations.

Respondent 1: “I think you can accomplish that in the model as it exists, especially in the pre-assessment section. The model as I interpret it is broad enough that it



gives guidance, but you can deviate for how you accomplish each stage/steps.

Respondent 2: “I would not adjust any of the three basic phases. I would only adjust how recommendations would be implemented based on social-cultural factors.”

Respondent 2: “there should be no accommodation made in gathering and analyzing the data. One should only make accommodations when deciding how recommendations should be implemented.”

These responses contrasted strongly with the rest of the participant responses. The majority of the respondents argued that the *pre-assessment phase* required further adjustments. They agreed that the pre-assessment phase of the model should be revised to include three areas: context analysis, audience analysis, and relevance of examples. Each area was acknowledged as essential in conducting the needs assessment, especially in different cultural settings.

**Context Analysis.** Based on the respondents’ suggestions, it seems necessary to consider the “context analysis” a key function in the pre-assessment phase of the three-phase model. The respondents expressed a perceived need for context analysis that accommodated cultural considerations for internationalization. They regarded this need as important to understanding the context and the cultural perspectives that may affect the use of the model. In addition, the respondents indicated that a proper context analysis would assist in describing the context in a way that would bring into focus the contextual factors including available resources existing on site. Moreover, the respondents stated that the “relevant literature and document analysis” step needed more consideration before applying the model.

Respondent 1: “Yes, very important, as context is important in any needs assessment”  
“The analysis of the context characteristics and the elements that participate in the design of three-phase model in Saudi Arabia, are the focus of this paper by means of proposing a mechanism to build adaptive instructional designs based on the context. This proposal is based on the

identification of the Saudi context adaptation variables which are not considered currently in the design of the model.”

Respondent 2: “I don't know if I would change/ adjust anything. Although, the "relevant literature and document analysis" portion in the pre-assessment section, I would argue is worth paying great attention to.”

Respondent 3: “Yes - a context analysis could be helpful. Even more helpful would be tried of the model in a specific case or context.”

***Audience Analysis.*** In addition to the context analysis, the respondents emphasized that it was essential to include the “audience analysis” as another functional area of the pre-assessment phase of the model. They indicated that a detailed analysis of the target audience’s needs and expectations, and adapting the model accordingly, greatly enhances the chances of successful internationalization. To fit any needs assessment model into a new context, the respondents stated that audience analysis must thoroughly include the social, religious, political, and economic challenges of the users. When the respondents were asked to what extent aspects including “Islamic attributes” were important during the analysis of the context and audience, they responded that they were very valuable in making the model relevant for the audience. They believed that this could be accomplished through including these attributes into the “goal and objectives” step of the model, accompanied by the necessary real-world examples.

Respondent 1: “Yes indeed! I would encourage some explicit attempt to incorporate those harder to measure outcomes.”

Respondent 2: “I don't know that they need to be in the model, but when it is applied with Saudi stakeholders then, yes, these cultural attributes may come up and participants should feel free to discuss what is important to them culturally”

Respondent 3: “Yes, I think introducing the model using these attributes would be helpful - truthfulness could be used to justify the need for honesty in replying to interview or survey questions, and improvements made as a result of the identification of needs might lead to justice for those in need. You could probably make a case for including all these attributes”

Respondent 4: “The "Goals and Objectives" can be written in such a way as to include "Islamic culture attributes".”

Respondent 5: “The goals and priorities and needs analyzed and determined by the model should include values such as justice, moderation, balance, and beauty. If it doesn't there's something wrong with the model.”

**Relevance examples.** The respondents also highlighted the importance of using examples and non-examples in the pre-assessment phase of the model. They indicated that including contextualized and relevant examples that represent the local context would help the target audiences to understand and implement the model. According to the responses, providing simple, straightforward, and localized examples and non-examples would illustrate the basic steps of the model and explain the proper and improper procedures associated with implementing the model.

Respondent 1: “You need to add relevant facts and examples when the topic is new to your audience.” “It is always helpful to provide examples of the type of information you are seeking, but you must be careful not to guide/limit the participants' view of their input.”

Respondent 2: “But the overall case examples work with theoretical models ONLY is the local culture interprets the cases the way you intend for their learning. They should be localized cases.”

Respondent 3: “I think case studies would definitely help understanding and implementation of the model. The closer any training or assessment process is to the real world, the better the transfer of skills and information to the real-world context... I would provide case examples at the very beginning of your process in order to improve the quality of the information you receive from them. I would include both examples and non-examples in your cases to illustrate the type of data and cooperation you are seeking, as well as the type you are NOT seeking... I think cases would be appropriate to provide for each of the three phases of the model.”

Three main adjustments (functional areas) were discussed for inclusion into the pre-assessment phase of the model. These areas included: context analysis, audience analysis, and use of examples and non-examples. Based on the respondents' feedback, adding these adjustments to the model would have an important impact in providing suitable and practical

needs assessments for a given context. The following section will identify several recommendations to internationalize the three-phase model of needs assessment.

**Recommendations for practice.** The fourth theme identified was related to the major recommendations proposed by the respondents for internationalization, modification, and revision of the three-phase model. They indicated a number of specific recommendations they considered to be important for internationalizing the model to Saudi Arabia and other countries. These recommendations for internationalizing the model include: simplifying the model, translating the language and terminologies, involving local expertise, localizing the content, communicating with stakeholders, and implementing a pilot study of the model. Based on the findings, these recommendations can be used as starting points to apply this model or even other educational interventions in other countries. Each of these recommendations is discussed below in detail.

***Simplifying the model.*** The respondents recommended either simplifying the three-phase model or starting with a simpler model that conveys the basic values of needs assessments for improvement. Moreover, two respondents considered the three-phase model too complex for the audience. They suggested creating a “Saudi needs assessment model,” which would have to be created by Saudi expertise for the Saudi context.

Respondent 1: “I guess it would probably be better to create a new model that was essentially Saudi. It would have to be made by Saudis and for Saudis for the Saudi context. Assessments have to be appropriate for context”

Respondent 2: “You might consider a simpler model that presents basic values of needs assessment for improvement - and makes the purpose (program improvement, cost-effective use of resources) more salient.”

Respondent 3: “Yes I think it could be worth your time to simplify the conceptual presentation of the model -Support that simpler representation with some procedural or logistical support docs, which would vary across contexts

(e.g., higher Ed versus job performance).”

***Translating the language and terminologies.*** Translating the model language and clarifying the main terminology for the basic processes and steps within the model were the main recommendations to overcome the language barrier (Bentley et. al., 2004; McLoughlin & Oliver, 2000; Rogers et al., 2007). The respondents stated that providing an Arabic version of the model is crucial to the success of the adaption process. Arabic language is considered the official language of Saudi Arabia.

Respondent 1: “To clarify the model for its audience, you need to translate it to the language of your target context and identify the main terminologies of the model.”

Respondent 2: “Language translation of the model. Activities that reference local cultural proclivities.”

Respondent 3: “I have tried to make sure that I translate instruments in the language of the participants. Sometimes it means having an instrument that has the same sentence in English and the language of the participant. It is a bit more work, but it is often welcomed.”

Although English was often introduced as a compulsory subject in Saudi Arabian schools, it was often minimal. Unlike in the past, the use of English is developing and growing rapidly. Due to global demand, and the use of the English language for science and technology and business, Saudi government initiatives have increased to emphasize the importance of the English language as a means of international communication. Regarding this matter, most of the respondents suggested involving external and local expertise in translating and identifying the main terminology associated with the three-phase model.

Respondent 4: “We always translate our training materials, and we also try to use local, contextual examples, and involve local expertise in translating process.”

Respondent 5: “It is also best to have people on the team (ID or needs assessment) who are local and have great understanding of the setting. This also helps to translate the model too.”

***Involving local expertise.*** It was recommended to involve local expertise from the Saudi context, offering support and guidance to help deliver better model outcomes, whether through involvement in the design review panel or as an external expert. Due to the differences in background knowledge, local expertise can be used to provide support and a complete description of the local context. The respondents regarded it as an important aspect to ensure effective communication and the selection of approaches that reduce cultural difficulties.

Respondent 1: “I have worked with a trusted and esteemed local colleague to clarify language and terms in materials and in meetings.” ““The more people I can get involved with and the more ways I can gather the data, the more likely the end result be reliable.”

Respondent 2: “The more a client or designer understands from context, the easier it is to transfer.” “Provide some local expertise, but be careful to respect local resources, especially the professionals with growing expertise in these areas.”

Respondent 3: “I would always have local people on the team and have representatives from the various stakeholder groups. This takes a lot of time but is worth if you can do it.”

***Localizing the content.*** The respondents suggested localizing the content of the model to ensure relevancy. This can also be done by involving local expertise. Localized content is defined as content written specifically for a local context with the goal of being context sensitive (Perkins, 2008). Often, this includes translating the content from the source language into the language used in the local context. In this case, the localization process, however, includes more than just translation. It involves specifically designing and creating instructional materials for a local context by accounting for various contextual elements to facilitate learning, motivation, and performance (McLoughlin & Oliver, 2000; Tessmer & Richey, 1997). Thus, the respondents indicated that it is important to understand the cultural practices within the context and to

localize the model accordingly. The comment below is a detailed description of the Saudi culture provided by one of the respondents. He proposed a few recommendations to make the content of the model local and relevant.

“Developing needs assessment training for high-context communicating cultures where good communication is sophisticated, nuanced and layered and messages are both spoken and read between the lines. Whereas in American culture, good communication is considered to be precise, simple, clear and plainly expressed. Also, ensuring that time is built into the training schedule to allow for daily prayers, or other observances that are not as common in western cultures. Being careful to observe differences in gestures (e.g., avoiding the use of the left hand in interpersonal interactions and using pictures of the left hand in training materials and sitting so as to avoid showing the bottom of the foot to anyone, not using the ‘thumbs up’ or ‘okay’ gestures that mean something totally different in other cultures). Making sure that trainers are dressed conservatively with much of the body covered. Being aware of power disparities in training events where cultural attitudes about what is proper communication between a boss and a subordinate can inhibit discussion, questions and small-group work.”

Adding resource information within the model was also recommended. The respondents indicated that there were several places where simply providing a definition, an example, or even a handout would improve the adaptability greatly.

Respondent 1: “Yes, I think it could be worth your time to support the model with some procedural or logistical support docs, which would vary across contexts (e.g., higher ed versus job performance).”

***Communicating with the stakeholders.*** After translating the model and localizing the content, the respondents suggested discussing the model with the main stakeholders in order to modify and simplify it for further use. They emphasized the need for building communication with the local professionals and stakeholders to get more reliable feedback on the draft of the model prior to its actual internationalization. This could offer many feedback cycles in the design stage of the model.

Respondent 1: “I think the model has some promise, but I would encourage you to discuss and try it out with a group of Saudi professionals, with the intention of modifying/simplifying for further use.”

Respondent 2: “Since this may be its first application in Saudi Arabia, You MAY need to have a couple of discussions or focus groups or even surveys with stakeholders about the process and what they think is working or not working.”

In addition, the respondents expected that this communication would take more time and effort, but that it was important to make the model relevant and fitting within the local value system.

Respondent 3: “It is important to remember that change requires time as well as communication. So as a designer, I should be ready to expend time and also make communication channels open so as to assist the would be adopters to make informed decisions.

Respondent 4: “Allow time for stakeholders and the audiences to learn the value of the process and to make it THEIRS and see its value.”

***Pilot study for the model.*** Adapting the proposed three-phase model requires access to the Saudi context information. This access can be active if the application of the model captures the context itself, or passive if external factors give it access to the context. Nevertheless, with the model complexity and the Saudi cultural characteristics, fully centralized supervision is not feasible. Therefore, the majority of the respondents recommended performing a pilot test of the proposed model as presented in the previous chapter. They regarded it as important in helping to confirm whether the model was ready for its full-scale adaption into the Saudi context. The respondents mentioned that the pilot study could also help to determine if any adjustments to the internationalization plan or adaptations to the model are necessary, including any unexpected challenges that might arise during the process of internationalization (i.e., issues with the context, particular activities for the model’s audience, lack of resources, etc.).

Respondent 1: “Start with small piloting or tryout of the model, intended to give key people experience and expertise in the work and to refine the model itself for use in that context.”



Respondent 2: “It has to be tested in the Saudi context and then adjusted. Testing is the only way to really know.”

The respondents recommended selecting a pilot group that was demographically similar to the model’s specific target population. In this case, the pilot test group would be from the Saudi context where the model would be fully implemented. This would provide an opportunity to measure the target population’s reaction and level of acceptance for the model. The feedback from a pilot group would offer insight into how the target population as a whole might respond to the model. Most importantly, it could help to confirm whether or not the three-phase model is a good fit for the population and whether minor adaptations to the model were appropriate or necessary.

Respondent 1: “I would suggest testing it with someone from the same group that one would like to research.”

Respondent 2: “I would suggest testing it first with the target population within the culture, and then I would address the emerging barriers.”

Completing a pilot study successfully is not a guarantee of success for the full-scale internationalization. However, the pilot test findings may offer some indication of positive and negative impacts that the model may have. The respondents recommended the pilot test as it allows for managing complexity and predictability while keeping the advantages of the model. It could also highlight any adjustments to the model evaluation plan that might be necessary to ensure that the researcher would be measuring the desired outcomes in the best way possible.

### **Findings of the Study**

As the purpose of this study was to internationalize a needs assessment that has been implemented in a broad, generalized context (in the U.S. and Europe) for application in a Middle Eastern country (namely, Saudi Arabia), this study developed a new version of the three-phase

model that can be adapted for international contexts. This particular model is based on the three-phase model (pre-assessment- assessment- post-assessment), as cited in Altschuld and Witkin's book (1995) with specific consideration for contextual and cultural factors. The new version of the model is called *culturally-based model* and is developed by analyzing the needs assessment literature and incorporating recommendations from an expert review process. The culturally-based model emphasizes the importance of considering contextual and cultural factors within the model before the actual implementation. This new developed model is different from the Western three-phase model by incorporating “context analysis” and “audience analysis” as steps in the pre-assessment phase; as shown in Figure 14.

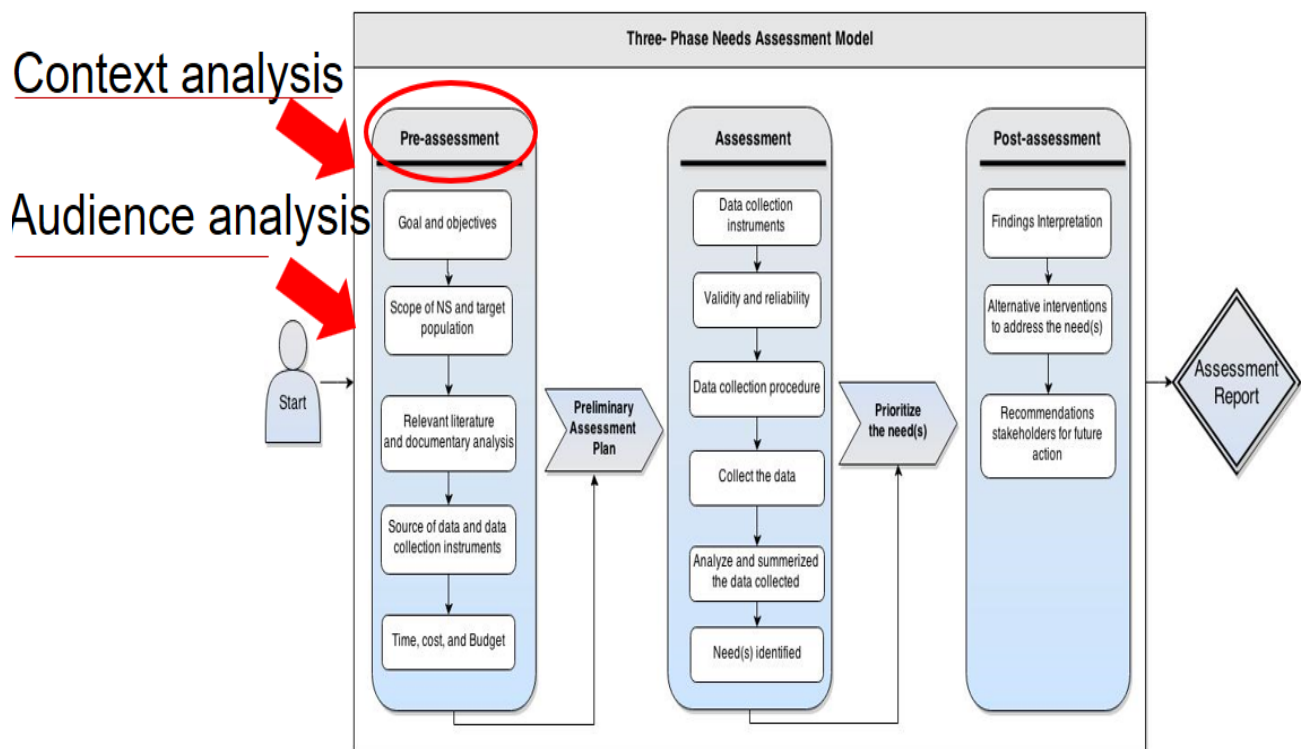


Figure 14: Culturally- based model for internationalizing needs assessment process for use in Saudi context

Based on the findings from the formative evaluation, the majority of the respondents argued that the *pre-assessment phase* required further adjustments. They agreed that the pre-

assessment phase of the revised three-phase model should be modified to include two areas: context analysis, and audience analysis. Each area was acknowledged as essential in conducting the needs assessment, especially in different cultural settings.

Consistent with findings from previous studies, findings indicated that data from the context analysis could be used to revise the model content (Dick, Carey, & Carey, 2001). According to Tessmer and Richey (1997), context has a complex and powerful impact upon successful performance-based learning and plays a significant role in facilitating the achievement of many instructional interventions. Data from the context analysis can be useful for writing goals and objectives related to the Saudi culture norms and practices, translating the model, representing relevant examples, localizing the content of the model, and communicating with stakeholders (McLoughlin & Oliver, 2000; Rogers, et al. 2007).

Based on the findings from formative evaluation, experts also suggested to include “audience analysis” as step in the pre-assessment. Analyzing the learner’s needs and priorities is an important aspect of specifying the purpose of a needs assessment (Altschuld & Witkin, 1995). Through learner analysis, it is possible to understand the learner's needs, attitudes, current knowledge, and abilities, and especially how these factors are related to achievement of the learning objectives (Dick, Carey, & Carey, 2001; McLoughlin & Oliver, 2000). In this study, audience analysis appears important as it is assumed that the target audience for the model (Saudis) may be unaware of the needs assessment process in practice. Learning professionals may may simply lack skills or knowledge because of a lack of training. Based upon the identified practice gaps of individuals or groups, needs assessments can be planned to address and change practices and improve audience outcomes (Altschuld & Witkin, 1995; 2000; Kaufman, 1992).

## **Summary**

This chapter presented a summary of the data analyses and findings from the formative evaluation phase. The procedures of the evaluation and data collection were organized into two sections: (1) expert reviewers' feedback on the three-phase model, and (2) expert reviewers' feedback on the survey instrument. Expert review technique was used to initially validate the model and identify a primary set of themes affecting the adaption process of the model. In addition, expert review was used to evaluate the open-ended survey questions. Based on the feedback provided by the expert reviewers, the open-ended survey was revised and formulated to emphasize the importance of considering contextual and cultural factors within the model. Data analysis was clustered according to similarities, divided into four main sections, and used to generate lists. The lists reflected the major themes that emerged from the findings and included four main areas: adaptability of the model, barriers to internationalization, accommodations, and recommendations. Based on the findings from the formative evaluations and through triangulation of both sets of results, a culturally-based needs assessment model was developed. This model is to enhance the overall internationalization process by including: context analysis, and audience analysis in the pre-assessment phase. In regards to recommendations to be considered prior to actual internationalization, participants advised the following: simplifying the model, translating the language and terminologies, involving local expertise, localizing the content, communicating with stakeholders, and implementing a pilot study of the model.

## **CHAPTER 5**

### **SUMMARY AND DISCUSSION**

#### **Purpose of the Study**

In this developmental study, a culturally-based needs assessment model was developed for internationalization into the Saudi context based on the validation process of the three-phase model. Three-phase model was initially proposed by Altschuld and Witkin (1995), as a general plan for assessing needs in three phases (pre-assessment, assessment, and post-assessment). Although this model has been applied in a few advanced countries (Chandonnet, Elam, & Lucas, 2013; Reach & Cooper, 2004), it has never been adopted successfully in any developing countries similar to the Saudi context. The literature has highlighted the lack of research in the area of conducting needs assessments internationally with consideration of contextual and cultural factors (Altschuld & Witkin, 2000; Knox, 2002; Pennington, 1980; Queeney, 1995; Witkins & Altschuld, 1995). The purpose of this study, therefore, was to internationalize a needs assessment process that has been implemented in a broad, generalized context (in the U.S. and Europe) for application in a Middle Eastern country (namely, Saudi Arabia). This study aims to produce a needs assessment model that can be adapted for international contexts. As a result, a culturally-based model was developed by analyzing the needs assessment literature and incorporating recommendations from an expert review process. The study design consisted of three phases of validation the revised three-phase model including: analysis, validation, and revision.

To develop the cultural- based needs assessment model, there were two levels of triangulation. First, discrepancies between data from the literature review and analysis of the formative evaluation of experts in the IDT field were identified, discussed with participants, and

to a large extent, resolved. Second, results from individual participants were compared to more general data emerging from the evaluation process. Design and developmental research is designed to bridge the gap between theory and practice (Richey & Klein, 2008). Based on this review process, the revised three-phase model was validated to develop the culturally-based model for the Saudi context.

### **Summary of the Study**

The need for a flexible, step-by-step needs assessment model for use in a Saudi context prompted the idea behind this developmental dissertation. The broader goal, however, was to create a culturally sensitive needs assessment model for use in an international context. Unable to locate such a model, the first phase was to develop a model that was comprehensive and suitable for adoption internationally. The second phase was to validate and evaluate the usability, difficulty, and necessity of such a model by consulting needs assessment and instructional design experts. The third phase was to incorporate the results of the formative evaluation and revise the model accordingly. The findings of the study contribute to the IDT field by emphasizing the importance of conducting context and learner analysis before implementing the three-phase model in the Saudi context. Based on the findings of the study, a culturally-based needs assessment model considering contextual, social, cultural, and political aspects was developed for the Saudi context. It is proposed to enable practitioners in the field to better understand the local contextual and cultural factors prior to an actual implementation of the needs assessment into the new context.

### **Validation of the Three-Phase Model**

This study followed the developmental research methodology introduced by Richey (1994) to validate the three-phase model to develop the cultural-based model for the Saudi Arabia. Development research is divided into instructional method development and validation. The three-phase model was developed from a literature review focused on needs assessment, and was validated using formative evaluation as suggested by Richey and Klein (2008). This evaluation through expert review was essential in acquiring internal validation. According to Richey and Klein, expert review is considered the most used strategy within studies that are typically conducted during model construction or in early stages of use. The purpose of conducting such a validation is to, “critique a given model in terms of its components, overall structure, and future use (Richey, 2005, p. 178).” Thus, the purpose of formative evaluation using the expert review was to evaluate, modify, and revise the model developed during the first phase of the study. The review process was conducted in two phases: expert review and open-ended survey.

The aim of expert review was to provide initial evaluation of the model and the designed survey. Through the methods used to distribute the open-ended survey, a variety of scholars and professionals were contacted. They had different expertise levels, years of experience, and had worked for different organizations. Different countries were also represented, contributing to the variety of the survey participants. Findings from the expert review helped in revising the model and formulating the open-ended survey for the next phase of the formative evaluation. The purpose of the survey was to further verify and evaluate the design of the model for internationalization into the Saudi context. Reviewer feedback was based on their expertise in research and practice in the field of instructional design and specifically, needs assessment. The

review process formed the basis for major and minor changes to the model design through emphasizing what needed improvement, what would work well, and what could be done to enhance the model even more. The findings from the formative evaluation process allowed for developing a new version of the three-phase model; culturally-based model for Saudi context. The end result from this process was the development of culturally-based model that now has its place in the world of needs assessment, as shown in Figure 14.

The process of validating the three-phase model resulted in: (1) research in the area of needs assessment (2) internal validation of the needs assessment model using expert review procedures, (3) a needs assessment model to assist scholars in moving from theory to practice internationally, and (4) a needs assessment model that is based on explicit assumptions and consideration of contextual and cultural factors in the development of its application. According to the findings of the study, the model can be personalized and delivered across multiple contexts and adapted accordingly. Although developed for the Saudi context, all experts agree that the culturally-based model should be applicable to other contexts as well. Furthermore, this new model should be usable by all instructional designers, novice or expert. These assumptions, however, are yet to be tested.

### **Establishing the Context**

Saudi Arabia is currently facing many challenges in the age of globalization. As stated previously, the country has strong religious conformity and unique traditions as well as cultural resistance to adopt certain Western innovations (Erffmeyer, Al-Khatib, Al-Habib, & Hair, 1992). Adoption of a culturally sensitive needs assessment model could be useful, as a step toward achieving more accountability for outcomes, and more objective decision-making about achieving those outcomes (Thomas, et al., 2002; Rogers et al. 2007). This comes at a critical



time for Saudi Arabia, when the economy is facing widespread reduction and adjustment (Al-Rasheed & Vitalis, 2004). The three-phase model could bring a guiding process to the allocation of resources and changes to training and education in line with larger economic trends and plans (Altschuld & Witkins, 2000).

### **Barriers and Accommodations**

Through the development and review process, several deficiencies were identified. First, experts emphasized that the three-phase model must be guided by a thoughtful analysis of both context and needs. According to Tessmer and Richey (1997), context has a complex and powerful impact upon successful performance-based learning. It plays a significant role in facilitating the achievement of many instructional interventions. As with any needs assessment project, a context analysis can help, “to describe where an instructional product will be used, how it will be used, and how it will be sustained (Tessmer, 1990, p. 57).” Conversely, failure to analyze the context would negatively impact the adoption of many instructional innovations (Perkins, 2008).

Findings from the review process support the inclusion of the context analysis in the *pre-assessment* phase of the model. Consistent with findings from previous studies, experts indicated that data from the context analysis could be used to revise the model content (Dick, Carey, & Carey, 2001). Based on the findings, context analysis addresses five areas of concern: culture, language, gender, politics, and communication (Bentley et. al., 2004; Collis, 1999; Henderson, 1996; McLoughlin & Oliver, 2000; Rogers et al., 2007; Thomas et al., 2002). Respondents stated that factors related to each concern may have influence on the design of the model. Kaufman (1992) has stressed the importance of aligning needs assessments with societal values and goals. For example, experts in this study mentioned that certain challenges might be overcome by using

data from the context analysis. Data can be useful for writing goals and objectives related to the Saudi culture norms and practices, translating the model, representing relevant examples, localizing the content of the model, and communicating with stakeholders (McLoughlin & Oliver, 2000; Rogers, et al. 2007). The primary source of such data is working with representative stakeholders from the Saudi context such as experts, instructors, administrators, policy makers, and professionals who have knowledge about the current educational needs of the potential audience. It can be said that context analysis plays a significant role in the model redesign process by creating guidelines for the adjustment efforts.

Second, the findings from the review process highlighted the importance of conducting “audience analysis” for successfully adapting the model. Analyzing the learner’s needs and priorities is an important aspect of specifying the purpose of a needs assessment (Altschuld & Witkin, 1995). There are many reasons to conduct the audience analysis before conducting needs assessments. Through learner analysis, it is possible to understand the learner's needs, attitudes, current knowledge, and abilities, and especially how these factors are related to achievement of the learning objectives (Dick, Carey, & Carey, 2001; McLoughlin & Oliver, 2000) In this study, audience analysis appears important as it is assumed that the target audience for the model (Saudis) may be unaware of the needs assessment process in practice. Learning professionals may not know about recommended changes, or they may simply lack skills or knowledge because of a lack of training. Based upon the identified practice gaps of individuals or groups, needs assessments can be planned to address and change practices and improve audience outcomes (Altschuld & Witkin, 1995; 2000; Kaufman, 1992).

In addition, experts highlighted the importance of addressing Islamic attributes in conducting the context and audience analysis. Islamic attributes can be defined as factors related

to values, beliefs, justice, art, and the beauty of Islam. It is assumed that these Islamic attributes would be included within the analysis of context and the audience for the three-phase model in Saudi Arabia. These attributes could be included in writing the goal and the objectives for the needs assessment. Considering these Islamic attributes within the analysis of the context would help to provide an appropriate needs assessment model for the Saudi Muslim context. Needs are developed from initial analysis of learner gaps. Needs assessment objectives will be based on the learner needs as well. These objectives would serve as a guide to planning the assessment and a guide for the learners to know what to expect. This indicates that the value of a needs assessment is based on the collected data from the context and learner analysis (Altschuld & Witkin, 1995; 2000; Kaufman, 1992; Knox, 2002; Pennington, 1980; Queeney, 1995). It is important that the needs assessment provides data that are carefully connected to identifying educational needs. Otherwise, lack of consideration for the educational needs of specific target audiences may produce educational programming that is wrong for that target population (Perkins, 2008). Both audience analysis and context analysis is necessary to prepare the model for the Saudi context.

Third, the majority of participants in the study also recommended localizing the content and using examples and non-examples within the model. Based on the review process, including relevant examples and case studies within the pre-assessment phase of the model would enhance the adaption of the model to the Saudi context. Consistent with literature findings, respondents emphasized the use of contextualized and relevant examples that represented the local context (Bentley et al., 2004; Collis, 1999; Henderson, 1996; McLoughlin & Oliver, 2000; Rogers et al., 2007; Thomas et al., 2002). Use of examples and non-examples is the most effective when written at an appropriate level for the learner (Klausmeier, & Feldman, 1975). Although

conducting needs assessments is challenging, it is assumed that relevant examples can assist the target audiences to understand and reflect upon new knowledge and skills.

To conclude, three main accommodations were recommended for inclusion in the revision of the three-phase model for its future adoption into the Saudi context. These include: context analysis, audience analysis, and localizing the content and using examples and non-examples. Based on the findings from the review process, these three recommendations should be included in the *pre-assessment* phase of the model to bridge audience practice gaps. Knowing what the gaps are will drive both the development of needs assessment objectives and the three-phase model activities.

### **Recommendations for Practice**

The major recommendation from the review process was to internationalize the three-phase model as proposed by Altschuld and Witkin (1995) since it would be the first such application to be adopted within the Saudi context. Experts suggested applying the model as it has been implemented for a western context and making adjustments accordingly. Once implementation has been achieved, one more decision must be made. The ultimate criterion for a successful innovation is that it is routinely used in settings for which it was designed (Miles, Eckholm, & Vandenburghe, 1987). Consistent with the study findings, Mier, Ory, and Medina (2009) indicated that many organizations tailored interventions based on the following: formative research, culturally specific components, and main lessons learned from pilot studies. Most studies, however, did not provide a detailed account of tailoring strategies. This might be because of a lack of documentation during intervention implementation or to limited publication space provided by journals.

Based on the findings from formative evaluation, experts also offered some practical recommendations to increase the rate of adoption of the three-phase model into the Saudi context:

1. Simplifying the model language and content to ensure transfer of new skills and knowledge,
2. Translating the language of the model content and accompanying materials to ensure that it follows the Arabic language,
3. Involving local experts to provide support and a complete description of the Saudi context,
4. Localizing the content of the model and examples to ensure they are relevant to the Saudi context,
5. Communicating with stakeholders aiming to ensure better planning of timing and budget for the needs assessment project, and
6. Conducting a pilot study of the model to determine if any adjustments to the implementation plan are necessary.

These recommendations support the finding of Rogers' diffusion of innovation (2003).

Rogers (2003) proposed that there are five characteristics that influence how attitudes are created toward new products, processes and services: (1) relative advantage, (2) compatibility, (3) complexity, (4) trialability, and (5) observability. These five qualities create a valuable checklist to frame stakeholders' discussions on innovation evaluation. They can also help to identify weaknesses to be addressed when improving innovations (Rogers, 2003).

A primary function of considering experts' recommendations is to increase the degree of relative advantage of the three-phase model. Relative advantage is defined as, "the degree to which an innovation is perceived as being better than the idea it supersedes (Rogers, 2003, p. 212)." To date, there is no specific needs assessment tool that has been used in Saudi Arabia. Thus, the three-phase model has great potential for adoption as it has this relative advantage.

This, though, suggests a need to focus on improving the current version of the model by incorporating expert recommendations to increase this relative advantage and ultimately the rate of adoption.

The second attribute, compatibility, "is the degree to which an innovation is perceived as consistent with the existing values, past experiences and needs of potential adopters (Rogers, 2003, p.224)." This refers to how well the innovation is incorporated into the adopter's schema. In this case, the adopter is the Saudi context. Based on the study findings, the introduction of the three-phase model may result in rejection or resistance from the Saudi context. Experts, however, suggested that the content of the model should be consistent with Saudi culture factors including: religion, values, and beliefs. Conflict with any of these factors, directly impacting the actual use of the three-phase model, could threaten adoption. To help facilitate the adoption, experts suggested localizing the content and providing relevant examples. In addition, the inclusion of consideration for Islamic attributes in the goals and the objectives within the analysis of the context would help to provide an appropriate needs assessment model for the Saudi Muslim context.

The third attribute, complexity, "is the degree to which an innovation is perceived as relatively difficult to understand and use (Rogers, 2003, p. 242)." While complexity does not impact rate of adoption to the same degree as relative advantage and compatibility, the rate of adoption is slower with more complex innovations. Based on the findings, if the three-phase model is perceived to be too difficult to incorporate or use, it is less likely to be adopted in the Saudi context or more likely to be discontinued if it is adopted. Even if the model itself is not perceived as difficult, it may be too time-consuming for the audience to learn. To ensure the fear of complexity does not become an obstacle, it is important to simplify and translate the language

of the model and provide support materials to ensure the transfer of new knowledge to target audiences. Furthermore, complexity can be decreased by emphasizing the content and outcomes of the model in a way that suits audiences' needs and expectations (Bennett & Bennett, 2003). In addition, it is recommended that Saudi scholars and professionals should be involved, although there are no clear guidelines or commonly acceptable rules when selecting the experts (Lee & Jin, 2014). Their involvement would help to ensure the content and examples used to explain the model are culturally relevant.

The fourth attribute, trialability, "is the degree to which an innovation may be experimented with on a limited basis. New ideas that can be tried on the installment plan are generally adopted more rapidly than innovations that are not divisible (Rogers, 2003, p. 243)." It refers to how readily an innovation can be tested or used before committing. For example, the findings of the study suggest that the new version of the three-phase model would include two additional steps in the pre-assessment phase: context analysis and audience analysis. Introducing these steps permits the testing of the new version of the model on a limited basis. Trialability, however, can be a challenge for the Saudi context since it requires end-users to make substantial investments of time and energy to learn the basics of something new. It is important to try out the new version of the model so that audiences can form opinions about use within their given context. Ultimately, it would help to increase the chance of adoption.

The last attribute, observability, "is the degree to which the results of an innovation are visible to others (Rogers, 2003, p. 244)." According to Rogers, the chances of adoption are greater if there are easily observable relative advantages associated with the innovation. Conversely, innovations that are more difficult to observe or operationalize are less likely to be adopted. Based on the findings of the study, the visible results of the three-phase model from the

initial implementation would lower uncertainty and also stimulate stakeholders to support a new idea. The easier it is for end-users to see the results of the model, the more likely they are to adopt it. Observability indicates how critical it is to provide demonstrations to the target user of the model to help them become familiar with it, ask questions about it, and see it in use (Bennett and Bennett, 2003). Overall, the success of adoption for the three-phase model will depend on how well these recommendations evolve to meet the needs of the Saudi context.

All things considered, stakeholders wanting to internationalize an innovation should attempt to ensure that it offers a substantial relative advantage and that it is relatively easy to integrate with existing technologies and practices, straightforward to learn and use, easy to try, and readily visible to those who might adopt it. In the context of this work, the three-phase model appears to have such characteristics. Therefore, it is considered to have high potential for internationalization into the Saudi context.

### **Implications of the Study**

The results of the study support three main implications. First, in this study, the strategy for internationalizing the needs assessment process was developed by comprehensively exploring previous research on needs assessment concepts and characteristics. This study presents the current needs assessment practices locally (in United States), and internationally as ways to evaluate the recent needs assessment models. Although there is no single agreed-upon way to conduct needs assessments, there are three distinct phases proposed as best practices to consider in the use of empirical evidence from research to identify educational needs and potential solutions. These phases include: pre-assessment, assessment, and post-assessment (Kaufman, 1992; Altschuld & Witkin, 1995).



The results of the study provide the IDT field with a theoretical base on which to conduct future research in needs assessment at the international level. Consistent with literature findings, the cultural sensitivity of instructional design practices needs to be addressed in the IDT field if it takes the initiative to expand its international boundaries (Collis, 1999; Henderson, 1996; Rogers et al., 2007, Thomas, 2002). Based on the study findings, there is a need for developing a revised needs assessment model for use within international settings. Such a model should take into consideration the social, cultural, and political aspects of determining learning and performance gaps and addressing those needs in relevant and culturally sensitive ways. In addition, the validation process for the model provides practical guidelines for conducting needs assessments in the Saudi context. Higher education institutions in Saudi Arabia can utilize these to enhance current attempts to implement needs assessment practices at all levels involved throughout this process. Institutions hoping to be successful with needs assessment should attempt to have a comprehensive plan and requirements in place. Assessing educational needs is important and sometimes a difficult part of the program planning process as it is significantly impacted by cultural, social, political, and religious factors within the context (Cooper & Wahab, 2001). Although needs assessment can also be a challenging process for the higher education experts and professionals in Saudi Arabia, the culturally-based model can provide a powerful way to improve the quality of educational activity in the Saudi context. Utilizing the model will not only make significant improvements to educational activities, but also enhance the institutions, organizations, businesses, and other constituencies they represent on a larger scale (Kaufman, 1992; Altschuld & Witkin, 1995; 2000). If needs assessment becomes an integral part of higher education program development in the Saudi context, those educational activities that meet a

specific goal or purpose or advance an organizational priority have a better chance at doing so through the utilization of needs assessment.

### **Limitations**

Attempts to introduce a western educational model to non-western settings should not be undertaken without adequate appreciation for the difficulties involved. Some of the western models are culturally universal and can be simply adopted without any modifications. However, when transferring new knowledge to a specific cultural context, such as Saudi Arabia, most of these western models have to be culturally adapted. Initially, the culturally-based model was proposed and developed to meet users' needs and problems in the west, and the purpose was to find useful outcomes to meet these needs. In this study, the model has been developed to be adopted for one cultural setting, Saudi Arabia, as it is uniquely influenced by the interaction of cultural, political, economic and societal factors. The primary aim is to generate a culturally equivalent version of a model considering these factors. As a result, the new version of the three-phase model for a single international setting includes cultural and context consideration. The culturally-based model was utilized to provide guidance to conduct needs assessments within the Saudi context. This particular model is based on the three-phase model (pre-assessment- assessment- post-assessment), as cited in Altschuld and Witkin's book (1995) with specific consideration for cultural factors. The model is broad and could relate to any needs assessment project with an audience that differs from the culture of the researcher. The emphasis of the model is on identifying cultural variables that need to be addressed in all of phases of the needs assessment.

### **Future Research**

This study opens numerous new avenues for future research. First, the present study can be further extended by including local experts from the Saudi context. Second, each of the emerging cultural factors identified in the study is worthy of a more in-depth investigation. Third, implementation of the culturally-based model is the next appropriate next step in the design process. Based on the findings from the review process, the implementation of the complete model is suggested to determine the need for further accommodation within the Saudi context. As developmental research can be a continuous process of implementation and evaluation, the next phase of this study would be to have the model tested in the field (Richey et al., 2004). Testing the culturally-based model would produce knowledge that could also reveal potential issues with the new version of the model. Since this study is the first attempt to internationalize needs assessments for the Saudi context, more research is required in this area. Very little has been written about the topic of internationalization for needs assessment, and data are limited. The author has collected as much relevant information as possible and based her analysis upon that information. She sees this study not as an end, but as the beginning of the analysis for the international dimensions of needs assessment in the region, and hopes that the references included will serve as a useful source for further study.

### **Conclusion**

The data collected in this study show that the three-phase model of needs assessment has high potential for future implementation in Saudi Arabia, which has a strong need for needs assessment. However, it is possible to improve and enhance these practices by adding contextual and cultural factors within the model. In this way, Saudi higher education would be encouraged

to embrace the importance of needs assessment, and the three-phase model might be better adapted to the contemporary Saudi context.

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## Appendixes

### APPENDIX A

#### Summary of the Needs Assessment Models Reviewed

Table 1

*Summary of the needs assessment models reviewed*

	Needs Assessment Model	Authors/ Year	Purpose of the model	Societal and Organizational results	Individual results	Audience	Local/ International
s08	Zemke and Kramlinger's Figuring Things Out Model	(Zemke, & Kramlinger, 1984)	<ul style="list-style-type: none"> <li>• A system for conducting organizational effectiveness studies, determining training needs, and performing task analysis.</li> <li>• Providing tools and guides for collecting both hard and soft data within an organization.</li> </ul>	√	√	• Business	Local
	Rossett's Training Needs Assessment Model	(Rossett, 1987)	<ul style="list-style-type: none"> <li>• One of the most widely used <b>training</b> requirements analysis models currently in use by business industry</li> <li>• Seeks to lessen the gap between "optimal" and 'actual' individual and</li> </ul>	X	√	<ul style="list-style-type: none"> <li>• Education</li> <li>• Government</li> <li>• Business</li> </ul>	Local

			small group performance.				
	System Approach Model	(Murk, & Wells, 1988)	<ul style="list-style-type: none"> <li>• Nonlinear model of instructional Design features needs assessment model as component.</li> <li>• Useful for defining learner's entry skills, knowledge, attitudes, and abilities.</li> </ul>	X	√	• Business	Local
	Ostroff and Ford's Levels Perspective Model	(Ostroff, & Ford, 1989)	<ul style="list-style-type: none"> <li>• Focuses on analyzing the training according to three content areas; organizational, task, and person.</li> <li>• Ostroff &amp; Ford Model provide no examples, tools, or methods regarding application of their model.</li> </ul>	√	√	• Business	Local
	Hannum and Hansen's Needs Analysis Model	Hannum, & Hansen, 1989)	<ul style="list-style-type: none"> <li>• Considering a societal needs assessment, but chosen in their model to examine only gaps in results at the level of the individual performer.</li> <li>• Reasonably strong on research methods with guidelines for the collection of hard and soft</li> </ul>	X	√	<ul style="list-style-type: none"> <li>• Government</li> <li>• Business</li> </ul>	Local

			data				
	<b>Rummler and Brache's Relationship Map</b>	<i>Rummler, &amp; Brache, 1990)</i>	<ul style="list-style-type: none"> <li>• <b>Map can be used to design an efficient organizational structure by comparing current and desired processes with concern of resources availability.</b></li> </ul>	√	√	• <b>Business</b>	<b>Local</b>
s06	Burton and Merrill's Four Phase Model	<i>(Burton &amp; Merrill, 1991)</i>	<ul style="list-style-type: none"> <li>• Focuses on the application of needs assessment in the development of instructional materials at the level of a course.</li> </ul>	X	√	<ul style="list-style-type: none"> <li>• Education</li> <li>• Government</li> <li>• Business</li> </ul>	Local
	Darraugh's Six Step Model	<i>(Darraugh,1991)</i>	<ul style="list-style-type: none"> <li>• Parallel to Rossett's (1987) Training Needs Assessment model</li> <li>• Provide readers with fifteen questions are recommended as essentials to the needs assessment process</li> <li>• This model does not provide complete guidance in conducting the needs assessment.</li> </ul>	X	√	<ul style="list-style-type: none"> <li>• Education</li> <li>• Government</li> <li>• Business</li> </ul>	Local

Rothwell and Kazanas' Needs Assessment for Planning Model	( <i>Rothwell, &amp; Kazanas, 1992</i> )	<ul style="list-style-type: none"> <li>Establishes operational definitions of the constructs associated with needs assessment in ID like Burton &amp; Merrill's Model.</li> </ul>	X	√	<ul style="list-style-type: none"> <li>Government</li> <li>Business</li> </ul>	Local
Arthur's Performance Evaluation Matrix	( <i>Arthur, 1993</i> )	<ul style="list-style-type: none"> <li>Used for the development or improvement of software's or products</li> <li></li> </ul>	X	√	<ul style="list-style-type: none"> <li>Business (Customers and suppliers)</li> </ul>	Local
Gordon's Front End Analysis Model	( <i>Gordon, 1994</i> )	<ul style="list-style-type: none"> <li>Used to identify resource unavailability and/or faulty processes for shortcomings in individual performance</li> </ul>	X	√	<ul style="list-style-type: none"> <li>Government</li> <li>Business</li> </ul>	Local
Content-levels framework for training needs assessment	( <i>Nelson, Whitener, &amp; Philcox, 1995</i> )	<ul style="list-style-type: none"> <li>Draws on Ostroff and Ford's content-levels application matrix, focuses on process and inputs at the organizational, small groups, and individuals level</li> </ul>	√	√	<ul style="list-style-type: none"> <li>Government</li> <li>Business</li> </ul>	Local
Robinson and Robinson's Performance Relationship Map	( <i>Robinson, &amp; Robinson, 1995</i> )	<ul style="list-style-type: none"> <li>Emphasizes both training and non-training solutions to individual and small group performance discrepancies.</li> <li>It does not causally link individual performance to organizational or societal success.</li> </ul>	X	√	<ul style="list-style-type: none"> <li>Government</li> <li>Business</li> </ul>	Local

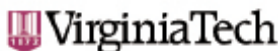
Johnson's Training Requirements Model	(Johnson, 1996)	<ul style="list-style-type: none"> <li>• Focuses majorly on the 'Training requirements planning and it does not focus on the performance problems.</li> <li>• The model utilizes the '<b>Market Survey</b>' to identify the desired training programs.</li> <li>•</li> </ul>	√	√	<ul style="list-style-type: none"> <li>• Business</li> </ul>	Local
Mager and Pipe's Performance Analysis Model	(Mager, & Pipe, 1997)	<ul style="list-style-type: none"> <li>• Intends for making only adjustments on the level of individual and small group performance.</li> <li>• This model does not directly address formative evaluation and does not explicitly provide any details of the needs assessment process</li> </ul>	X	√	<ul style="list-style-type: none"> <li>• Education</li> <li>• Government</li> <li>• • Business</li> </ul>	Local
Kaufman's Organizational Elements Model	<ul style="list-style-type: none"> <li>• (Kaufman, Oakley-Brown, Watkins, &amp; Leigh, 2003)</li> <li>(Watkins, 2007)</li> </ul>	<ul style="list-style-type: none"> <li>• Only needs assessment framework reviewed formally addresses the linkages between every results focus (societal, organizational, small group and individual).</li> </ul>	√	√	<ul style="list-style-type: none"> <li>• Government</li> <li>• Business</li> </ul>	Local
Wedman's Performance Pyramid Model	<ul style="list-style-type: none"> <li>• (Watkins, &amp; Wedman, 2003)</li> <li>(Watkins, &amp; Leigh,</li> </ul>	<ul style="list-style-type: none"> <li>• Framework ensures that each foundation component of a performance system is</li> </ul>	√	√	<ul style="list-style-type: none"> <li>• Education</li> <li>• Government</li> <li>• Business</li> </ul>	Local



		2009)	<p>addressed in all phases of a needs assessment. to optimal performance in the workplace.</p> <ul style="list-style-type: none"> <li>• Not providing a process for conducting a needs assessment or for improving performance</li> </ul>				
	Three -Phase Needs Assessment Model	<ul style="list-style-type: none"> <li>• (<i>Witkin, &amp; Altschuld, 1995</i>)</li> <li>• (<i>Altschuld, 2010</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Needs assessment occurs over three phaseThree-phases: preassessment (exploration), assessment (data gathering), and postassessment (utilization)</li> <li>• Tends to be on process improvement and the achievement of the organization's goals for individuals and small groups</li> </ul>	√	√	<ul style="list-style-type: none"> <li>• Education</li> <li>• Government</li> <li>• Business</li> </ul>	Local

## APPENDIX B

### IRB Approval



Office of Research Compliance  
Institutional Review Board  
North End Center, Suite 4120, Virginia Tech  
300 Turner Street NW  
Blacksburg, Virginia 24061  
540/231-4606 Fax 540/231-0959  
email [irb@vt.edu](mailto:irb@vt.edu)  
website <http://www.irb.vt.edu>

#### MEMORANDUM

**DATE:** April 21, 2016  
**TO:** Barbara B Lockee, Mashael Alqahtani  
**FROM:** Virginia Tech Institutional Review Board (FWA00000572, expires January 29, 2021)  
**PROTOCOL TITLE:** Towards a validated needs assessment process in international contexts: A case study in Saudi Arabia  
**IRB NUMBER:** 15-145

Effective April 20, 2016, the Virginia Tech Institutional Review Board (IRB) Chair, David M Moore, approved the Continuing Review request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

<http://www.irb.vt.edu/pages/responsibilities.htm>

(Please review responsibilities before the commencement of your research.)

#### PROTOCOL INFORMATION:

Approved As: Expedited, under 45 CFR 46.110 category(ies) 5,6,7  
Protocol Approval Date: April 23, 2016  
Protocol Expiration Date: April 22, 2017  
Continuing Review Due Date\*: April 8, 2017

\*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

#### FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

*Invent the Future*

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY  
*An equal opportunity, affirmative action institution*

Date*	OSP Number	Sponsor	Grant Comparison Conducted?

\* Date this proposal number was compared, assessed as not requiring comparison, or comparison information was revised.

If this IRB protocol is to cover any other grant proposals, please contact the IRB office (irbadmin@vt.edu) immediately.

## **APPENDIX C**

### **Expert Reviewer Consent Form**

#### **Virginia Polytechnic Institute and State University**

#### **Consent for Participants in Research Project Involving Human Subjects**

##### ***Consent Form***

##### **Purpose of this research/project**

The purpose of this study is to internationalize a needs assessment process that has been implemented in an advanced country (namely, United States) to be applied in a Middle East country (namely, Saudi Arabia). This study will validate the use of Three-phase needs assessment model in Saudi Arabia to identify employability competencies needed by labor market. Unlike many other Middle East countries, Saudi Arabia is chosen for this study because it is the most closed society and is facing a number of social, religious, political, and economic changes (Al-Shammari, 2009; Jamjoom, 2012). This study would document the process of building a framework for applying needs assessments in eastern contexts as the findings which would advance the literature in a critical instructional design component: needs assessment. A case study of female graduates from Computer and Information Science programs, and employers from the banking sector is chosen for validating the use Three-phase needs assessment model in Saudi Arabia. In addition, this study will also ultimately yield interventions aimed at aligning educational outcomes with employer needs in Saudi Arabia.

##### **Procedures**

If you agree to be in this study, you will serve as an expert reviewer of my model rubric of conducting Three-phase needs assessment in Saudi Arabia. The expert reviewers will examine the model rubric based on its clarity and alignment with the research questions. The expert reviewer will provide a written feedback regarding the clarity and alignment of the model rubric with the research questions and they will also be giving the opportunity for open oral feedback as well. The oral feedback will take place as an approximately 30 minute Skype conversation at a mutually convenient time and will be audio-recorded.

##### **Risks**

There is no minimal risks to participate in this study. Risks to participants are no greater than the risks associated with normal conversation. In addition, you have the right to withdraw from the participation at any time by notifying the researcher in writing or in person of your desire withdraw.

##### **Benefits**

There are no direct benefit for participation in this study. No promise or guarantee of benefits has been made to encourage me to participate.

### **Extent of Anonymity and Confidentiality**

The researcher will keep all data collected confidential. While information gathered from the study may be used in reports, presentations, and articles in professional journals, the participant's name or any other identifying information will not be used. Any identifying information will be changed so that data will not be connected to the individual; pseudonyms will be placed of actual names. The researcher will transcribe the audio recording for the future analysis. Only the researcher will have the access to the audio recording. The audio-recorded interview will be destroyed after reporting of result is complete.

The Institutional Review Board (IRB) at Virginia Tech may view this study's collected data for auditing purposes. The IRB is responsible for overseeing the protection of human subjects who are involved in research.

### **Compensation**

Taking part of this study is voluntary; the participant will not be compensated for participating in this study.

### **Freedom to Withdraw**

The participant is free to withdraw from this study at any time without penalty. You may choose to not respond to any research questions that you choose. There may be circumstances under which the investigators may determine that you should not continue to be involved in this study.

Should I have any questions about this study or its conduct, or participants' rights, I may contact:

#### **Investigators:**

Mashaël Alqahtani [mashaël@vt.edu](mailto:mashaël@vt.edu)

Dr. Barbara Locke [lockeebb@vt.edu](mailto:lockeebb@vt.edu)

#### **If you have any questions about your right as participant, please contact:**

Dr. David M. Moore [moored@vt.edu](mailto:moored@vt.edu)

Chair, Institutional Review Board for the Protection of Human Subjects

Office of Research Compliance

### **Participant's Permission**

I voluntarily agree to participate in this study. I have the following responsibilities: to participate in one approximately 20 minute audio-recorded interview and to provide written feedback regarding the model rubric.

I have read and understand the consent form and the conditions of this study. I have also had all of my questions answered. I hereby acknowledge the above and give my voluntary consent:

\_\_\_\_\_ Date \_\_\_\_\_

*Signature of Participant*

\_\_\_\_\_

*Printed Name*

\_\_\_\_\_ Date \_\_\_\_\_

*Signature of Principal Investigator*

## APPENDIX D

### Expert Review Model Rubric/Protocol for Written Feedback

**Reviewer name:** Click here to add text

**Date:** Click here to add text

**In the first section, please review the model protocol. Then review the rubric below and provide comments regarding the alignment and clarity of the individual research questions with the needs assessment model (Figure 1)**

Research questions	Rubric questions	Comments about alignment of individual research questions with the needs assessment model	Comments about clarity of the individual research questions and the needs assessment model
Q1: Can Three-phase needs assessment model be used in Middle Eastern: Saudi Arabia context to identify any needs assessment subject?	<ul style="list-style-type: none"><li>• How would you amend/clarify the three stages in the model?</li><li>• How do you think the Three-phase needs assessment model can be used in Saudi context to identify any needs assessment subject?</li><li>• How the model language and terminology can be clarified in Saudi context?</li><li>• How do you think a novice and an expert would work with the model? What changes would help them?</li></ul>	Click here to add text	Click here to add text
Q2: What are the barriers to	<ul style="list-style-type: none"><li>• what do you think that are the</li></ul>	Click here to add text	Click here to add text

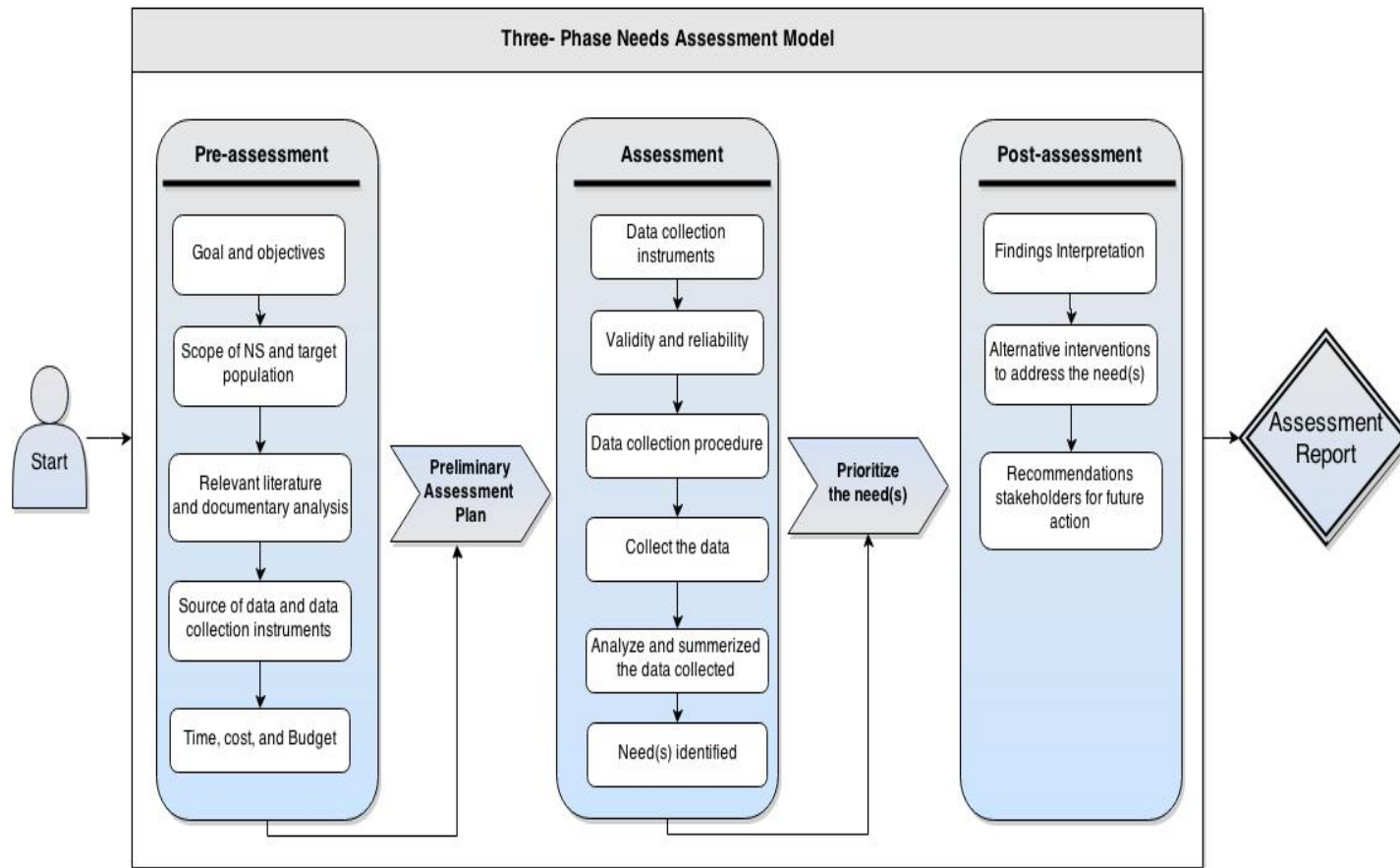
<p>planning for implementation of Three-phase needs assessment model in Saudi Arabia to identify needs assessment subject?</p>	<p>potential barriers to planning for introducing and using Three-phase needs assessment model in Saudi Arabia, ultimately to identify a needs assessment subject?</p> <ul style="list-style-type: none"> <li>• How would you adjust the Pre-assessment phase of the model to suit the Saudi Arabia context?</li> <li>• How would you modify Assessment phase of the model to suit the Saudi context?</li> </ul>		
<p>Q3: What accommodations should be made in Three-phase needs assessment model to fit Middle Eastern: Saudi Arabia?</p>	<ul style="list-style-type: none"> <li>• Which area(s) do you feel demand the most revisions?</li> <li>• What are the possible accommodations can be made in this model to fit the local needs of a different culture?</li> <li>• Would you think that the Saudi culture would impact the adoption of the model?</li> </ul>	<p>Click here to add text</p>	<p>Click here to add text</p>



**Factors:**

The factors that emerged from the original five questions were categorized into the following topics:

- **The theoretical and practical considerations influence the adaptation of Three-phase needs assessment model in a Saudi context**
  1. The potential of use Three-phases needs assessment model in Saudi context
  2. Clarifying the model language and terminology
  3. Amending the three stages of the model;
  4. Model usability by novices and experts;
- **Potential barriers to planning for implementation of Three-phase needs assessment model in Saudi Arabia context**
  1. Major potential barriers to planning for implementation of Three-phase needs assessment model
  2. Modifying the preliminary analysis of “phase I” to suit the Saudi context,
  3. Modifying the data collection and analysis of “Phase II” to suit the Saudi context,
- **Accommodations on Three-phase needs assessment model in Saudi context:**
  1. Areas for revisions
  2. Examining the role of Saudi culture impacting the adaption of the model



*Figure 1: A revised version of the three-phase model for internationalizing needs assessment for use in Saudi Arabia*

Table 2

*Detailed steps of conducting needs assessment process*

<b>Phase I: Pre-assessment</b>	<b>Phase II: Assessment</b>	<b>Phase III: Post-assessment</b>
<b>Develop the goal and the objectives of needs assessment subject</b>	Identify the data collection instruments	Interpret the assessment summary and findings
<b>Decide the scope of needs assessment subject</b>	Consult expert judgments for validity	Suggest alternative interventions to address the need(s)
<b>Select the target population for conducting the needs assessment</b>	Pilot the data collection tools for reliability	Provide recommendations and an assessment report to stakeholders for future action
<b>Review the relevant literature regarding the needs assessment subject</b>	Make modifications on the tools, if necessary	
<b>Examine the context through documentary analysis, informal interview, etc.</b>	Set a schedule for the data collection procedure	
<b>Determine the sources of data, time, and cost.</b>	Analyze the data collected	
	Summarize the data collected	
	Prioritize the need(s) identified	

- 
- Please provide any additional comments regarding the adaption this model in a different culture setting:

## APPENDIX E

### Expert Review Survey Rubric/Protocol for Written Feedback

**Reviewer name:** Click here to add text

**Date:** Click here to add text

- **In the first section, please review the survey protocol. Then review the rubric below and provide comments regarding the alignment and clarity of the research question with the survey questions.**

Research questions	Survey questions	Comments about alignment of individual needs assessment questions with survey questions	Comments about clarity of the individual needs assessment questions and survey questions
Questions to better understand the background of the respondent	Q1 to Q 11	Click here to add text	Click here to add text
RQ1: Can Three-phase needs assessment model be used in Middle Eastern context: Saudi Arabia?	Q.12 With all of your experiences, what have you used to clarify the model language and terminology in that international context?  Q .13 What do you think is the more appropriate case in my study to clarify the Three-phase needs assessment model in Saudi context?  Q .14 In your previous experiences with needs assessment, have you dealt with both novice and experts or were they all experts?	Click here to add text	Click here to add text

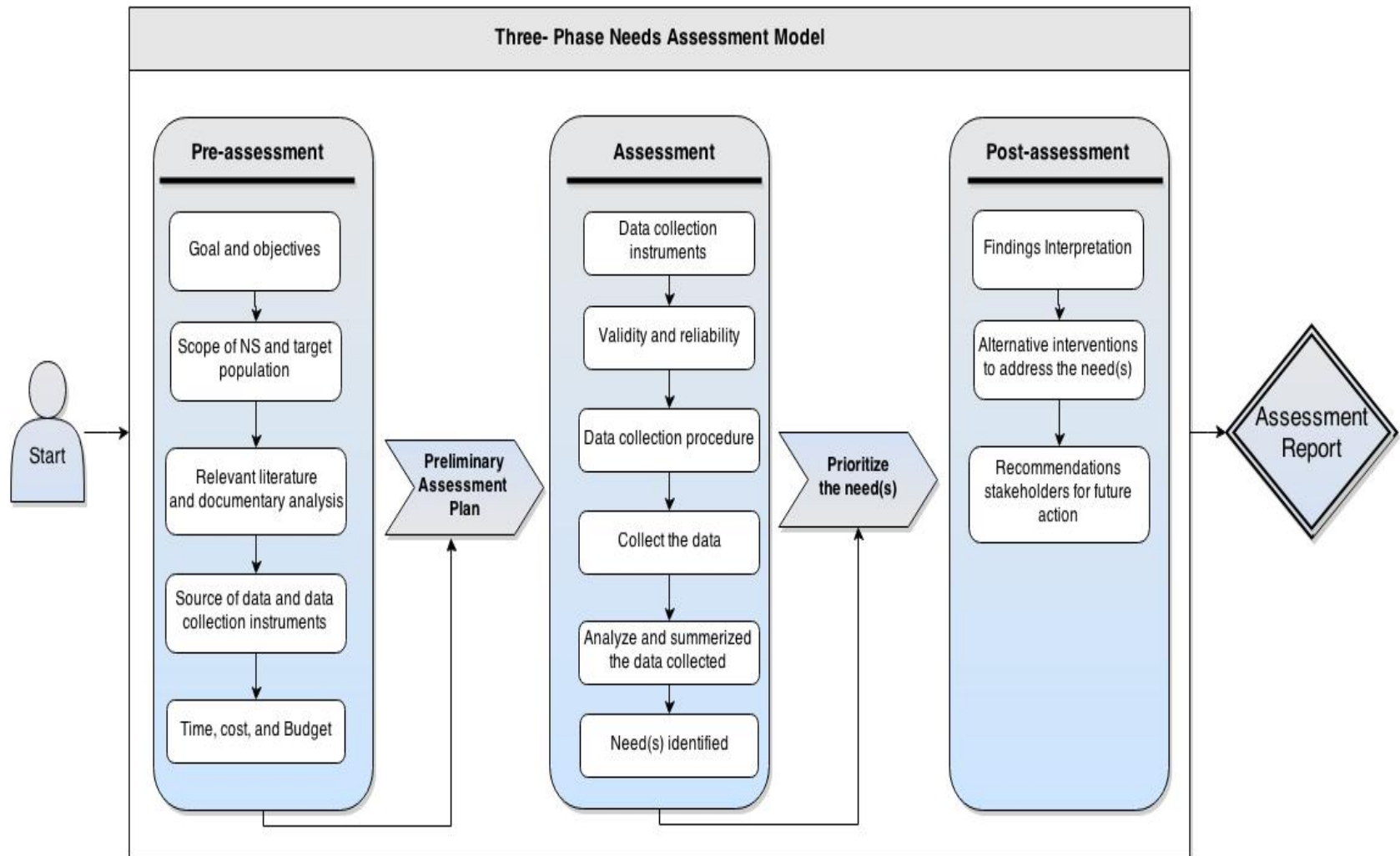
	<ul style="list-style-type: none"> <li>• If yes, please explain how did you introduce and clarify your research idea in the new context?</li> </ul> <p>Q.15 Do you think there is a need to include some [other] case examples with needs assessment models?</p> <ul style="list-style-type: none"> <li>• How might case examples be included in the Three-phases needs assessment model?</li> </ul> <p>Section III: Impact of the Saudi culture on Three-phase needs assessment model for Saudi context</p> <p>Q.23 How might this Three-phase needs assessment model be useful to identify any needs assessment subject in Saudi context?</p> <p>Q.24 How do you think the Saudi culture would impact the adoption of this model?</p> <ul style="list-style-type: none"> <li>• What are some of general cultural assumptions or values should be considered when identifying any new context?</li> </ul> <p>Q.25 Do you think there is a need to do a "<u>context analysis</u>" to examine and analyze the Saudi context closely before adapting this model?</p> <ul style="list-style-type: none"> <li>• Why might this step be important in the process of translating this model in a new context?</li> </ul> <p>Q.26 Do you think this model needs to include some of "Islamic culture attributes" including: Truthfulness, Islamic justice, peace and Moderation, beauty and art of Islam, and etc? If yes, how these attributes can be added to the model?</p>		
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<p>RQ2: What are the benefits and potential barriers to implementation of the Three-phase needs assessment model in the Saudi Arabia?</p>	<p>Q.16 In general, do you think what are the most potential benefits and barriers to introduce new ideas, process, models, etc. in any international context?</p> <p>Q.17 If any barriers, as researcher and designer, how would you do to deal with these barriers? What are some accommodations did use?</p> <p>Q.18 In my case, what do you think are the potential benefits and barriers for introducing and using Three-phase needs assessment model in Saudi Arabia, ultimately to identify a needs assessment subject?</p> <ul style="list-style-type: none"> <li>• And, how might these benefits and barriers influence the implementation of the model in the Saudi context?</li> </ul> <p>Q.19 Considering the above factors, looking at the Three-phase needs assessment model (see attachment with email), how would you adjust any of its phases (Pre-assessment, assessment, post-assessment) to suit the Saudi context?</p>	<p>Click here to add text</p>	<p>Click here to add text</p>
<p>RQ3: What accommodations should be made in the Three-phase needs assessment model to fit in Saudi Arabia context?</p>	<p>Q.20 With all of your experiences, what are some accommodations that you have explored or adopted for translating any of instructional design efforts in any international context?</p> <p>Q.21 Do you think adopting the same accommodations would be necessary for the Three-phase needs assessment model in Saudi context?</p> <p>Q.22 In your opinion, <u>what are</u> the possible accommodations can be made in this model to fit the local needs of Saudi culture?</p>		

- **Please fill out the rubric regarding other aspects of the research questions and survey questions. Please provide any additional comments regarding the research and survey questions that you felt were not addressed:**

Click here to add text 0 points 1 point 2 points Score

	Point 0	Point 1	Point 2	Score	comments
Bias	The survey questions are strongly biased towards a certain answer or viewpoint.	Certain survey questions are somewhat biased towards a certain answer or viewpoint.	All survey questions do not bias or lead the respondents towards a certain answer or viewpoint	Click here to add text	Click here to add text
Completeness	The research questions cannot be answered at all using the current survey questions	Some extra survey questions are needed to answer the research questions.	The research questions can be completely answered using the current survey questions	Click here to add text	Click here to add text
Order	The survey questions are not logically ordered.	Some survey questions may have to be realigned in order to structure the survey logically	All survey questions are logically ordered.	Click here to add text	Click here to add text
Privacy	Many or all of the survey questions are not respectful and may invade the respondents' privacy	Some of the survey questions are not respectful to ask and may invade the respondents' privacy.	All survey questions are polite and respectful.	Click here to add text	Click here to add text



*Figure 1: A revised version of the three-phase model for internationalizing needs assessment for use in Saudi Arabia*



Table 3

*Detailed steps of conducting needs assessment process*

<b>Phase I: pre-assessment (Preliminary analysis)</b>	<b>Phase II: Assessment (Data collection and analysis)</b>	<b>Phase III: post-assessment (Findings and recommendations)</b>
<b>Develop the goal and the objectives of needs assessment subject</b>	. Identify the data collection instruments	Interpret the assessment summary and findings
<b>Decide the scope of needs assessment subject</b>	. Consult expert judgments for validity	Suggest alternative interventions to address the need(s)
<b>. Select the target population for conducting the needs assessment</b>	. Pilot the data collection tools for reliability	Provide recommendations and an assessment report to stakeholders for future action
<b>. Review the relevant literature regarding the needs assessment subject</b>	. Make modifications on the tools, if necessary	
<b>. Examine the context through documentary analysis, informal interviews...,etc.</b>	. Set a schedule for the data collection procedure	
<b>. Determine the sources of data, time, and cost.</b>	. Analyze the data collected	
	. Summarize the data collected	
	. Prioritize the need(s) identified	

- **Please provide any additional comments regarding the adaption this model in a different culture setting:**  
Click here to add text

## APPENDIX F

### Survey Invitation Email

Dear respondent,

My name is Mashael Alqahtani, a PhD candidate at Virginia Polytechnic Institute State University in United State of America. I am conducting a research study titled: “Towards a validated needs assessment process in international contexts: A case study in Saudi Arabia”. I would greatly appreciate your participation in this survey.

You are invited to participate in a dissertation research study examining the potential of using the Three-phase needs assessment model by Witkin and Altschuld (1995) in Saudi context. The purpose of this survey itself is to gain insight about how an existing Three-phase needs assessment model developed in the United State can be adapted and translated to fit local needs of the Saudi context.

The survey will take about 30 minutes to complete and you can be assured that your responses will be confidential and anonymous. Please click the link below to go to the survey Web site (or copy and paste the following link to your Internet browser’s address bar)

Survey link: [https://virginiatech.qualtrics.com/SE/?SID=SV\\_86AxcU8DB7BTnPT](https://virginiatech.qualtrics.com/SE/?SID=SV_86AxcU8DB7BTnPT)

If you have any questions about the study, please contact Mashael Alqahtani via email at: [mashael@vt.edu](mailto:mashael@vt.edu)

Thank you in advance for your consideration and participation.

Sincerely,  
Mashael Alqahtani  
Ph.D candidate, Instructional Design and Technology  
Virginia Tech

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### Reminder email

Dear respondent,

You recently received an email to participate in a study to help the researcher to examine the potential of using the Three-phases needs assessment model in Saudi context. If you have already completed this survey, thank you for your participation and please disregard this email.

By participating in this survey, you can help the researcher to gain insight about how an existing Three-phase needs assessment model developed in the United State can be adapted and translated to fit local needs of the Saudi context.

The survey will take about 30 minutes to complete and you can be assured that your responses will be confidential and anonymous. Please click the link below to go to the survey Web site (or copy and paste the following link to your Internet browser's address bar)

Survey link: [https://virginiatech.qualtrics.com/SE/?SID=SV\\_86AxcU8DB7BTnPT](https://virginiatech.qualtrics.com/SE/?SID=SV_86AxcU8DB7BTnPT)

This survey will close on March 28<sup>th</sup>, 2016

If you have any questions about the study, please contact Mashael Alqahtani via email at: [mashael@vt.edu](mailto:mashael@vt.edu)

Thank you in advance for your consideration and participation.

Sincerely,  
Mashael Alqahtani  
Ph.D candidate, Instructional Design and Technology  
Virginia Tech

## APPENDIX G

### Open-ended Survey

#### Qualitative Survey

Virginia Polytechnic Institute and State University

Consent for Participants in Research Project Involving Human Subjects

The role of context in Instructional Design: A case study of examining the potential of  
Three-phase needs assessment model for use in Saudi context

You are invited to participate in a dissertation research study examining the potential of using the Three-phase needs assessment model by Witkin and Altschuld (1995) in Saudi context. The purpose of this survey is to gain insight about how an existing Three-phase needs assessment model developed in the United State can be adapted and translated to fit local needs of the Saudi context; a more social/ritual bond culture in the Middle East.

This survey will take approximately 30 minutes to complete. Your return of this survey is implied consent. There are no direct benefit for participation in this study. No promise or guarantee of benefits has been made to encourage you to participate in this study. Any information obtained from this survey that can be identified with you will remain confidential and will not be disclosed.

You are free withdraw from this survey at any time without plenty. You may choose to not respond to any research questions that you choose.

Sincerely,  
Mashael Alqahtani  
[mashael@vt.edu](mailto:mashael@vt.edu)

Should you have any questions or concerns about the study or have questions about the research study; or have questions about your rights as a research subject, or need to report a research-related injury or event, you may contact:  
The VT IRB Chair, Dr. David M. Moore at: [moored@vt.edu](mailto:moored@vt.edu)

#### **Section I. Demographic Questions and General Questions**

Please select the best answer for each following item:

1. Your gender:

- ☐ Male  
☐ Female

2. Your nationality:

3. Your Age:

4. Your position in your institution:

- ☐ Teaching Assistant
- ☐ Lecturer
- ☐ Assistant Professor
- ☐ Instructor
- ☐ Professor

5. Years of teaching experience do you have:

- ☐ Less than a year
- ☐ 1-2 years
- ☐ 3-5 years
- ☐ 6-10 years
- ☐ More than 10 years
- ☐ Other

6. I am involved with needs assessment as a :

	Please check all that apply	If yes, how many years?
Teacher	<input type="checkbox"/>	<input type="checkbox"/>
Researcher	<input type="checkbox"/>	<input type="checkbox"/>
Designer:conducting needs assessment for training, curriculum development, etc	<input type="checkbox"/>	<input type="checkbox"/>
Other role(s), please describe: <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Your work on needs assessment is related to the following (subject) area:

[MULTIPLE ANSWERS ALLOWED]

- ☐ Community Agencies / Health Care
- ☐ Business (Employees Training)
- ☐ Social studies
- ☐ Higher Education (faculty, students, and administration)
- ☐ Early Childhood and K-12 education programs (Principles, and Curriculum coordinators)
- ☐ Teacher/parent education and training

 Others, please describe:

**Saudi Arabia** occupies about three-fourth of the Arabian Peninsula. It is considered a deeply religious, conservative, and family oriented society. This society is a rich one that has been shaped by its Islamic heritage and by Arab traditions. Saudi context is a unique context which faces combination of challenges – historical, cultural, social, demographics, and economics. Even though, these challenges each have impact on the Saudi culture, Saudi society has been experienced tremendous development over the past several decades. It has taken its Islamic values and traditions and adapted them to the modern world.

8. Have you been working with similar societies like Saudi Arabian context? if yes, please list them below:

☐ Yes

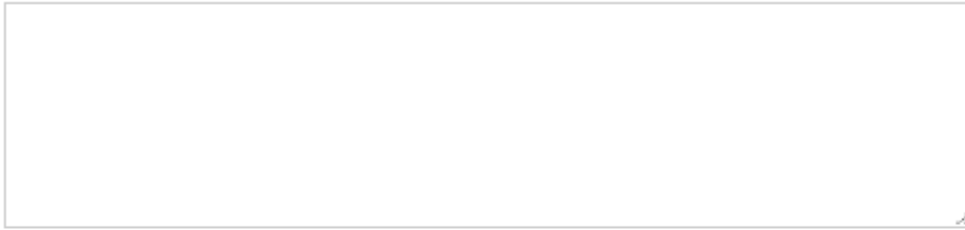
☐ No

9. Out of these cultures or contexts, what were the challenges, differences, and similarities you think comparing to the Saudi Arabian context?

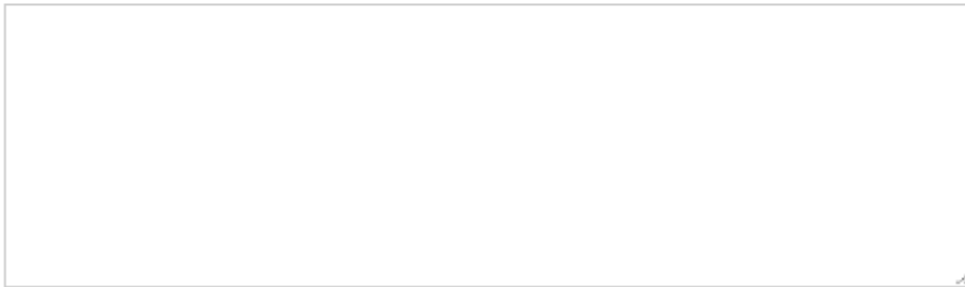
**10. Have you tried to adapt and translate any of needs assessment efforts or any of instructional design practices (it could be a new process, models, etc) in any international context?**

- ☐ Yes
- ☐ No

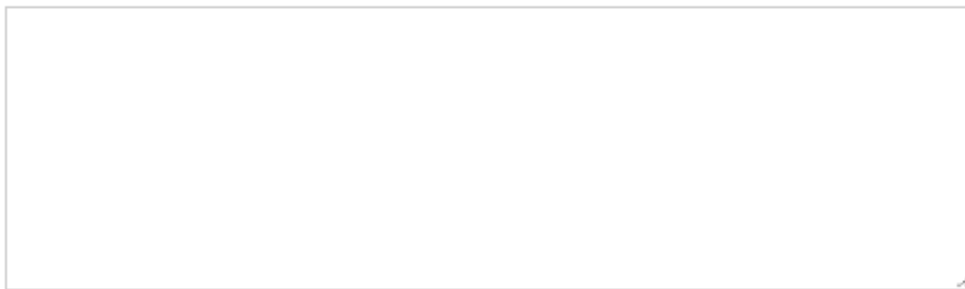
**11. If yes, what was the most challenging and rewarding experience?**



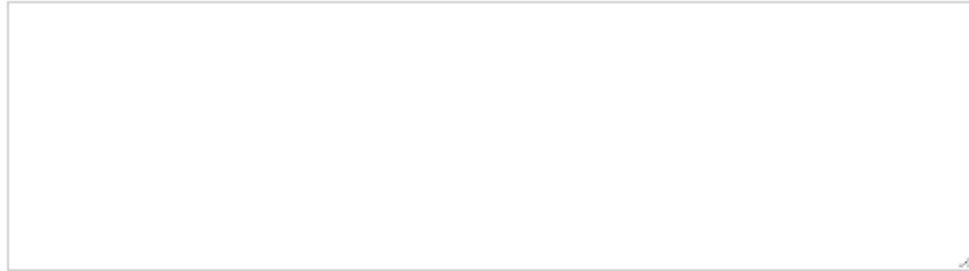
**12. With all of your experiences, what have you used to clarify the model language and terminology in that international context?**



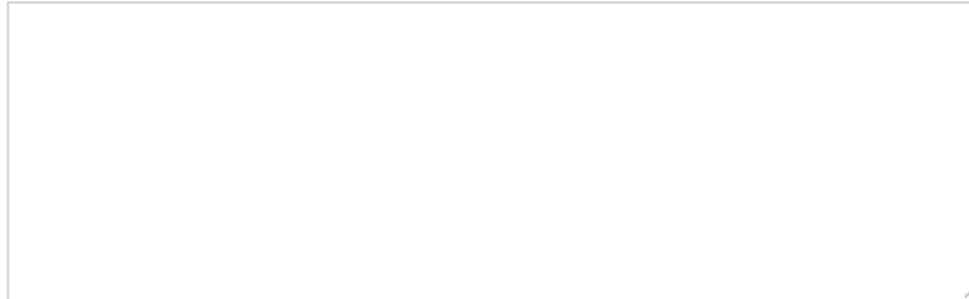
**13. What do you think is the more appropriate case in my study to clarify the three-phase needs assessment model in Saudi context?**



14. In your previous experiences with needs assessment, have you dealt with both novice and experts or were they all experts? If yes, Please explain how did you introduce and clarify your research idea in the new context?

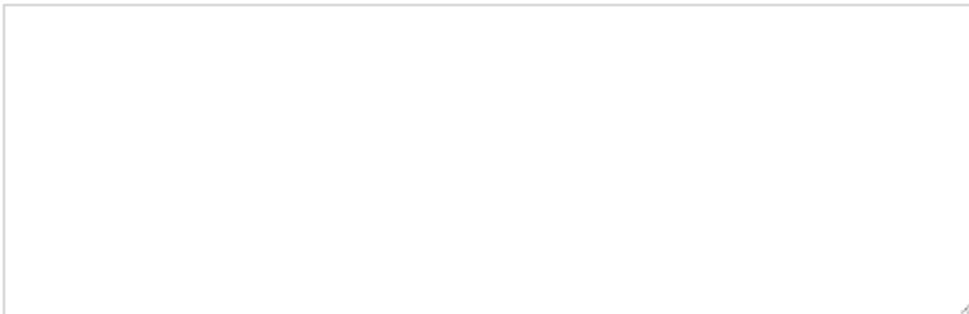
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15. Do you think there is a need to include some case examples for those inexperienced with needs assessment models? And, how might case examples be included in the Three-phases needs assessment model?

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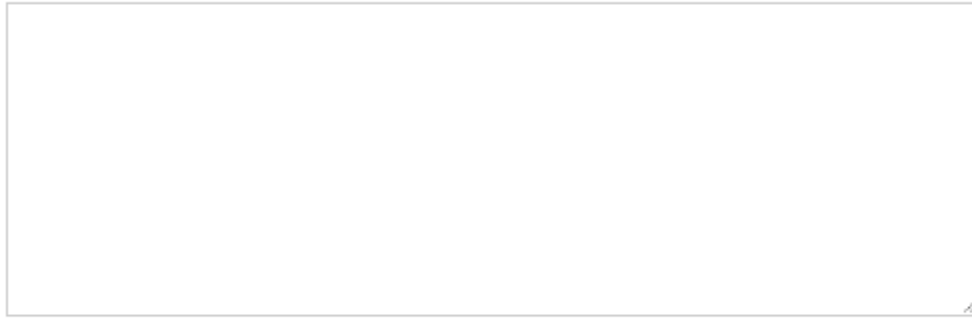
**Section II:** Barriers to implementation of Three-phase needs assessment model in Saudi context

16. In general, do you think what are the most potential barriers to introduce new ideas, process, models, etc. in any international context?

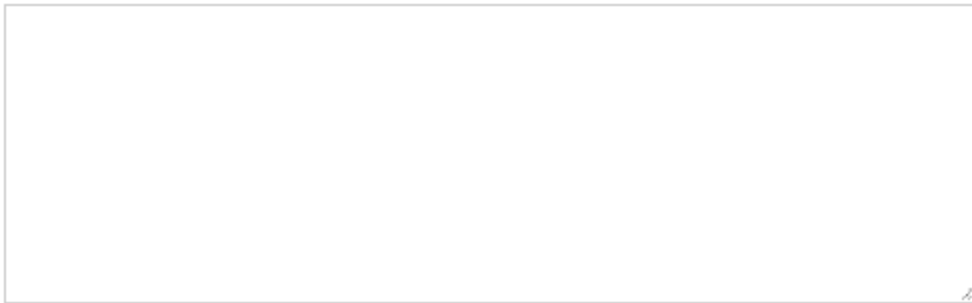
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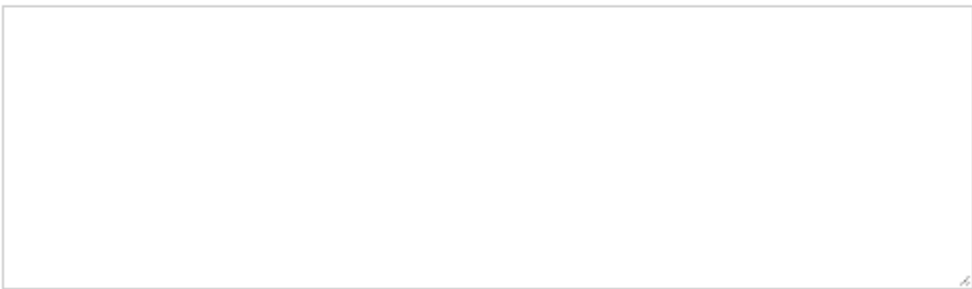
**17. As researcher and designer, how would you do to deal with these barriers? What are some accommodations did use?**



**18. In my case, what do you think are the potential barriers for introducing and using Three-phase needs assessment model in Saudi Arabia, ultimately to identify a needs assessment subject? And, how might these barriers influence the implementation of the model in the Saudi context?**

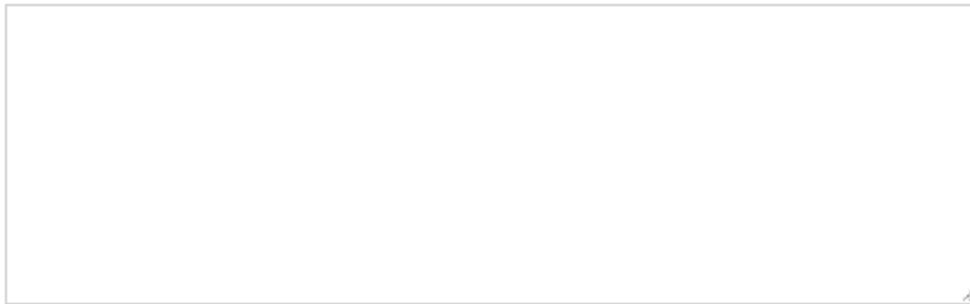


**19. Looking at the Three-phase needs assessment model (see attachment with email), how would you adjust any of its phases (Pre-assessment, assessment, post-assessment) to suit the Saudi Arabian context?**

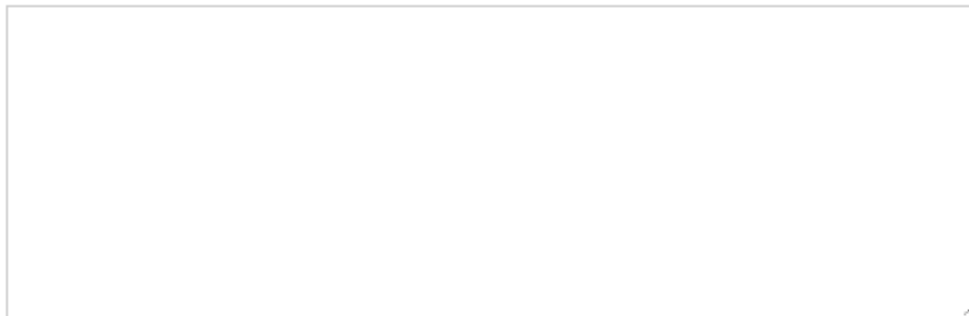


**Section III:** Accommodations on Three-phase needs assessment model for Saudi context

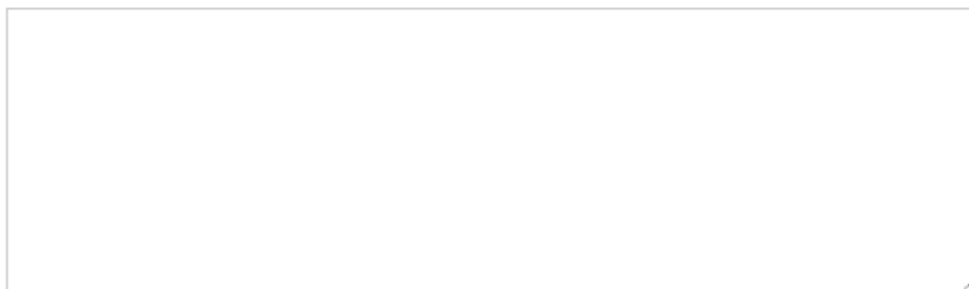
20. With all of your experiences, what are some accommodations that you have explored or adopted for translating any of instructional design efforts in any international context?



21. Do you think adopting the same accommodations would be necessary for the three-phase needs assessment model in Saudi context?

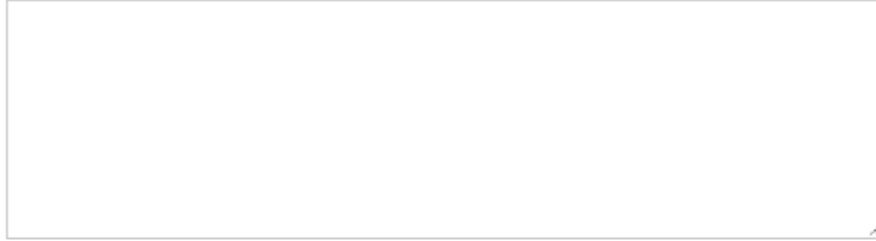


22. In your opinion, what are the possible accommodations can be made in this model to fit the local needs of Saudi culture?

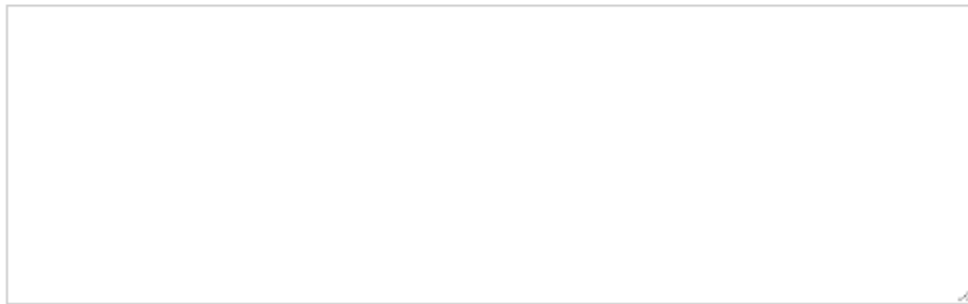


**Section III:** Impact of the Saudi culture on Three-phase needs assessment model for Saudi context

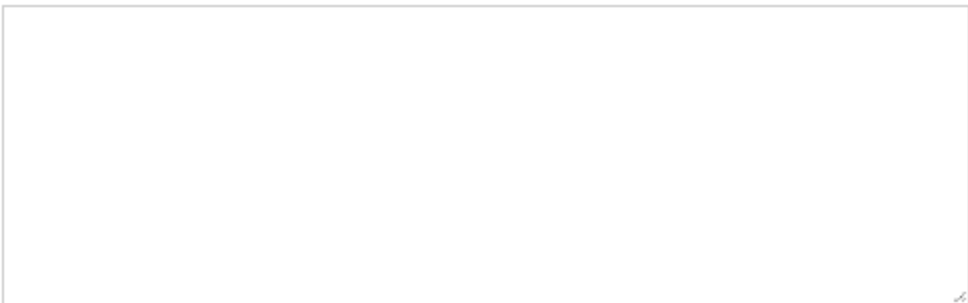
23. How might this Three-phase needs assessment model be useful to identify any needs assessment subject in Saudi Arabian context?



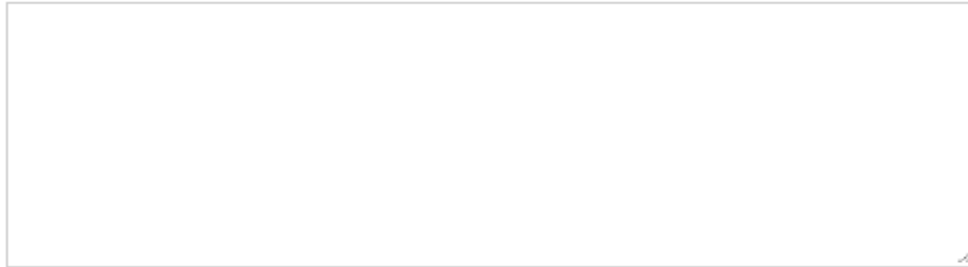
24. How do you think the Saudi culture would impact the adoption of this model? What are some of general cultural assumptions or values should be considered when identifying any new context?



25. Do you think there is a need to do a "context analysis" to examine and analyze the Saudi Arabian context closely before adapting this model? Why might this step be important in the process of translating this model in a new context?

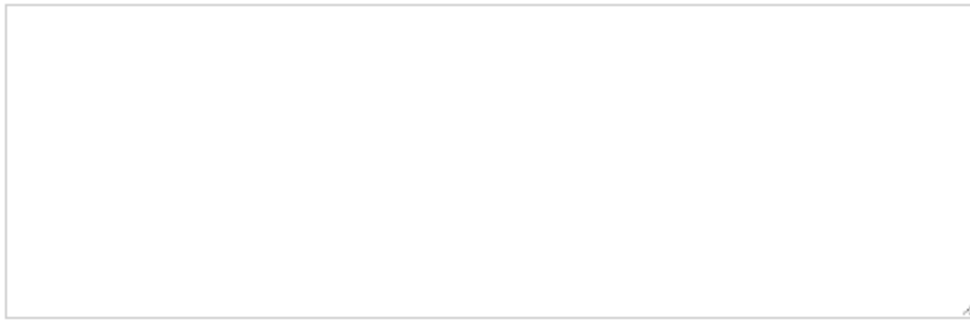


26. As some of you coming from Muslim culture, do you think this model needs to include some of "Islamic culture attributes" including: Truthfulness, Islamic justice, peace and Moderation, beauty and art of Islam, and etc? If yes, how these attributes can be added to the model?

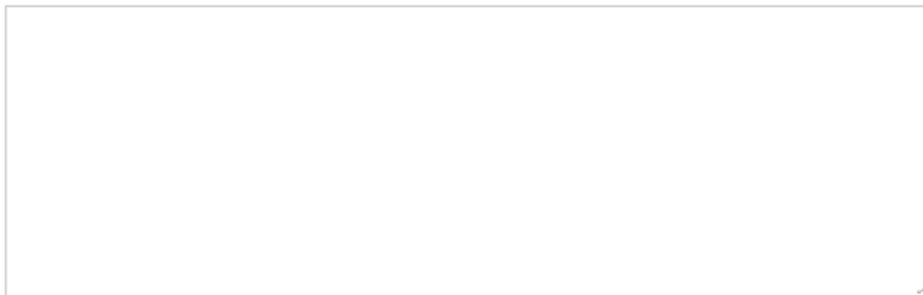
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### **Section IIIII: Recommendations**

27. In general, do you have any recommendations for adaption this model in different culture setting?

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28. What other suggestions would you provide to improve the Three-phase needs assessment model to be used in Saudi context?

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