UNIVERSITY OF CALGARY

Designer Decision-Making for Newcomer Orientation Training and Onboarding Programs in Corporations with Canadian Upstream Oil and Gas Operations

by

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A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE

DEGREE OF DOCTOR OF PHILOSOPHY

FACULTY OF EDUCATION GRADUATE DIVISION OF EDUCATIONAL RESEARCH

CALGARY, ALBERTA

DECEMBER, 2009

Your file Votre référence
ISBN: 978-0-494-62156-1
Our file Notre référence
ISBN: 978-0-494-62156-1

Abstract

A mixed methods multi-case study design aligned with critical realism (Bhaskar, 1975) was used to research orientation training and onboarding program design decisions. The critical decision method of cognitive task analysis was used to identify key design decisions at four large companies with Canadian upstream oil and gas operations.

Findings about the key characteristics of designers (including their styles of decision making (Kinston & Algie, 1989), learning objectives and goals, content, program implementation and evaluation are reported. The designers' learning goals were identified using outcome statements from instruments published in the organizational assimilation, organizational commitment, organizational identification and organizational socialization literature (forming the acronym, O-ACIS). O-ACIS is part of the theoretical framework developed for this research.

Analysis of the findings showed that the researched designers crafted learning experiences intended to contribute to the O-ACIS of organizational newcomers. Learning experiences create a context, a learning environment. The companies' senior managers expected to improve the productivity and retention of newcomers with the learning environment created with an onboarding program.

Implications for theory and practice of 15 key research findings, including recommendations, are discussed under the topics of: (a) decision making, (b) onboarding, (c) instructional design and human performance technology and (d) research methodology.

Acknowledgements

I am grateful to those who helped to make my PhD program a valuable learning experience both in terms of scholarly research and growth. Appreciation is particularly expressed to:

- the individuals who gave freely of their time to be interviewed for this research,
- Dr. Jack Billinton, for his very helpful and most generous assistance,
- my committee chairman, Dr. Eugene Kowch, whom I hope to continue to learn from in the years ahead. His wonderful sense of humour and help were always welcome.

Special appreciation is expressed to:

- the Divine, to whom I give all honour,
- my parents, who have always expressed their interest in my studies and work, and faith in my abilities. They have provided love and support throughout my life, and I love them both very much.
- my children, for their patience and faith in my abilities when they didn't really understand what was taking so long and what I was did for the past half decade.
- My beloved wife, Barbara. She provided constructive suggestions, commiserated with me during the inevitable dark days and allowed me the time to complete this program. Without her love and support I would not have completed the program.

Dedication

This work is dedicated to my children, and to my wife, they provide me with a source of balance and eternal meaning.

May the reader avoid the fate of Ozymandias and recognize the wisdom of Omar.

> "My name is Ozymandias, king of kings,
> Look on my works ye Mighty, and despair!"
> Nothing beside remains. Round the decay
> Of that colossal wreck, boundless and bare
> The lone and level sands stretch far away.
>
> The Moving Finger writes, and having writ,
> Moves on…

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CHAPTER ONE: INTRODUCTION

Fleetwood (2005) wrote that "the way we think the world is (ontology) influences: what we think can be known about it (epistemology); how we think it can be investigated (methodology and research techniques); [and] the kinds of theories we think can be constructed" (p. 197). All educational researchers, explicitly or implicitly, make ontological assumptions about the social world (Willmott, 2002).

Solomon (2000) argued that philosophy provides both the foundation for theory and also insight into the values that influence research's perceived relevance. Hylnka (as cited in Solomon), wrote that "any philosophy which can help us to illuminate what we do, how we do it, and why we do it, is worth our time and our effort" (p. 8). The methodology and methods used in this research are congruent with critical realism and address the research problem.

Background to the Research

The researcher has been interested in the early experiences of organizational newcomers for many years. Almost everyone, including the researcher, has experienced feelings of nervousness, excitement, hope and fear in advance of the first day at a new job.

While documenting the instructional goals for an e-learning orientation program in 2000, it became clear to the researcher (who was the program designer and developer) that many topics were included in the program in order to provide newcomers with a company sanctioned understanding of the organization's structure, policies, products etc. The intent was that the mission, vision and strategy of the company would be expressed in the daily decisions and activities of the newcomers.

What decisions were other designers of newcomer orientation making about learning goals and learning experiences for newcomers to their organizations? And what was their rationale? How could these questions be addressed through academic research? Little if any academic literature was found then or has been found since to answer these questions.

Research Problem

Orientation training and onboarding programs have a designer. The designer designs learning experiences. Design research "seeks to create knowledge grounded in data systematically derived from practice" (Richey & Klein, 2007, p. 1).

The research problem is to understand the design decisions and rationales of instructional designers of upstream Canadian oil and gas orientation training. This is a fascinating problem to this researcher because onboarding designers create learning environments intended to affect the behaviour of individuals who are new to an organization.

When defining a developmental research problem, factors to be considered are whether or not the problem is: (a) common to many designers and developers, (b) currently critical to the profession, (c) reflective of realistic constraints and conditions typically faced by designers, and (d) pertinent to cutting edge processes and technologies (Richey, Klein, & Nelson, 2004). These factors are all present in the research reported in this study.

The usability of instructional technology research is enhanced by: (a) expanding the range of researched topics to include topics such as designer decision-making, (b) focussing on real world problems directly related to instructional technology issues and practice and

(c) conducting research in natural work settings using a variety of non-experimental methodologies (Richey, 1998). Answers to the following research questions address the research problem in a way that provides academic (and industry) credibility and usability.

Research Questions

The following research questions were developed to help the researcher understand the design decisions and rationales of instructional designers of upstream Canadian oil and gas orientation training:

1. What are the key characteristics of the orientation training designer (individual or team) for each case?
2. How were the learning objectives and goals identified for the orientation training? Why were they identified as they were?
3. How does the orientation training designer profile the learner and how does the designer use the profile for design decisions? Why is the profile developed and used as it is?
4. How does the orientation training designer make instructional decisions about content inclusion, scope and sequencing, media and program duration and timing? Why were the decisions made that were made?
5. How does the orientation training designer use formative and/or summative measures and why is the measurement information used as it is?
6. What are the significant features of the organizational political, economic, social and technical environment the designer considered? Why are they considered most significant?

7. What are the significant features of the industry's political, economic, social and technical environment that the designer considered? Why are they considered most significant?
8. What are the significant features of the political, economic, social and technical environment external to the industry and organization that the designer considered? Why are they considered most significant?

Significance of the Research Problem

Decisions about orientation program design have rarely been studied (Wanous & Reichers, 2000). Chermack (2003) wrote:

> Decision making is a fundamental aspect of all HRD [Human Resource Development] activities...It is conceivable that all HRD work can be observed through the decision-making lens, and until now, few HRD professionals have attempted to do so. It is from this viewpoint that decision-making expertise is seen as core to the development and optimization of human expertise in organizations and that an understanding of decision making and decision-making expertise truly has the potential to advance the discipline of HRD. (p. 365)

As an organization's relationships with workers become more diverse and organizations compete fiercely to attract and retain talent in a global economy, information on how orientation training and onboarding programs can be made more effective becomes vitally important to industry. Cooper-Thomas and Anderson (2005) wrote that "research is needed to help organizations find ways to socialize newcomers who are entering more frequently and having a variety of working relationships with the organization" (p. 126).

This research is also significant because of what Simons (1996) called the paradox of case study – "by studying the uniqueness of the particular, we come to understand the

universal" (p. 227). Over a period of eight years Richey and her colleagues (Richey, et al., 2004; Richey & Nelson, 1996) maintained, in essentially unchanged text, that designer decision-making research

> …has the ultimate goal of understanding the design process and, at times, producing design models that more closely match actual design activity. The populations of the studies are naturally designers—not learners—and frequently designers are classified as either novice or expert. (Richey, et al., 2004, p. 1120)

Understanding designer decisions about onboarding programs and the orientation training contained within onboarding programs—programs intended to cause cognitive and affective domain learning in newcomers to an organization—is of value to both the research community and the society at large. Support for this is found in the following facts and literature.

Orientation Training and Onboarding Programs are Ubiquitous in Organizations

The Conference Board of Canada (Hughes & Grant, 2007) distributed a Learning and Development Outlook survey to approximately 3,900 Canadian organizations. The Board found that more than 10 million working Canadians received training in 2006. New employee orientation training in the Board's past three bi-annual surveys consistently accounted for ~7% of companies' training expenditures. An industry benchmarking survey in 2000 confirmed that all of the 11 oil and gas companies contacted in 2000 had some form of orientation for new employees (Podio, 2000).

Newcomer orientation training and onboarding programs are also widely found in healthcare[1] and educational settings.[2]

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[1] Examples: Craven, 2002; Kennedy, 2001; Morin & Ashton, 2004; E. Scott, 2005; Squires, 2001.

Orientation Training and Onboarding Programs can Address Critical Strategic Issues

Alberta's provincial government reported in 2006 (Alberta Human Resources and Employment, 2006) that $137 billion dollars worth of projects were approved or under construction, resulting in a critical labour shortage which would be exacerbated by: (a) baby boomers leaving the labour force, (b) labour force growth slowing in Canada from "1.4 per cent over the rest of the decade to about 0.7 per cent from 2011 to 2015" (Wright, 2006, p. 7), and (c) technology, change and increasing business process complexity all raising worker qualification requirements. All currency amounts in this study are in Canadian dollars unless otherwise noted.

At the time of the research, the oil and gas industry was aggressively competing for skilled workers that were needed to execute business strategies. Therefore the company managers generally provided abundant resources and sponsorship to their designer/developer, who would be likely to be much more constrained in a less positive business environment.

It is important to note that when the research was conducted, these combined factors created an intense felt need among the interviewed designers to ensure: (a) newcomers became productive as quickly as possible, (b) newcomer retention rates were maximized and (c) the organization's ability to attract future newcomers was enhanced by its treatment of current newcomers. This research studied orientation training and onboarding program design decisions made under realistic yet ideal conditions.

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[2] Examples: Andrews, 2002; Brock & Grady, 2001; Fan, 2004; Horton, 2003; B. W. Johnson, 2004; Keating, 1996; Robles, 2002; Torok Fleming, 2004.

The environment was an important factor in the designers' decision making and is described in Appendix A in terms of the: (a) global oil and gas industry, (b) Canadian oil and gas industry, and (c) Alberta and Canadian economies. In addition, the potential case location companies are described to provide additional insight into the decision making environment of the onboarding designers.

Definition of Terms

Five terms are defined to provide context for understanding the research problem: (a) affective domain, (b) attitude, (c) deliberations, (d) educational technology and (e) operational excellence.

Affective Domain

Affective domain learning objectives have a cognitive component and express interests, attitudes, degree of acceptance, appreciations, values, and emotion (Krathwohl, Bloom & Masia, 1964).

Martin and Reigeluth (1999) wrote that "affective behaviors can be taught and developed in almost any setting, and at any age level, and that instructional-design theories should provide guidance..." (p. 487). They stated that goals provide "a way to think about the affective categories..." (p. 491) and offered examples such as:

> (a) goals related to positive attitudes toward a subject area [or topic]… (b) goals related to the development of a rational basis for attitudes and values.… (c) goals related to affective processes … and (d) goals related to developing and sustaining interest and motivation in … areas that are important or are of interest to the learner. (p. 490)

In this research "affective domain" refers to these types of goals.

Attitude

Attitude formation and change simultaneously involves the cognitive and affective domains. Fishbein and Ajzen (1975) defined an attitude as “a learned disposition” (p. 6). Oskamp and Schultz (2005) repeatedly stated that learning is an accepted mechanism for attitude formation and attitude change and wrote that "attitudes and opinions are usually learned—that much is agreed on by all authorities" (p. 161).

Oskamp and Schultz (2005) defined an attitude as “a predisposition to respond in a favorable or unfavorable manner with respect to a given attitude object” (p. 9). It is in this sense that ‘attitude’ is used in reference to designers’ intentions to create learning experiences that lead to newcomer assimilation, commitment, identification, or socialization.

Deliberations

Deliberations are the context out of which decisions sometimes emerge, and in this research the term refers to:

> reflective and communicative behaviors concerning a particular topic. They are patterns of exchange and communication in which people engage with themselves or others to reduce the equivocality of a problematic issue. Deliberations have three salient aspects: topics, forums of exchange [such as meetings], and participants…. (Pava, 1983, p. 58)

Educational Technology

The AECT Definition and Terminology Committee (Januszewski & Molenda, 2008) stated that, “educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources” (p. 1). “Educational technology claims to facilitate

learning rather than to cause or control learning; that is, it can help create an environment in which learning more easily could occur" (p. 4). This facilitation "includes the design of the environment, the organizing of resources, and the providing of tools" (p. 4).

This committee observed that "important to the newest research in educational technology is the use of authentic environments" (Januszewski & Molenda, 2008, p. 2) and that there has been a move "away from the design of prespecified instructional routines and toward the design of environments to facilitate learning" (p. 2). The design decisions researched for this study were in the field of educational technology.

Learning

Three fundamental perspectives on learning (Jonassen & Land, 2000) supported a conceptualization of learning for this research. Learning is "a process of meaning making, not of knowledge transmission" (p. v). Onboarding designers provide experiences to facilitate attitude acquisition that supports newcomer organizational--assimilation, commitment, identification and socialization (O-ACIS) and do not simply lecture or provide written content for cognitive learning. O-ACIS is part of the theoretical framework developed for this research.

Learning is also dialogue (Jonassen & Land, 2000), which means newcomers can be viewed as group members being socialized through dialogue with a community rather than simply as individual learners required to master pre-specified content in a classroom.

The third perspective on learning is that it occurs in a setting and therefore "tools and mediation systems that learners use to make meaning" (Jonassen & Land, 2000, p. vi) should be studied as part of onboarding program research.

Learning, for the purpose of this research, incorporates these three perspectives and is ultimately about changing newcomers' attitudes and abilities (permanent changes in the cognitive and affective domain). Designing instruction is about facilitating change (Spector, 2000, p. xiii). The two types of change that designers of orientation training and onboarding programs are primarily concerned with are: (a) changes in the newcomers' knowledge and attitudes necessary for organizational- assimilation, commitment, identification and socialization to occur and (b) changes in the newcomers' knowledge and skills that will enable them to quickly become fully productive.

Operational Excellence

A business strategy common in the oil and gas industry, operational excellence, emphasizes a disciplined focus on cost control, reliability, safety and environmental performance (Petroleum Human Resources Council of Canada, 2004).

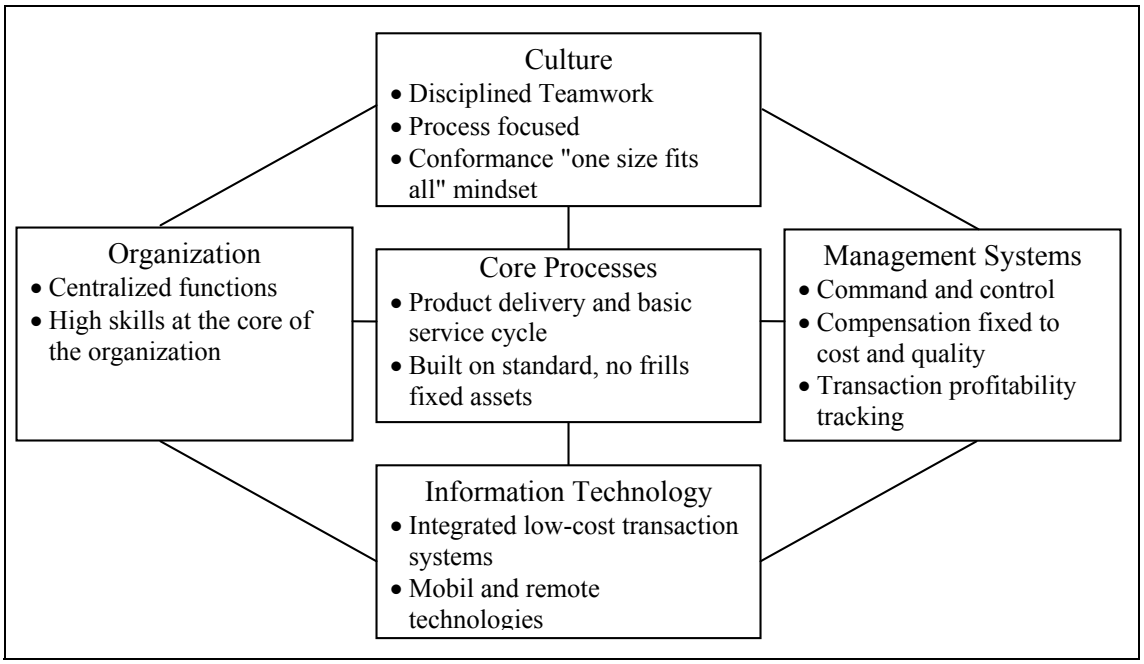

Figure 1**. Operational Excellence Operating Model.** ***Note*****. From** ***The Discipline of Market Leaders : Choose Your Customers, Narrow Your Focus, Dominate Your Market*** **(p. 52), by M. Treacy and F. Wiersema, 1995, New York: Basic Books. Copyright 1995 by Michael Treacy. Reprinted with**

permission.

Using a reliable process to achieve valued output is the hallmark of operational excellence. Companies that participated in this research study strove for operational excellence by implementing or improving onboarding programs designed to provide consistent learning experiences for newcomers.

Examples of the strategy's use at several oil companies were found in a variety of public documents (EnCana Corporation, 2006, Finlayson, 2007, Imperial Oil Ltd., 2006a, Kaplan & Norton, 2000, Petro-Canada, 2007).

Limitations and Delimitations

Research methodologies differentiate from each other by their unique characteristics. Five limitations and three delimitations are identified for this research study.

Limitations

Some limitations inherent in this research are:

1. Yin (1994) pointed out that generalization of case study research is to theory and not to populations. However, while the participating organizations could in no way be considered to be representative of other industrial corporations it is noted that of the 12 oil and gas companies that met the criteria for participation in this research, four participated and the researcher was familiar with the orientation training and onboarding programs of two more of the companies.
2. The researcher's industry experience and employment precluded three of the 12 oil and gas companies from consideration as case locations.

3. Observer and participant bias due to factors such as personal history, biography, gender, social class and race or ethnicity.
4. The risk of interviewee response bias or reflexivity causing change during the interview. In fact, reflection was explicitly identified as a potential benefit of participating in the research. As an example, during a pilot interview the designer said, "What did I take into consideration …these are good questions. Now I'm thinking, hmmm…" (Dilbert, May 25, 2007).
5. Potential participants did not all accept the invitation to participate, so interesting cases may not be included in the research data. Also, the participating designers made themselves available to varying degrees, so important information may not have been accessed during the research. Some documentation, particularly aggregate employee data was not available either because of company policy or simply because a company had not collected the data.

Delimitations

Delimitations specific to this research are:

1. The research was conducted during the second half of 2007 with some validation follow-up in 2009.
2. Case locations were only selected from oil and gas companies with upstream operations in Canada. Further, only four cases were studied to allow the research to be completed as planned. Fortunately, no participants withdrew from the research.
3. The descriptions of the designer decisions studied are acknowledged to be influenced by (a) the researcher's assessment of *who* will use the description and for what *purpose*, (b) *access* to decision-making processes, (c) *time* and (d) *technology* available to develop the description.

Organization of Dissertation

The research reported here provides a framework for examining design decisions made with respect to newcomer orientation training and onboarding. Business "how-to" literature typically itemizes recommended orientation topics yet exactly *how* this content contributes to newcomer socialization is largely unstated. Human Performance Technology (HPT) and Instructional Design (ID) provide theoretical frameworks for understanding how newcomer assimilation, commitment, identification and socialization can be furthered through designed learning experiences.

The Literature Review (Chapter 2) reviews literature on decision making, orientation training, onboarding, instructional design and human performance technology, and organizational- assimilation, commitment, identification and socialization (O-ACIS). A mixed methods multi-case study research methodology using the critical decision interview method and sorting tasks is described in the Methodology chapter (Chapter 3). Findings (Chapter 4) are organized by the participating companies. The Analysis chapter of the study (Chapter 5) discusses the research questions and then concludes with researcher insights. The final chapter (Chapter 6) contains discussion and conclusions about the implications of the analysis for theory and practice and recommendations. Appendix E lists the acronyms used throughout this study.

CHAPTER TWO: LITERATURE REVIEW

This literature review is composed of four major sections: (a) literature on decision-making, (b) literature on orientation training and onboarding programs for organizational newcomers, (c) a summary of (a) and (b), and (d) a theoretical framework for the study. What emerges from the literature review is that onboarding programs provide a newcomer with designed learning experiences that collectively form a learning environment. The learning environment is intended to accelerate the newcomer's job competency and organizational socialization. Organizational socialization and closely related constructs are reviewed: (a) organizational assimilation, (b) organizational commitment and (c) organizational identification.

The instructional design and human performance technology literature was reviewed to identify factors that can be used to analyze onboarding design decisions. Molenda and Pershing (2008) wrote that systematic instructional design and human performance technology are compatible and that both used the steps of analysis, design, development, implementation and evaluation.

A significant part of the learning for socialization concerns an organization's culture and so a brief discussion of organizational cultural theory is included in this literature review. Onboarding programs also accelerate the newcomer becoming fully productive through job competency and therefore the literature review concludes with a brief discussion of productivity.

Literature on Decision Making

Decision means “the making up of one's mind on any point or on a course of action; a resolution, determination” (Simpson, 2005, ¶ 3). Simon (1997) expanded that definition when he stated that “all behavior involves conscious or unconscious selection of particular actions.…by some process these numerous alternatives are narrowed down to that one which is in fact acted out" (p. 3). While there is a subconscious component to every decision (Gladwell, 2005), this study did not explore that aspect of decision-making.

There is a vast literature on decision-making. For example, an entire issue of Advances in Developing Human Resources (Chermack, 2003) was devoted to decision-making in the context of Human Resource Development. However, only a relatively limited amount of discussion and research on instructional designer decision making was located in the literature.[3] Studies typically reported designer self-reports regarding their use of an instructional systems design model.

Kinston and Algie (1989) developed "a precise account of ways of deciding and acting which can be explicitly and coherently adopted and applied in practice" (p. 129). They concluded "that there are at least seven distinctive and formally coherent approaches to decision and action" (Kinston & Algie, p. 118). Five of the approaches, or styles, correspond with traditional schools of philosophy (rationalism, empiricism, pragmatism, dialectic, and structuralism). The “systemic” style of decision making corresponds with

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[3] Carliner, 1998; Christensen & Osguthorpe, 2004; Kenny, Zhang, Schwier, & Campbell, 2005; Kerr, 1983; Moallem & Earle, 1998; Rowland, 1992; Saar, 1995; Visscher-Voerman, Visscher, & Schulten, 1997; Wedman & Tessmer, 1993.

systems thinking, while intuition has “been important in logic, metaphysics, and ethics, as well as in epistemology” (Lacey, 2003, p. 463).

Goitein and Bond (2005) subsequently did some minor relabeling of the seven decision making styles. For this research, Table 1 was adapted from Kinston and Algie (1989) and, as such, references both the Kinston and Algie, and the Goitein and Bond terminology. The instructional system design stages of design, develop, implement, evaluate and improve were added by the researcher (Table 1).

When designers engage in deliberations about orientation training or onboarding programs they may make decisions about the design, development, implementation, evaluation and improvement of learning experiences. Decisions are made using the styles shown in Table 1. Evidence (artifacts) that designer decision making has occurred is found in the intended outcomes, content, implementation and evaluation of orientation training and onboarding programs. For example, the inclusion of a topic such as the company mission statement in orientation training, is evidence that a designer decided to include the topic as part of the content of the training.

Decision making styles (Table 1) are found in the decision theories of a number of authorities. Kinston and Algie (1989) identified rationalist, empiricist, pragmatist, dialetic and structuralist styles in Simon's work. Goitein and Bond (2005) found Kinston and Algie’s empiricist, pragmatist and systems approaches to decision making incorporated in Klein's (1999) Recognition Primed Decision (RPD) model.

Lindblom’s (1977, 1980) work on incremental decision making provided insights into the effect of the environment on decisions and incorporates the rationalist, pragmatic, dialectic and structuralist styles.

Table 1. *Designer Decision Styles.*

Kinston & Algie and Goitein & Bond	Rationalist Value-Focused	Empiricist Empiricist	Pragmatist Pragmatist	Dialectic Multi-Party	Systemic Systems	Structuralist Structuralist	Intuitionist Imaginative
Key Idea	Articulate and pursue common goals	Data analysis based decision making	Seize the opportunity of the moment	Negotiate agreement	Analyze the system	Follow the rules	Generate creative solutions
Design (a): Start	Start with common goals & values	Note a problem and reduce to manageable size	Identify actionable opportunities	Acknowledge conflict and get a basis for discussion	Develop potential future scenario	Establish authoritatively that a structural failure is to be dealt with	Express a felt disquiet
Design (b) Explore	Specify feasible objectives and criteria	Define the real problem in resolvable terms	Emphasize maximizing advantage and existing strengths	Sort protagonists and the main arguments	Model critical features, constraints and inter-relations	Review organization and procedures (roles, staff, procedures)	Explore perceptions and feelings of all those involved
Design (c): Develop	Develop and analyze options	Obtain relevant facts and implications		Debate and negotiate	Use expertise to systematically simulate effects	Explore and resolve possible blockages	Incubate and play with images and any ideas that come
Design (d): Resolve	Assign priorities	Adopt the best solution	Seize the most attractive opportunities	Develop consensus by synthesis or compromise	Evolve an optimal-feasible strategy with thresholds in interventions/ Outcomes	Assign responsibilities	Crystallize inspiration
Develop	Develop detailed action plan	Pilot the solution	Develop convenient tactics	Document resolution agreement		Specify and assign specific tasks	Articulate vision and enhancement
Implement	Mobilize people and resources	Promulgate the solution	Persuade others to cooperate. Improvise and learn by doing	Delimit and phase action	Deploy flexible varied responses, ensuring situational control	Issue instructions and co-ordinate task execution	Lead with charisma. Interact fully with mutual support
Evaluate	Compare results with values and higher level objectives	Control process and obtain evidence the problem is resolved	Recognize danger signs, new opportunities, gains, losses during action	Check agreement is holding and if conflict is sufficiently resolved	Use model to check developments; analyze fit between outcomes & model	Monitor task execution and staff performance	Look for vision fulfillment and deep satisfaction with action and results
Improve	Adjust plans; or re-define a new mission or new key objectives	Revise protocol; or redefine the original problem	Switch tactics; or turn attention elsewhere	Re-activate debate, and work towards a different compromise	Modify the model or rethink the ideal scenario	Reassess tasks, roles, and staff needs; reassign or restructure as needed	Meditate afresh on the vision to refine or re-explore the worry area

Note. From "Seven Distinctive Paths of Decision and Action," by W. Kinston and J. Algie, 1989, *Systems Research, 6*, p. 119.

Finally, the “Garbage Can” model (Cohen, March, & Olsen, 1972) was a classic statement about the irrationality of many decisions which incorporates the pragmatist, dialectic and intuitionist decision making styles.

The work of key decision theorists is reviewed next.

Herbert Simon

Simon (1982g) wrote that most of the classical theories posited “(1) a set of alternative courses of action presented to the individual's choice; (2) knowledge and information that permit the individual to predict the consequences of choosing any alternative; and (3) a criterion for determining which set of consequences he prefers” (p. 212). The rational man of classical economic theory sought to maximize his utility or value function by selecting the alternative predicted to maximize preferred consequences (Simon, 1982g). Simon (1979, 1982c) pointed out that decision-makers can’t perceive and process all of the information present in the environment. He wrote that “complexity is deep in the nature of things, and discovering tolerable approximation procedures and heuristics that permit huge spaces to be searched very selectively lies at the heart of intelligence, whether human or artificial” (Simon, 1982f, p. 455). Humans faced with complexity and uncertainty, in these searches “must be content to satisfice--to find 'good enough' solutions to their problems and 'good enough' courses of action” (Simon, 1982b, p. 3). "Satisficing" was “aiming at the good when the best is incalculable” and “good, in turn, was defined by mechanisms that set aspirations and adjust these aspirations upward or downward in the face of benign or harsh circumstances” (Simon, 1982b, p. 3).

A “satisficing” search ended once an adequate alternative was identified. The other complexity resolved by "satisficing" is that it only requires that an alternative be adequate

on each dimension rather than the comparison of each alternative against all of the relative merits of all the other alternatives. Simon (1982d) said that if the aspiration level wasn't reached, a search for alternatives was induced and that the searcher's aspiration level simultaneously dropped to a more achievable level.

Repetitive, well-defined problems require minimal but systematic, exhaustive searches or "programmed" decisions. Programmed decisions are usually made by a designated individual or unit who carried out a well established procedure.

Unique problems which initially appear in a highly unstructured form required non-programmed decisions (Simon, 1982d). Decision-makers "use selective heuristics and … explore a small number of promising alternatives. They draw heavily upon past experience to detect the important features of the situation before them, features which are associated in memory with possibly relevant actions" (Simon, 1982a, p. 431). Based on studies of chess-players, Simon said that the expert can "detect familiar patterns in the situations that confront him, and by recognizing these patterns, to retrieve speedily a considerable amount of relevant information from long-term memory" (Simon, 1982a, p. 440).

Decisions can be classified on a programmed to non-programmed continuum. Programmed decisions are more amenable to mathematical modeling and statistical simulation than non-programmed ones and programmed decision making would therefore display more of the characteristics of classical theory than would be expected for non-programmed decision making (Simon, 1982d).

In this study, design decisions looked at here in the context of orientation training and onboarding programs were predominately of the non-programmed decision type. It was therefore important to describe the decision-maker making the design decisions, because

characteristics, such as level of expertise, were found to influence their decision process and decisions.

When explaining decision-makers behavior Simon believed the basic mechanisms of rational human behavior were "relatively simple …but that simplicity operates in interaction with extremely complex boundary conditions imposed by the environment and by the very facts of human long-term memory and of the capacity of human beings, individually and collectively, to learn" (Simon, 1982e, p. 491).

Garry Klein

The Recognition Primed Decision (RPD) model (Zsambok & Klein, 1997) is an example of a naturalistic decision making model. The model describes how people actually make decisions under conditions of time pressure, ambiguous information, ill-defined goals, and changing conditions. The RPD model was developed from research on experienced agents working in complex, uncertain conditions who faced personal consequences for their actions. However, the model has also been used to study skill levels and decision-making (with or without) high stakes and time pressure being present (Cesna & Mosier, 2004).

A diagram of the model was provided by Klein (1999) is shown in Figure 2. The RPD model begins with an expert decision maker making a decision in a new context. The decision maker endeavours to identify the decision as a typical situation though in a new context.

The expert recognizes a familiar pattern though the each situation has a unique context. The decision maker recognizes a typical situation or engages in a diagnosis

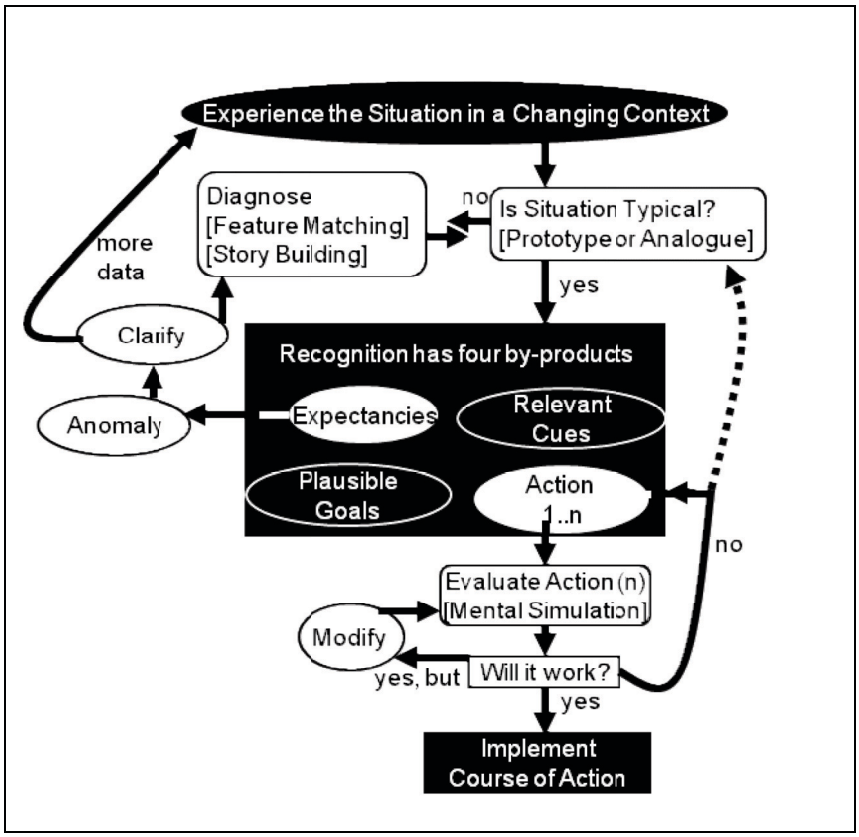


Figure 2. Recognition Primed Model of Decision Making. *Note.* From *Sources of Power : How People Make Decisions* (p. 27), by G.A. Klein, 1999, Cambridge, MA: The MIT Press. Copyright 1998 by Massachusetts Institute of Technology. Reprinted with permission.

process of matching features in the context to typical situations until the decision maker has developed a story about how the decision relates to more typical situations previously experienced.

Recognizing the decision as a typical situation (familiar pattern) allows the decision maker to formulate expectancies, achievable goals and action steps.

The decision maker has expectations about a typical situation; if these expectations are violated by an anomaly then the decision maker recycles back through clarification and data acquisition.

Cues in the situation confirm to the decision maker that the situation is typical, and therefore that implementing planned action steps will result in goal attainment. The decision maker confirms in a mentally simulation that the planned actions will work, with or without modification. If the planned actions will not work the decision maker recycles back until the new context is identified as a typical situation. The expert decision maker will either implement a course of action or be unable to match the context to past typical situations. In the latter case the expert decision maker would use some other model of decision making.

Klein (1999) stated that expert "decision makers do not start with the goals or expectancies and figure out the nature of the situation" (p. 26). Instead, they recognize the situation as a typical one and then set goals and form expectancies.

The validity of the RPD model has been evaluated in a wide array of decision-making contexts such as firefighting, tank platoon operations, command and control in navy cruisers, flight control in airplanes, chess tournament play and nursing in intensive care units. These diverse settings have provided consistent support for this model of decision making.

Key features of the RPD model for experienced decision makers were summarized by Klein (1999, p. 30):

> · The focus is on the way they assess the situation and judge it familiar, not on comparing options.
> · Courses of action can be quickly evaluated by imagining how they will be carried out, not by formal analysis and comparison.
> · Decision makers usually look for the first workable option they can find, not the best option.
> · Since the first option they consider is usually workable, they do not have to generate a large set of options to be sure they get a good one.

· They generate and evaluate options one at a time and do not bother comparing the advantages and disadvantages of alternatives.
· By imagining the option being carried out, they can spot weaknesses and find ways to avoid these, thereby making the option stronger.

Charles Lindblom

Lindblom (1968) criticized the classical rational approach wherein **all** goals and values are first clarified and ranked and then **all** methods of accomplishing the goals and values are considered in light of the consequences of pursuing **each** alternative; the option with the highest utility being selected. Conventional decision theory did not provide "a method for selecting which aspects of the problem to analyze when cognitive strain requires that some lines be abandoned' nor address 'how a solution is to be qualified or limited in practice to allow for the inevitable omissions of analysis'" (Braybrooke & Lindblom, 1963, p. 49).

Lindblom believed that decision makers restricted decision alternatives to a few alternatives which only differed incrementally from the current situation. There was no need for an exhaustive comparison of all possible alternatives; instead he found that it was only necessary for the decision maker to compare the differences between alternatives which only differed incrementally from the current situation (Lindblom, 1959).

More than Simon, Lindblom wrote about the difficulty of identifying, clarifying and developing consensus on the relative ordering and importance of goals and values (Lindblom, 1959; 1964). These difficulties could come about for a number of reasons: (a) a marginal value preference shift (Braybrooke & Lindblom, 1963), (b) "decision alternatives present different combinations of the values"(Lindblom, 1959, p. 82) and (c) " in many

instances men cannot know whether they prefer one alternative to another until they have experienced them both" (p. 82).

Dahl and Lindblom (1953) concluded that a major difficulty with classical decision theory was the theory's inability to determine which of various alternatives was of the highest worth to a decision maker. Incrementalism, therefore "compares the probable gains and losses of closely related alternatives by making relatively small adjustments in existing reality, or making larger adjustments about whose consequences approximately as much is known as about the consequences of existing reality, or both" (Lindblom, 1959, p. 82).

An advantage of incrementalism is that the decision-maker "need not try to analyze any values except the values by which alternative policies differ and need not be concerned with them except as they differ marginally" (Lindblom, 1959, p. 83).

A particularly interesting aspect of Lindblom's (1959) incrementalism was that decision makers' agreement on a policy could be obtained even when they would not agree on values. Successive comparisons of alternatives greatly reduced if not eliminated the need for a theory to guide actions (Lindblom, 1979).

Another advantage of incrementalist decision making was that consequences of alternatives close to existing reality was easier to predict than the consequences of distant alternatives (Dahl & Lindblom, 1953; Lindblom, 1959). Further, "if an error is made it can be fixed fairly quickly—more so than if more distinct steps [are] widely spaced in time" (Lindblom, 1959, p. 86).

Lindblom identified a consequence of incrementalism which was that it helped management to maintain control because incremental changes allowed both detailed management prescriptions and follow-up (Dahl & Lindblom, 1953).

The process of incremental decision making is: (a) a goal is established (explicitly or without conscious thought), (b) the few decision alternatives that come to mind are compared with each other on the basis of past experience and the trade-offs in goals and values inherent in each choice and (c) a choice is made with the expectation that the sequence will be repeated (Lindblom, 1959). An example of this form of decision-making in instructional design prototyping is described by Rowley (2005).

Cohen, March and Olsen

Cohen, et al. (1972) believed that decision processes were often poorly understood and that decisions in organizations were often made "on the basis of simple trial-and-error procedures, the residue of learning from the accidents of past experience, and pragmatic inventions of necessity" (p. 1).

Decision making rarely followed the prescriptions from classical decision theory. Instead a chaotic anarchy prevailed with “choices looking for problems, issues and feelings looking for decision situations in which they might be aired, solutions looking for issues to which they might be an answer, and decision makers looking for work” (Cohen, et al., 1972, p. 2). Cohen, et al. (1972) developed a simulation model based on their premises, which described a decision-making process “plagued with goal ambiguity and conflict” and “poorly understood problems” (p. 16).

Decision-making Summary

In this research the Kinston and Algie (1989) framework is used to describe and interpret designer decision making. The framework incorporates decision theory from Simon, Klein, Lindblom, and Cohen, and March and Olsen as shown in Table 2.

The Kinston and Algie (1989) framework was found to be useful because it: (a) is research based, (b) connects the decisions of the onboarding designers researched in this study to the models of key decision theorists, (c) can be organized as a process consisting of the steps of design, develop, implement, evaluate and improve and (d) is grounded in philosophy.

Decision making is a means to an end (a decision) and the literature on orientation training and onboarding decisions will now be reviewed with the aim of identifying decisions that can be studied.

Table 2. *Major Decision Theorists Incorporated into the Kinston and Algie Framework.*

Kinston & Algie Goitein & Bond	Rationalist Value-Focused	Empiricist Empiricist	Pragmatist Pragmatist	Dialectic Multi-Party	Systemic Systems	Structuralist Structuralist	Intuitionist Imaginative
Key Idea	Articulate and pursue common goals	Data analysis based decision making	Seize the opportunity of the moment	Negotiate agreement	Analyze the system	Follow the rules	Generate creative solutions
Simon	●	●	●	●		●	
Lindblom	●		●	●		●	
Cohen, March and Olsen			●	●			●
Klein		●	●		●		

Literature on Orientation Training and Onboarding

The word "orientation" is a general term involving the transition process of an individual into an organization. The terms acclimation, acculturation, adaptation alignment, assimilation, inculcation, integration, joining-up process, newcomer socialization, organizational entry, orientation, and transition can refer to the same thing in different organizations (Cuozzo, 1999; Wells, 2005).

Orientation training design decisions are made about learning outcomes and goals, content, implementation and evaluation.

Learning Outcomes and Goals

At the most superficial level, the newcomer is expected to learn orientation training content which may include details about the company history, benefits programs, product knowledge, etc. At a deeper level, the newcomer must "learn the ropes"; the knowledge and attitudes associated with O-ACIS.

Specific instruments for measuring O-ACIS features will be described in the Methodology chapter (Chapter 3) of this study. These instruments provided a useful means to describe and interpret onboarding designer goals. The newcomers' personal learning goals were not examined in this study.

The Learner (Newcomer)

Much of what has been written about newcomer orientation assumes that the newcomer was hired as a permanent career employee (Cardon, 2001; Estrin, 1997; Gibson, 1998; Kanouse & Warihay, 1980; McCarthy, 1992). There are a variety of ways to staff an organization besides using permanent career employees. Alternative staffing options include seconding employees from another organization, using temporary/finite term employees and engaging contractors. Contractors can also be consultants working as independents or in a consulting organization. Major (2000) expected organizations "to make substantial use of outsourcing, 'pooled' workers (i.e., call-ins, substitutes, and periodic part-timers), independent contractors, and temporary workers" (p. 356).

Newcomers were defined by Bauer, Bodner, Erdogan, Truxillo, and Tucker (2007) as individuals who have "been on a new job in a new company for 13 months or less" (p.

710). This definition is consistent with past research (Ashforth & Saks, 1996; Haueter, 1999; Ostroff & Kozlowski, 1992).

Newcomers are increasingly likely to be "wrinkly" (LaMascus, Bernard, Barry, Salerno, & Weiss, 2005). Statistics Canada census data showed that twenty-five percent of the oil and gas workforce will be 53 or older by 2009 (Petroleum Human Resources Council of Canada, 2004). In part because of a corresponding looming labor shortage, Canada has increased immigration rates over the past few decades.

Newcomers also vary in other ways than birth date and birth place, ways that are important to consider when designing orientation training and an onboarding program. For example, newcomers vary in their previous work experience (Jones, 1983) or in their proactivity in seeking out interactions (Reichers, 1987).

Because newcomers are increasingly diverse, diversity would be expected to be a consideration for orientation designers (Fisher, 1986; Jones, 1983; Ostroff & Kozlowski, 1992, Reichers, Wanous & Steele, 1994). Most instructional theorists identify learner analysis as an important component of instructional design (Rothwell & Benkowski, 2002; Pershing & Lee, 2004). Elements of a learner analysis relevant to orientation design may include demographics (location, type of work role hired for, prior experience, age, education, etc.), pertinent prior knowledge, expected time in organization, stress level, self-efficacy, cognitive style and the perceived value of the orientation training by newcomers.

In summary, organizational newcomers today enter organizations in a variety of arrangements besides as career employees. They bring increasingly diverse experiences and personality traits with them, as this study found.

Content

Content knowledge can be factual, conceptual, procedural or metacognitive (Anderson, et al., 2001). Designers make decisions about what content is included in orientation training and onboarding programs. Wanous and Reichers (2000) identified five general orientation topics: health and safety, terms of employment, the organization (e.g., history), stress coping methods and establishing and maintaining new interpersonal relationships. This researcher performed a content analysis of fifty-two business press articles which discussed orientation program content. Program content topics were identified and used in sorting tasks that are described in the Methodology chapter of this study (Chapter 3).

When Orientation Training is Delivered

According to Wanous and Reichers (2000) most writers agree that orientation training is one of the earliest events following newcomers' arrival. However, Wanous and Reichers themselves reported that "54 percent of the newcomer orientation programs occurred within the first 4 weeks on the job which seems to imply that some of them were spread out over a longer period of time than just the first week" (p. 436).

At least one large organization in the Canadian upstream oil and gas industry delivers newcomer orientation annually (Imperial Oil Ltd., 2006b) so that months may have elapsed since the arrival of some newcomers. This researcher finds that orientation training likely occurs within the first month or so following the newcomer's arrival but may sometimes occur several months after arrival.

How Orientation Training is Delivered (Methods)

Training delivery decisions result in synchronous or asynchronous contact between learners and instructors, format choices (web, classroom, other) and the use of varying combinations of problem-focused methods, emotion-focused methods and behavioural modeling skills training (Wanous & Reichers, 2000).

Onboarding

Impressions of an organization may be formed even before a relationship is formalized through negotiating a consulting contract or interviewing for a job. Lasting impressions may well be formed or revised, based on first day experiences (Lowe, 2006). Katz (1985) stated that "early socialization experiences are particularly important because they greatly influence how later experiences will be interpreted" (p. 133). However, all is not won or lost on the first day. Nelson (1985) said that socialization, “the process of adjusting to a new organization does not occur at once; rather, it is slow” (p. 103). Generally, organizational socialization “has been described as a three stage process of approximately nine months duration” (p. 16).

A Drake International NA (2005) whitepaper stated that onboarding is more far reaching than orientation training; it begins with first contact in the employment process and continues up to the end of the first year of employment. The number of phases and elements of onboarding programs vary, depending on the objectives and design of the onboarding program (Herrmann, 2005).

The onboarding process has been prescribed for newly hired supervisors (Corporate Leadership Council, 1999b), mid-career hires (Corporate Leadership Council, 1999a),

managers and executives (Reese, 2005; Rhodes, 2000; M. Watkins, 2007). It is increasingly being recommended for less senior newcomers (Rollag, Parise, & Cross, 2005; Wells, 2005). This research studied programs designed for most organizational newcomers (they were not restricted to specific groups such as supervisors or executives).

Moscato (2005) observed that onboarding could be time consuming. Onboarding newcomers occurs in a series of steps designed to socialize organizational newcomers through primarily assisting them with their learning about the organization.

This research used Arthur's (2006) conceptualization of onboarding:

- Onboarding provides specialized resources and intensive support.
- The onboarding process supports a close connection between an employee and her manager.
- Onboarding programs are customized to focus on the areas of greatest need for an individual's role in the company. (p. 319)
- Onboarding continues far beyond the point at which orientation training typically ends, lasting as long as a year or more. (p. 323)

An overview of a typical onboarding program was provided by Kyrzakos and Nador (2008). Successful onboarding of the newcomer has three potential benefits for the organization: (a) enhanced **productivity** because of cost and time efficiencies (Drake International NA, 2005), (b) increased **retention** (DelCampo, 2007) and (c) an increased **ability to attract** newcomers due to reduced newcomer stress (Beehr & Bhagat, 1985; Wanous & Reichers, 2000) and a positive market place image in terms of profile and reputation (Sullivan, 2006).

Summary of Literature on Decision Making, Orientation Training and Onboarding

Relationships between upstream Canadian oil and gas designer decisions, orientation training and onboarding are shown in Figure 3.

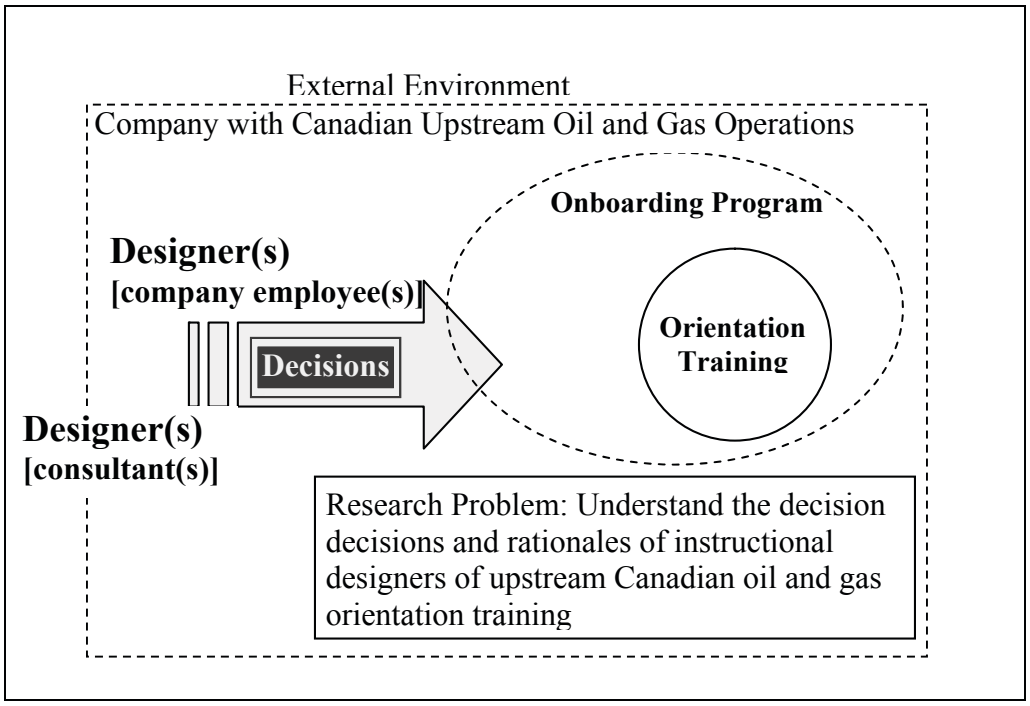


Figure 3. Designer Decision Making Model.

The **designers** interviewed for this research will be described in the Findings chapter (Chapter 4) by their: (a) experience, (b) education, (c) involvement with a company's orientation and (d) self-assessed level of expertise with respect to a company's orientation training and onboarding program. These factors help to define a designer's level of expertise.

Designers make many **decisions** while designing orientation training and onboarding programs. Decision theorists have discussed the process of decision making. The way (style) in which the decision process is carried out will be classified with the Kinston and Algie (1989) framework.

The **orientation training** and broader **onboarding program** decisions reported in the Findings chapter (Chapter 4) were about intended outcomes, the newcomer, content (topics) and evaluation. Delivery method and timing decisions are not reported to ensure

the anonymity of the designers and their companies. However, sufficient details about each **company** and its **environment** will be given to communicate the context of the decisions.

Theoretical Framework for the Study

Instructional design and human performance technology processes begin with an 'analysis' which is either supplied to the designer or performed by the designer (Figure 4). The analysis can include needs assessment or goal analysis, learner analysis, contextual analysis and task analysis (Morrison, Ross, & Kemp, 2004). The designer then establishes goals for the onboarding program which include the O-ACIS of newcomers. Specific learning objectives guide content selection and presentation. Learning experiences create a learning environment which newcomers experience when the onboarding program is implemented. Effectiveness of the onboarding program can be evaluated in terms of the original needs assessment or goal analysis—has the gap been closed between what is and what should be? Have the goals been achieved?

Instructional design and human performance technology literature provide the basis for the theoretical framework which guided data collection, analysis and answering the research questions.

Next, this report describes the study's theoretical framework in the following sections outlined in Figure 4: (a) instructional design, (b) human performance technology, (c) organizational assimilation, (d) organizational commitment, (e) organizational identification, (f) organizational socialization, and (g) culture.

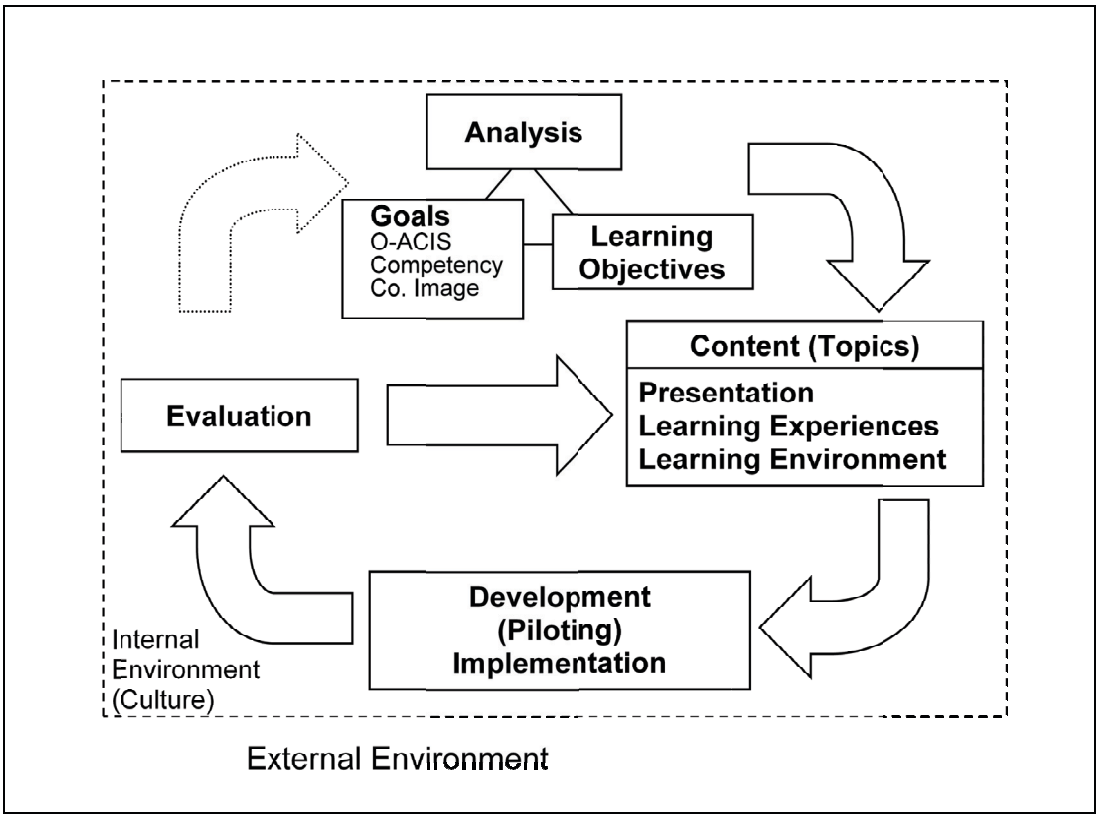


Figure 4. Theoretical Framework Model.

Instructional Design (ID)

To "*design"* is to "form a plan or scheme of; to conceive and arrange in the mind; to originate mentally, plan out, contrive" (Simpson, et al., 2005). Richey (1986) defined instructional design as "the science of creating detailed specifications for the development, evaluation, and maintenance of situations which facilitate the learning of both large and small units of subject matter" (p. 9). Nearly twenty years later, Morrison, Ross, and Kemp (2004) qualified Richey's usage of "science" by noting that the instructional design process "has not reached a level of scientific exactness" (p. 13).

A wide variety of instructional design theories and models have been described in Reigeluth (1983, 1999) and Gustafson and Branch (1997, 2002). The Layers of Necessity

model (Tessmer & Wedman, 1990) incorporates decision making about the degree of use of the generic stages of analyze, design, develop, implement and evaluate; based upon situational variables such as the expertise of the designer, stakeholder requirements, available resources, etc. To these situational variables can be added the decision making style of the designer. In their meta-model of instructional design, Roberts, Conn, Lohr, Hunt, and Duffy (2003) said that the designer's perspective was philosophically based. As previously discussed, the decision styles articulated by Kinston and Algie (1989) in Table 1 are also grounded in philosophical traditions.

Situational learning from mentoring and socialization, which occurs in onboarding programs, is described by Bandura and Walters (1963). To design instruction for situational learning, Young (1993) recommended the use of scaffolding, supporting facilitation and learning assessment. Sometimes, a supporting coach or learning facilitator (a mentor, manager or peer) can provide specific observations, hints and reminders, feedback and modeling (Herrington & Oliver, 1995).

The Gentry (1994) Instructional Project Development and Management (IPDM) model particularly suits onboarding design theory development because it is "suitable for developing large-scale systems" (Gustafson & Branch, 1997, p. 71). The IPDM model emphasized communication and a project orientation. Five supporting components in the model (management, information handling, resource acquisition and allocation, personnel, and facilities) operationalize the more traditional instructional development functions of analysis, design, development, implementation and evaluation (Gentry, 1980, 1994). Gentry (1994) provided "a comprehensive introduction to the processes and techniques of

instructional development" (Gustafson & Branch, p. 72) which included instructional development job aids.

Richey (1986) stated that “any attempt to construct a comprehensive theory of instructional design would have to include… the affective domain” (p. 10). Kamradt and Kamradt (1999) provided a foundation for incorporating the affective domain into an instructional design model relevant to onboarding design theory development. They discussed a four step process for helping a learner to change an attitude which involved: (a) activating the attitude, and discussing (b) associated feelings, (c) what the learner was thinking and (d) why the learner did what they did. The most dissonant component is addressed—feelings with operant conditioning techniques, thinking with persuasion, and behavior with modeling. Mager (1984) overviewed the use of operant conditioning for attitude change while Bednar and Levie (1993) discussed designing persuasion instruction.

Orientation training design decisions result in newcomer learning experiences and a learning environment. Design decisions result in learning experiences that occur in a learning environment, or context. The learner context was discussed by Tessmer and Ritchie (1997) as it impacts the learner's perception of, and reaction to, the learning experience. This, in turn, effects the environment, thus starting an iterative cycle.

Dijkstra (2000) wrote that “all environments can function as learning environments” (p. 230). The learning environment is designed or else it is created by circumstance. Orientation training design decisions result in a designed learning environment.

A constructivist learning environment is “a place where learners may work together and support each other as they use a variety of tools and information resources in their guided pursuit of learning goals and problem-solving activities” (Wilson, 1996, p. 6). An

onboarding designer can encourage formal and informal learning with "a learning environment [that] can include structured and unstructured settings" (Robinson, Molenda, & Rezabek, 2008, p. 38).

A learning environment is the synthesis of many elements which may vary in their significance. Some elements discussed by Dunn and Dunn (1978) included the physical environment, "course" structure and sociological arrangements. Other elements have been afforded by computer technology; for example, Bonk and his colleagues reviewed options such as mobile blended learning, increased global connectedness, community and collaboration, increased authenticity and on-demand learning (Bonk, Kyong-Jee, & Zeng, 2006).

Lombardozzi (2008) identified four resource components that can be used to create a learning environment. The four components were: (a) study and reference materials, (b) relationships and networks, (c) formal learning activities and (d) support from managers and company programs. "Learning environment components constitute a mix of static materials and interpersonal relationships, just-in-time resources and more comprehensive formal learning programs, self-provisioned materials and deliberate teaching and coaching, formal education and informal learning" (Lombardozzi, p. 2). These components would be mutually reinforcing and support learning and the application of that learning, if properly implemented.

The importance of design and the environment was well-summarized by Fletcher (2004) who said that, "to a great extent, successful instruction is a matter of design—the creation of an environment to maximize the probability that learning will occur and that specified instructional objectives will be achieved by every student" (p. 135).

Instructional Design Summary

Reigeluth (1996) said that instructional system design "is basically a process for making decisions about the nature of instruction" (p. 15) and that the process "should be viewed as (and is, in fact, even now intuitively performed by ISD [instructional systems design] experts as) a series of decisions" (p. 15). Morrison, Ross and Kemp (2004) said that to make those decisions the designer fundamentally needed information about: (a) the learners' characteristics, (b) the learning objectives, (c) how the content or skill is best learned and (d) how to best evaluate the learning. Design is rarely straightforward and is usually an iterative evolution of design specification and potential solutions (Benyon, Turner, & Turner, 2005). As such, an orientation training design is a set of decisions about planned experiences intended to facilitate newcomers' learning. These planned learning experiences, in combination with any unplanned learning experiences, create a learning environment.

Human Performance Technology (HPT)

Jacobs (1987) said that HPT "is the development of human performance systems and the management of that development, using a systems approach to achieve organizational and individual goals" (p. 12). As researchers increasingly realized that training did not inevitably result in improved performance, O'Driscoll (2003) observed that people also needed tools, authority, clear expectations and not to be punished for fulfilling the expectations.

The designer "expects a pledge of support from top management and the necessary financial and time resources" (Van Tiem, Moseley, & Dessinger, 2004, p. 134) to be able to implement a new or revised onboarding program.

A model of the HPT process (Figure 5), with a book length elaboration was provided by Van Tiem, et al. (2004).

Rothwell (W. Rothwell, personal communication, April 9, 2008) confirmed that the HPT model had been peer reviewed as did Van Tiem, the principal author of the HPT model sanctioned by the International Society for Performance Improvement (D. Van Tiem, personal communication, April 8, 2008).

Three topics from HPT which are especially germane to onboarding program design decisions which will now be discussed are: (a) HPT analysis and environmental factors, (b) HPT and non-instructional solutions and (c) HPT linkage of strategy and onboarding programs.

HPT Analysis and Environmental Factors

The context or environment for an onboarding program is a key consideration in designers' decision making (Figure 3). The strengths, weaknesses, opportunities, threats framework (Leigh, 2006) was used in the research interview guide (Appendix B) to gather data used to analyze the internal and external environments of the designers' companies. Application of the SWOT framework to human performance technology was discussed by Leigh (2006).

HPT Links Strategy and Onboarding Programs

R. Watkins (2006) discussed the alignment of HPT decisions with organizational strategy. He stated that designers are "continually being challenged to interpret the strategic goals and objectives of their organization as guides toward their own success and the success of their projects" (p. 191) and "performance technology projects regularly have the unique opportunity to align individual performance and decision making with the strategic objectives of an organization and its clients" (p. 203).

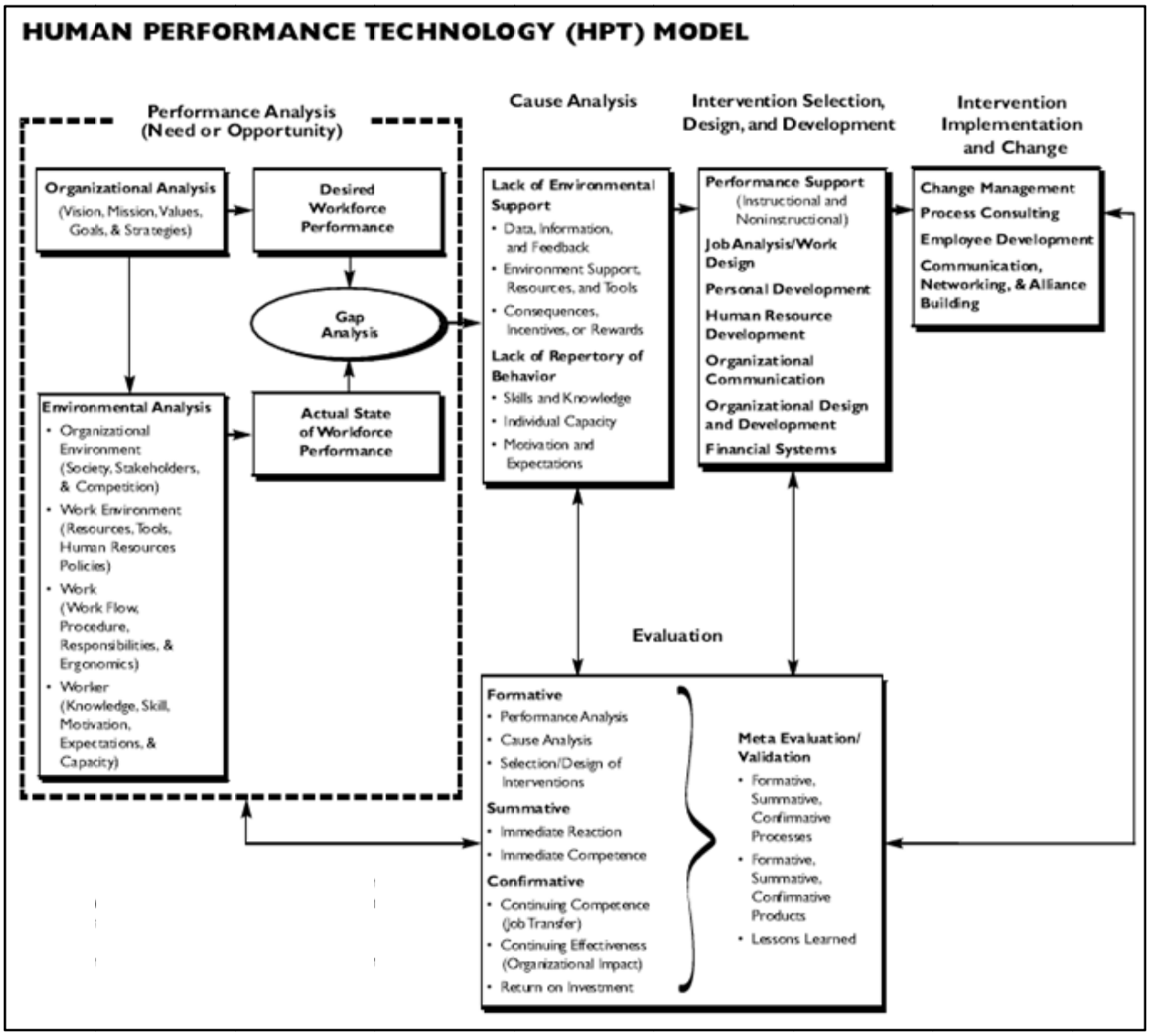


Figure 5. Human Performance Model. *Note.* From *Fundamentals of Performance Technology: A Guide to Improving People, Process, and Performance* (2nd ed., p. 62), by D. Van Tiem, J. Moseley, and J. Dessinger, 2004, Washington, DC: International Society for Performance Improvement. Copyright 2004 by the International Society for Performance Improvement. Reprinted with permission.

Management objectives are more likely to be accomplished by committed as opposed to uncommitted organizational members. Commitment to organizational goals and values is achieved through socialization processes which may (or not) include orientation

training and an onboarding program. Organizational socialization and the related constructs of O-ACIS will be discussed later in this Literature Review.

HPT and Non-Instructional Solutions

Non-instructional factors (Van Tiem, et al., 2004) were included in the research interview guide to gather data used in analysis of the internal and external environments of the designers' companies.

Instructional design and human performance technology models start with decisions about analysis, goals, and learning objectives. Content (topics) decisions are then made about what content will be used and how it will be presented. These decisions lead to the design, development and presentation of learning experiences that interactively contribute to a learning environment.

The learning environment influences the achievement of newcomer O-ACIS and is in turn influenced by the internal environment, or culture, of an organization. The goal sub-elements of O-ACIS (Figure 4) will now be discussed. Evaluation of the results of orientation training and an onboarding program will either lead to revision of the content or reassessment of the goals and learning objectives. Evaluation is in terms of productivity and this Literature Review therefore concludes with a brief discussion of productivity.

Organizational Assimilation

Organizational assimilation literature has existed within orientation training literature since the late sixties (Meier & Hough, 1982). Hess (1993) said that assimilating new employees could be frustrating for both newcomers and the organization, and offered assimilation process improvement suggestions.

Jablin (2001), in an extended review of organizational entry and assimilation, discussed factors that impact the newcomer's learning long before the first day at their new organization and which continued for months thereafter. Planned factors included "orienting, socialization, training, [and] formal mentoring" (Jablin, p. 759).

A validated organizational assimilation index comprised of six dimensions of organizational assimilation was described by Myers and Oetzel (2003). The dimensions were: (a) familiarity with others, (b) organizational acculturation, (c) recognition, (d) involvement, (e) job competency, and (f) adaptation/role negotiation. Myers confirmed (K. Myers, personal communication, March 27, 2005) that she developed the index in the absence of any comparable existing measure. Myers and Oetzel (2003) viewed organizational assimilation as "the processes by which individuals become integrated into the culture of an organization" (Jablin, 2001, p. 755). Items from this organizational assimilation index were used in this research.

Organizational Commitment

Commitment has been studied for over thirty-five years "relative to a variety of social groups, including employing organizations, unions, and occupations" (Beyer, Hannah & Milton, 2000, p. 331). Hellman (2000) reported higher levels of organizational commitment in newcomers who attended the formal orientation compared to those who didn't during their first sixty days with a company. Commitment was described as "a multidimensional construct that certainly includes an affective dimension and may include components that reflect normative pressures as well as practical considerations such as the costs of leaving an organization and locating another job with similar pay and benefits" (Fields, 2002, p. 44).

Allen and Meyer (1990) integrated earlier conceptualizations of organizational commitment within a three-component model. Affective commitment concerned feelings of attachment to the organization. Continuance commitment concerned an individual's assessment of the exchange in their current employer relationship compared with alternatives. Normative commitment "reflects a feeling of obligation to continue employment. Employees with a high level of normative commitment feel that they ought to remain with an organization" (Fields, 2002, p. 43).

Porter, Steers, Mowday, and Boulian (1974, p. 604) defined organizational commitment as "the strength of an individual's identification with and involvement in a particular organization" and developed an Organizational Commitment Questionnaire (OCQ). Delobbe and Vandenberghe (2000) added that the strength of the identification and involvement with an organization "is characterized by three factors: a) a strong belief in and acceptance of the organization's goals and values; b) a willingness to exert considerable effort on behalf of the organization; and c) a strong desire to maintain membership in the organization" (p. 126).

Cooper-Thomas and Anderson (2002) concluded that the OCQ questionnaire was "robust for research with organizational newcomers" (p. 428). Questions from the instrument developed by Mowday, Steers, and Porter (1979) were used in the research for this study.

Organizational Identification

Organizations have an identity and individuals identify with organizations.

Whetten (2006) defined organizational identity as "the central and enduring attributes of an organization that distinguish it from other organizations" (p. 220). Pratt and

Foreman (2000) wrote that central attributes were those that insiders felt were fundamental to the organization and argued for the concept of multiple identities within an organization as "there exist several different views about what is central, distinctive, and enduring about the organization" (p. 20). Research conducted on the Hanson Institute of Psychiatry supports the multiple identities viewpoint (Harrison, 2000).

The "enduring" nature of organizational identity was discussed by Meyer, Bartunek, and Lacey (2002) who identified factors that contribute to the relative stability of an organizational identity. Gioia, Schultz, and Corley (2004) argued from a realist ontology, however, that an apparently stable organizational identity was actually somewhat fluid. They mean that labels can stay the same but are regularly redefined.

Moingeon & Soenen (2002) stated that organizational identity is professed, projected, experienced (more or less consciously), manifested and attributed by stakeholders. Ashforth and Mael (1989) reported that organizational identification was recognized as an important construct in the organizational behavior literature since 1969. Management wants newcomers to identify with their organization. Scott and Lane (2000) said that "people identify with organizations when they perceive an overlap between organizational attributes and their individual attributes" (p. 47). Mael and Ashforth (1992) reconceptualised organizational identification as "a perceived oneness with an organization and the experience of the organization's successes and failures as one's own" (p. 104).

The Tompkins and Cheney definition (as cited in Myers & Oetzel, 2003) is used for this research. "*Organizational identification* refers to a member's perception that the organization's values and interests are of primary concern with evaluating decision alternatives" (p. 441). Items from Mael and Ashforth's (1992) organizational identification

scale and Cheney's (1983) organizational identification questionnaire were used in this research as described in the Methodology chapter.

Organizational Socialization

Socialization theory specific to the newcomer is found in many articles published over the past three decades. Van Maanen and Schein (1979) wrote a foundational article on organizational socialization in which they stated that a newcomer is "*taught and learns* [italics added] what behaviors and perspectives are customary and desirable within the work setting as well as what ones are not" (p. 211). Orientation training and onboarding programs for organizational newcomers contribute to newcomers' socialization (Bauer, et al., 2007; Saks & Ashforth, 1997). Morrison (2002) reported that empirical research has "highlighted the importance of insiders, especially peers and supervisors, for helping newcomers to acquire information and 'learn the ropes'" (p. 1149).

Wanous, Reichers, and Malik (1984) summarized socialization stage models offered by various authors in a table which is partially reproduced below as Table 3.

Table 3. *Stages of Socialization.*

Feldman's (1976a, 1976b) Three-Stage Model	Buchanan's (1974) Three-Stage Early Career Model	Porter, Lawler, & Hackman's (1975) Three-Stage Entry Model	Schein's (1978) Three-Stage Socialization Model	Wanous' (1980) Integrative Approach to Stages of Socialization
Stage 1: Anticipatory socialization—"getting in" Setting of realistic expectations Determining match with the newcomer	Stage 1: First year—basic training & initiation Establish role clarity for newcomer Establish cohesion with peers Clarify relationship of peers with rest of organization Confirmation/disconfirmation of expectations Loyalty, conflicts	Stage 1: Prearrival Setting of newcomer expectations Reward and punishment of behaviors	Stage 1: Entry Search for accurate information Climate of mutual settings Creation of false expectations by both parties Inaccurate information is basis for job choice	Stage 1: Confronting and accepting organizational reality Confirmation/disconfirmation of expectations Conflicts between personal values and organizational climates Discovering rewarded/punished behaviors

	with organizational and outside interests			
Stage 2: Accommodation--- "breaking in" Initiation into the job Establish interpersonal relationships Roles clarified Congruence between self and organizational performance appraisal	Stage 2: Performance— years two, three and four at work Commitment to organization according to norms Reinforcement of self-image by organization Resolution of conflicts	Stage 2: Encounter Confirmation/disconfirmation of expectations Reward and punishment of behaviors	Stage 2: Socialization Accept organizational reality Cope with resistance to change Congruence between organizational climate and person's needs Organization's evaluation of newcomer's performance Cope with either too much ambiguity or too much structure	Stage 2: Achieving role clarity Initiation to the job's tasks Definition of interpersonal roles Coping with resistance to change Congruence between self and organizational performance appraisals Coping with structure and ambiguity

Note. From "Organizational socialization and group development: Toward an integrative perspective," by J. Wanous, A. Reichers, & S, D, Malik, 1984, *Academy of Management Review*, *9,* p. 672. Copyright 1984 by Academy of Management. Adapted with permission.

A stage model could be used by an onboarding designer when making decisions about content and as a proxy for learner analysis.

Organizational socialization is "the process by which employees acquire knowledge about and adjust to new jobs, roles, work groups, and the culture of the organization in order to participate successfully as an organizational member" (Haueter, Hoff Macan, & Winter, 2003, p. 21). Haueter, et al. developed the Newcomer Socialization Questionnaire (NSQ) which contains 35 items divided into three sections: organizational socialization (12 items), group socialization (12 items) and task socialization (11 items). Items from the organizational socialization scale were used in this research.

Socialization is Primarily a Learning Task

Schein (1968) said that the process of organizational socialization was essentially a learning task. In a frequently cited article, Van Maanen (1978) wrote that newcomers were motivated to reduce their anxiety (stress) by quickly "*learning* [italics added] the functional

and social requirements of their new role" (p. 20). Van Maanen and Schein (1979) stated that "what people learn about their work roles in organizations is often a direct result of how they learn it" (p. 209). How people learn about their role is of paramount importance to their organization.

An onboarding program delivers designed learning experiences which create a learning environment sanctioned by the organization's management. Fisher (1986) also defined organizational socialization as primarily a learning process for the newcomer as did Cooper-Thomas and Anderson (2005) who stated that newcomer learning is "at the heart of any organizational socialization model" (p. 117). Orientation training as part of a broader onboarding program can contribute to newcomer socialization (Klein & Weaver, 2000).

Culture

In a report prepared for Alberta Employment, Immigration and Industry (Applications Management Consulting Ltd., 2007, p. 39) it was stated that the most frequently identified method of retaining employees by oil and gas companies was "culture".

Beyer, et al. (2000) stated that culture had been labeled and defined in "myriad ways" (p. 323) and that "organizational researchers and anthropologists who specialize in studying culture disagree on what culture is and use different sets of words to define the construct" (p. 324). A reason for this is that definitions of culture reflect three different ontologies, three different epistemologies and a variety of methods—all of which can be combined in a variety of ways (Ashkanasy, Widerom, & Peterson, 2000).

Schein (2000) said that “Cultures exist at regional and national levels, at the industry or institutional level, and at the organizational level. There are also occupational cultures and subcultures within organizations based on functions and tasks” (p. xxix).

Organizational culture was conceptualized for the present study as:

> the pattern of basic assumptions that a given group has invented, discovered, or developed in learning [italics added] to cope with its problems of external adaptation and internal integration, and that have worked well enough to be considered valid, and, therefore, to be taught [italics added] to new members as the correct way to perceive, think, and feel in relation to those problems. (Schein, 1984, p. 3)

Akdere and Schmidt (2007) extended the learning period for newcomers to include “the steps of the hiring process” (p. 234) and hence culture is communicated even before the newcomer arrives for the first day and can extend through the first year with the organization.

Newcomer Productivity

A basic economic definition of productivity is output divided by input (Molenda & Pershing, 2008). Smith (1995) wrote that most definitions of productivity also include "profitability, efficiency, effectiveness, value, quality, innovation, and quality of work life” (p. 1). Besides ratios and definitions historically established for manufacturing, the service sector has developed productivity measures for “quality, on-time delivery, and customer satisfaction” (p. 6). In this study, productivity means that resources are directed towards management’s most highly valued objectives. This in turn requires “knowing what to do, what is acceptable, and achieving the “right” goals or objectives” (p. 7).

Employee turnover can affect productivity negatively. If learning is instrumental to newcomer productivity then retaining newcomers will eliminate the need to train

replacements for newcomers that leave the organization. A useful article in the literature reported on a nursing turnover rate of approximately 30% at a hospital medical/surgical unit. The orientation experience was one of the two key issues identified by both nurses who had stayed on the unit and those who quit (Blaufuss, Maynard, & Schollars, 1992).

CHAPTER THREE: METHODOLOGY

This chapter identifies the philosophy underpinning this research, with a rationale for selecting a mixed methods approach to case studies that provided the findings for this research. The chapter concludes with the researcher's consideration of data sampling, validity, reliability and bias in the study.

Philosophy

Ontological assumptions are at the core of social phenomenon investigation (Bhaskar, 1975; Cohen & Manion, 1989; Danermark, Ekstrom, Jakobsen, & Karlsson, 2002). Critical realists have adopted a variety of positions (Danermark, et al.; Drake, et al., 1968; Mohan & Wilke, 1980; Warren, 1965) including that taken by Donald T. Campbell (Campbell, 1988; Cook & Campbell, 1979). However, few critical realists would disagree with the statement that critical realism is a philosophical reconciliation of "the real, independent, objective nature of the world (realism) with a due appreciation of the mind-dependence of the sensory experiences whereby we know about it" (Blackburn, 1996, p. 88).

"The leading British figure in the late twentieth-century revival of realist metatheory in philosophy and the social sciences is Roy Bhaskar" (Marshall, 1998). Bhaskar believed that: (a) causal mechanisms underlie social reality, (b) causal mechanisms act contingently as social science is not experimentally closed, (c) abstractions extract the core of the phenomenon, (d) reality has stratified layers, (e) theories about reality are influenced by a number of social mechanisms including the political, economic and social conditions of the society, and (f) observations are value laden (Danermark, et al., 2002;

Dobson, 2002; Lund 2005; Schostak, 2002). A qualitative case study "is a method very well suited for acquiring knowledge about such mechanisms or laws" (Danermark, et al., p. 75).

In research, claims can be explanative but never predictive because societies are open systems (Bhaskar, 1975). In other words, an onboarding program's contribution to newcomer socialization may be explained using findings and analysis; but socialization outcomes cannot be predicted because there are too many situationally specific variables at play in a naturalistic setting.

Rowland (1995) suggested that any research study reflects a particular worldview composed of at least three philosophical layers, those being ontological beliefs, epistemological assumptions and methodological choices. After examining 13 distinctions between qualitative and quantitative research, Lund (2005) concluded that "the two approaches should be considered grounded on the same philosophical assumption, namely critical realism" (p. 129).

Research should be guided by theory, and methods should be mixed as needed to study a reality (Danermark, et al., 2002). Onwuegbuzie (2000) observed that "research methodologies are merely tools that are designed to aid our understanding of the world" (p. 10).

Rationale for Multi-Case Study Approach

Richey and her colleagues stated that an appropriate way to research design tasks would be to use a case study with retrospective analysis (Richey, Klein & Nelson, 2004; Richey & Nelson, 1996). The aim of what they termed "Type II developmental" research

was to model the design process and identify principles that guided the design process, thereby providing "a logical explanation of reality" (Richey, et al., p. 1101).

Patton (1990) identified several themes associated with research positioned closer to the qualitative than the quantitative end of the continuum. The designer's decisions were studied as **naturalistic** phenomena from a **holistic** and **unique case** perspective This researcher used qualitative data acquired through researcher **contact and insight** while maintaining **empathetic neutrality**. This researcher also recognized the reality of **dynamic systems** when studying orientation training and onboarding programs.

The case study methodology is: (a) aligned with a critical realist ontology and epistemology, (b) appropriate for addressing questions about design decisions associated with orientation training and onboarding programs and (c) feasible, given the resources available for the research. A case study approach was therefore selected as the methodology for this research.

Since this study was designed to be a complete study on its own and not a prelude to further studies (e.g. a pilot case for a multiple-case study) a multi-case studies design was chosen (Yin, 1994). The decisions made by designers of orientation training and onboarding programs in an oil and gas company with upstream operations in Canada were a bounded collection.

A case study benefits from the prior development of theoretical propositions to guide data collection and analysis (Naumes & Naumes, 1999; Yin, 1994). Recognizing that case study research requires a flexible approach, this researcher stated initial study propositions, as suggested by Yin. These propositions were that designers of orientation training: (a) pre-establish goals and outcomes, (b) understand some of the relevant

characteristics of organizational newcomers, (c) want newcomers to learn content, (d) make content scope and sequence decisions, (e) make decisions about media for delivery and (f) assess outcomes of orientation training.

The researcher used the following process for planning, data collection and the analysis of the data:

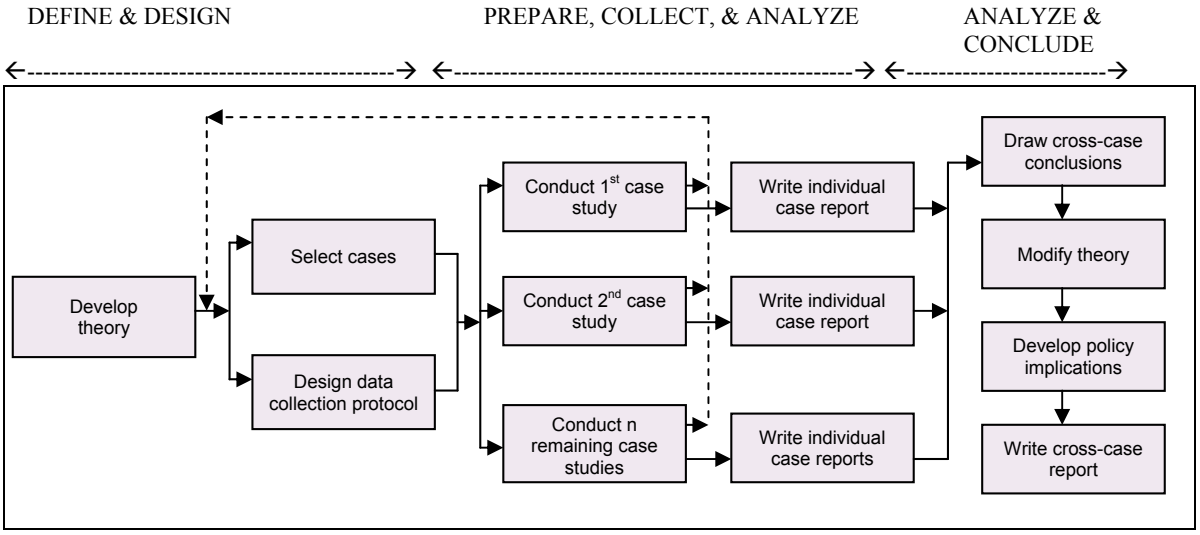


Figure 6. Multiple Case Studies Process. *Note.* From *Case Study Research : Design and Methods* (2nd ed., p. 49), by R. Yin, 1994, Thousand Oaks, CA: Sage. Copyright 1994 by Sage Publications. Reprinted with permission.

Designers at the four companies where this research was conducted were knowledgeable informants about the deliberations and decisions made regarding their company's onboarding program and orientation training. The research, however, would have been enhanced if more evidence from additional research participants had been interviewed.

Methods

Johnson and Onwuegbuzie (2004) concluded that "the bottom line is that research

approaches should be mixed in ways that offer the best opportunities for answering important research questions" (p. 16) and "what is most fundamental is the research question—research methods should *follow* research questions in a way that offers the best chance to obtain useful answers" (p. 17).

Six data sources were initially considered for use: (a) documentation, (b) archival records, (c) interviews, (d) direct observations, (e) participant-observation and (f) physical artefacts (Yin, 1994); documentation and interviews were used.

Because the principal data source used in this research was interviewing, most of this section reviews cognitive task analysis and the critical decision method. In addition to participating in cognitive task analysis interviews, participants were asked to complete three sorting tasks which will also be described in this section.

The information for this research was collected sequentially. First a qualitative interview was conducted. During the interview, the interviewee was asked to do a quantitative data sorting task which was started during the interview and completed after the interview. A second qualitative interview was conducted, typically before the research participant had returned the data sorting information. During the interviews supporting documentation was requested when the participant referenced it.

This mixed methods research study is primarily qualitative but also contains a quantitative component; recognizing that qualitative and quantitative research can be viewed as being on a continuum rather than as dichotomous (National Science Foundation, 2003).

Cognitive Task Analysis (CTA)

In a widely cited article Cooke (1994) traced the conceptualization of knowledge

elicitation from “extracting” knowledge directly from the expert to a view of knowledge acquisition as a modeling process resulting from the joint efforts of the knowledge engineer and the expert. This researcher acknowledges that "language is clearly both referential and representational; it describes the world, and is limited in its possible descriptions by an externally existing reality, as well as generating new realities” (Filmer, Jenks, Seale, & Walsh, 1998, p. 24).

A contemporary meta-review of many cognitive task analysis techniques was provided by Schraagen, Chipman and Shalin (2000). To these authors, cognitive task analysis is described as “the extension of traditional task analysis techniques to yield information about the knowledge, thought processes, and goal structures that underlie observable task performance” (Chipman, Schraagen, & Shalin, 2000, p. 3). Cognitive task analysis is most useful “where tasks involve problem solving and decision making are not algorithmic” (Means, 1993, p. 101).

A streamlined form of the analysis is called Applied Cognitive Task Analysis. Applied cognitive task analysis (ACTA) is briefly described by Klein (1995) and elaborated on by Militello and her colleagues (Militello & Hutton, 1998; Militello, et al., 1997).

The designers interviewed for this research were performing cognitive tasks when they made decisions about the design of the orientation training and onboarding programs. The critical decision method is a method of cognitive task analysis used to study decision making in a natural context (Hoffman & Woods, 2000) and so cognitive task analysis was therefore selected as a method for the research. Discussion with Laura Militello confirmed the choice of the Critical Decision Method for this research (Militello, personal communication, 2007).

Semi-structured Interview (Critical Decision Method (CDM)

A CDM interview starts with the interviewer asking an interviewee for a brief description of a selected incident and continues with the probing of different aspects of decisions using a semi-structured interview (Crandall, Klein, & Hoffman, 2006).

The researcher's interview guide incorporating the critical decision method, is Appendix B of this study. Participant responses to the interview questions provided qualitative findings describing the designers' decision process and their decisions about onboarding intended outcomes, program content, implementation and evaluation.

Sorting Tasks

Coxon (1999) defined the sorting process as "subjects allocating a set of objects into categories of their own choosing (although in the case of some sortings, the category system already exists)" (p. 3) and described a number of sorting methods. The sorting tasks that participants performed are summarized in Table 4.

Table 4. *Participant Sorting Tasks.*

Task	Brief Description
Task 1 – Onboarding Outcomes (Current)	Each of 66 outcome statements was sorted by level of agreement that the **existing** orientation/onboarding program should contribute to the outcome.
Task 2 – Onboarding Outcomes (Categories)	The 66 outcome statements were sorted into (an unspecified number of) groups of similar items.
Task 3 – Onboarding Outcomes (Future)	Each of 66 outcome statements was sorted by level of agreement that an **ideal future** orientation/onboarding program should contribute to the outcome.
Task 4 – Part A (Included Content)	Participants sorted 63 content topics into one of three categories: Included in designer's current program, Not Included, Uncertain.
Task 4 – Part B (Content Importance)	Each of the 63 content topics from Task 4 – Part A was sorted into one of three categories of importance to a newcomer: High, Medium, or Low.

To create the first three sorting tasks (Table 4), four constructs from the literature were identified to describe O-ACIS outcomes that might be desired by designers of their orientation training and onboarding programs. Established measurement instruments were identified for the four constructs as shown in Table 5.

Table 5. *Research Construct Questionnaire Sources.*

Research Construct	Research Questionnaire
Organizational assimilation	Myers and Oetzel (2003), 9 items from the Organizational Assimilation Index (OAI); e.g., The participant feels involved in the company; The participant offers suggestions for how to improve productivity.
Organizational commitment	Mowday, Steers, and Porter (1979), 14 items from the Organizational Commitment Questionnaire (OCQ); e.g., The participant is proud to tell others that he or she is part of this company, The participant feels very little loyalty to this company [reverse scored].
Organizational identification	Cheney (1983), 25 items from the Organizational Identification Questionnaire (OIQ); e.g., In general, the participant [in the orientation training and/or onboarding program] views the company's problems as his or her own; The participant finds it easy to identify with the company." Mael and Ashforth (1992), 6 items from the Organizational Identification scale; e.g., The participant would agree with the statement, "this company's successes are my successes; When the participant talks about this company, he participant usually says 'we' rather than 'they'.
Organizational socialization	Haueter, Hoff Macan, and Winter (2003), 12 items from the Organizational Socialization scale; e.g., The participant understands the internal politics within this organization (e.g., chain of command, who is influential, what needs to be done to advance or maintain good standing); The participant understands how to act to fit in with what the company values and beliefs.

Items from each of the instruments were presented to the participant in a spreadsheet. The participant was given the following written and verbal instructions:

> There are two sorting tasks for your current organization and one sorting task for the orientation program your organization would have in a future ideal world. For each orientation program (current and ideal) possible outcomes are sorted into one of seven categories according to your level of agreement (or disagreement) with the statement:

"The orientation program should contribute to this outcome."

Category 1 = Completely Disagree
Category 2 = Disagree
Category 3 = Somewhat Disagree
Category 4 = Unable to comment
Category 5 = Somewhat Agree
Category 6 = Agree
Category 7 = Completely Agree

For your current orientation program an additional sorting task after completing the above task is to group similar items together. Use the column under the Sorter button to do this. Place a number/letter beside each of the possible outcomes. Use the same number/letter for items which are similar. Create as many categories as you feel are appropriate. At any point in time press the Sorter button to move similar items together.

Sorting task 3 replicated Sorting task 1 except that the instruction was changed to:

Please sort possible outcomes for a future ideal orientation program into one of seven categories according to your level of agreement (or disagreement) with the statement:

"The orientation program should contribute to this outcome."

Category 1 = Completely Disagree
Category 2 = Disagree
Category 3 = Somewhat Disagree
Category 4 = Unable to comment
Category 5 = Somewhat Agree
Category 6 = Agree
Category 7 = Completely Agree

To create Sorting Tasks 4A and 4B, fifty-two articles from the business press and the academic literature about orientation training or onboarding were identified. Sixty-three topics for possible inclusion in orientation training or onboarding programs were identified in the articles. The 63 potential topics were listed on a spreadsheet with a brief description, consistent with Coxon's guidance that "if an object name is obscure or likely to be mistaken, a definition can also be provided" (Coxon, 1999, p. 16). Three examples of the 63 potential orientation topics are provided in Table 6.

Table 6. *Example Content Item Descriptions.*

Content Item	Description

Company and Community	Examples of corporate investments, volunteer efforts and actively engaging with stakeholders include: Educational programs, United Way, Volunteerism, Community involvement, Aboriginal relations, Supplier relations and Political involvement.
Customers External	A customer is someone who makes use of or receives the products or services of an individual or organization. Customers can be classified into two main groups: internal and external. Internal customers work for the same organization as the supplier of the goods or services, possibly in another department or another branch. External customers do not work for the same organization; they may be another organization or a member of the public.
Company Values	Core values define the essence of what a company stands for. They act as a reference point for individuals within an organization. Usually numbering more than three and less than ten, they might include qualities such as responsible, ethical, honest, innovative and pioneering. Often a company's values will be exhibited in the company's offices or headquarters.

Research participants were provided with the following written sorting instructions:

> When you are ready to start press the "Click here to begin..." button - this will sort the Content Items into a random order (eliminates a potential source of bias).
>
> Your task is to first decide which category each content item belongs in:
>
> Categories:
>
> 1. Content is in our company's orientation program (I = "Included")
>
> 2. Content is not in our company's orientation program (N = "Not included")
>
> 3. Uncertain if the content is or is not in our company's orientation program (U = "Uncertain")
>
> Record your decisions by typing "I" for Included, "N" for Not Included or "U" for Uncertain in the answer space provided for each content item.
>
> Now decide if the content is of "High", "Medium" or "Low" value to your typical orientation program participant. Record your decisions

> by typing "H" for High, "M" for Medium and "L" for Low priority. For an alternative response leave the answer space blank and please comment in the Optional Comment space.
>
> OPTIONAL comments can be typed into the cell beside an answer. OPTIONAL general comments can be typed into a cell at the bottom of the content items.
>
> Content items with a small red triangle in the cell have more info on the item which can be viewed by moving the mouse cursor onto the cell.

For all of the sorting tasks, the written directions were supplemented with additional verbal explanation, as part of the semi-structured interview process.

To summarize, the research participants were asked to sort the same 66 items in design tasks one, two and three, and to sort the same 63 items in tasks 4A and 4B (Table 4). The number of items for this type of research type commonly ranges in size between 40 (most common) and 100 (fairly common) (Coxon, 1999).

During the first interview the research participant was given the above instructions and then asked to start the sorting exercises (approximately 15 minutes was provided for the sorting tasks so that the researcher could ensure that the participant understood and was able to perform each of the sorting tasks). After 15 minutes elapsed, the participant was asked to complete the remaining sorting after the interview. All of the participants agreed to do so, and each participant subsequently emailed sorted items to the researcher.

All of the sorting tasks were presented to participants using MS Excel spreadsheet software. Because each of the sorting tasks was started during the first interview, the researcher was able to ensure that a randomizing function was invoked such that the items were presented in random order. Randomization of the objects ensured that no item

consistently occupied the same position in each administration, thereby avoiding possible biasing due to primacy or end-effects (Coxon, 1999).

Sorting was chosen as a research method for this study, for reasons well summarized by Coxon (1999). He stated that sorting "turns out to be an interesting task for subjects, is usable with a large number of objects, and now possesses a methodology for the representation and analysis of the data, which is as extensive as any other method" (p. 96).

Research Pilot

In May of 2007, a pilot location was identified and an instructional designer employed by a large government organization in Calgary participated in piloting the planned data gathering instruments and process. This both provided a trial of the interview and sorting tasks, and also contributed to the validity of the research.

The Designer

The instructional designer had been in the organization approximately 20 years and in her current role a few months when she agreed to participate in the pilot. Prior to being assigned to her current role, the designer was employed in a similar position for about 5 years, facilitating orientation programs and other training activities.

The designer had been employed in the public service for a total of approximately 25 years and was between 41 and 50 years of age. Her formal education included a master of adult learning degree. The designer felt that none of her informal educational experiences (seminars, conferences, etc.) was especially helpful in relation to her work on orientation training.

When asked, “with respect to the various decisions and deliberations made with regard to your organization’s orientation program, where would you classify yourself on this chart?", the designer classified herself as between an expert and a master based upon the following descriptions:

> Expert 2: The distinguished or brilliant performer, highly regarded by peers, whose judgments are uncommonly accurate and reliable, whose performance shows consummate skill and economy of effort, and who can deal effectively with rare or "tough" cases. Also, an expert is one who has special skills or knowledge derived from extensive experience with sub-domains.
>
> Master 1: Performers deal with task demands in an effortless and automatic fashion. They rely on learned, experience-based, context-sensitive associations that provide them with a deep understanding of the situation, and that allows them to engage in fluid, intuitive actions. Rather than following rules, experts exploit both their experience base and the information in the environment to guide action. Expert processes are largely perceptual and automatic.

The designer felt that someone designing an orientation program should definitely: (a) understand adult learning theory and (b) have practical experience in terms of how to apply the theory because otherwise orientation would probably be considered an HR or line management responsibility to implement.

The designer focused orientation training on relationship building and helping newcomers understand how their work fits into the bigger picture (Dilbert, May 4, 2007).

In a report prepared as part of Master’s degree study her conclusions about orientation were:

1. Orientation is a one part of a complex, multi-faceted organizational socialization process.
2. Organizational socialization practices that incorporate a variety of formats are more likely to meet the individual needs of newcomers than a typical “one-size-fits-all” approach.

3. Newcomers have a variety of preferences for sources of information and they generally prefer to interact with other people in order to obtain this information.
4. Although newcomers require a general overview of the organization, they also have specific information requirements related to their job. The newcomer's position and responsibilities will determine the content of information required for them to be able to perform their job.
5. An orientation appears to be something that new employees need and want when they join the organization. Therefore, it would suggest that orientation is [an] important process for organizations to ensure that newcomers begin to [be] socialized in their new work environments (Dilbert, May 4, 2007).

Learner Profile

Two key insights were gained from the pilot with respect to the learner. First, the newcomers were very diverse along a whole spectrum of factors. Second, this diversity was not incorporated as a major factor in the design of the orientation training--it is difficult to envision a design that could satisfactorily take into account such diversity, other than the use of individualized instruction.

Program Implementation

The key factor that helped to facilitate the orientation training program implementation was the support of senior management. Another key factor was an advisory committee which had representatives from all of the business units with intimate knowledge of the various business units.

Program Measurement

A summary of the orientation training was reported to the directors and general managers based on feedback from participants, managers and supervisors, and presenters.

Design Process

Reflecting the designer's high level of expertise[4] the designer commented, "To be honest I just did it [designed and developed the orientation training]" (Dilbert, May 4, 2007).

When working with the advisory committee the designer felt decisions required a pragmatic ability to sense and seize opportunities. Pragmatic decisions were also made about the content for the orientation training. Few empiricist, systemic or intuitionist styled decisions were identified.

Summary

Earlier in this paper, initial propositions, which the researcher held prior to conducting the pilot were articulated; i.e. that designers of orientation training: (a) pre-establish goals and outcomes, (b) understand some of the relevant characteristics of organizational newcomers, (c) want newcomers to learn content, (d) make content scope and sequence decisions, (e) make decisions about media for delivery and (f) assess outcomes of orientation training. Evidence for each of the propositions was found at the pilot location.

The pilot looked very much like what the researcher expected to see in a large organization where a 2-day orientation training event was delivered to organizational newcomers. A trainer, conversant with instructional systems design, was responsible for recommending a design to senior management, who in turn approved the recommendation. In retrospect, elements suggestive of onboarding were present:

---

[4] Research on expert decision making: Connolly, Arkes, & Hammond, 2000; Hogarth, 2005; Klein & Hoffman, 1993; Phillips, Klein, & Sieck, 2004; Sedlmeier, 2005; Sternberg, 1999.

1. “Ok the first day on the job they need to know this, this and this; the first week it’s this amount of information, maybe within the first 6 months it’s this” (Dilbert, May 25, 2007).
2. The designer cited an article by Mishra and Strait (1993) in her master’s degree project document, who concluded their paper by noting that “effective orientation programs are designed as a process, customized to meet the needs of the organization, and they consider all of the requirements needed to be successful” (p. 28).

Onboarding was foreshadowed at the pilot location but not actually present.

Revisions Based on Pilot Experience

The pilot successfully tested the use of the interview questions and guides, with a few revisions which will now be discussed:

1. The first two sorting tasks were originally estimated to be of approximately 15 minutes duration. The designer suggested at least 25 minutes would be a more realistic planning time. This necessitated a change in the original task instructions. Instead of expecting the interviewee to complete all of the sorting tasks during the interview, each of the sorting tasks was only started during the interview. After approximately 15 minutes of working on the tasks, the interviewee was asked to stop and to complete the sorting task after the interview. The sorted lists would then be e-mailed to the researcher. This change delayed receipt of the sorted data, despite consistent follow-up by the researcher.
2. A key request in the interview guide was that the participant complete a data table (Appendix C) for each of the major deliberations or decisions identified in the

interview. Because this participant was unwilling to do this, it was anticipated that other participants would similarly balk at completing the table. During the first interview at each of the first two case locations, it was suggested that participants complete the table for key decisions, which they declined to do. The remaining participants were not asked to complete the table.

Data Sampling

The units of analysis are the design decisions for upstream oil and gas organization orientation training and onboarding programs delivered in 2007 to organizational newcomers. The designer (and others) develops the design while others may approve the design or specify parameters (e.g. budget, development time, etc.) but for this research the unit of analysis is the design decision (made by an individual or a group, internal or external to the organization).

Design decisions for upstream oil and gas organizations orientation training and onboarding programs are made in upstream oil and gas companies. The most knowledgeable informants about these decisions are the designers who were involved in deliberations that led to the decisions.

There are many hundreds of oil and gas companies operating in Canada (Government of Canada, 2003) although most of them have only a handful of employees (Calgary Economic Development, 2007a; Lunan, 2007). This researcher assumed the smaller companies could therefore be unlikely to have designed formal orientation training and onboarding programs. To generate the participant sample in this research, organizations were identified within the Canadian upstream oil and gas industry that: (a) have upstream

oil and gas operations in Canada (as defined by Human Resources and Skills Development Canada (2005)), (b) oriented 10 or more individuals into the organization in 2005 and 2006 and (c) planned to orient 10 or more individuals into the organization in 2007.

Twelve organizations met the participant selection criteria: (a) BP p.l.c., (b) Canadian Natural Resources, (c) Encana Corporation, (d) ExxonMobil Canada, (e) Husky Energy, (f) Imperial Oil Ltd., (g) Nexen, (h) Petro-Canada, (i) Shell, (j) Suncor, (k) Syncrude Canada and (l) Talisman Energy. The researcher had a relationship with three of these companies that precluded their involvement in the research, so nine of the above companies were possible research locations. Sample selection for semi-structured interviews was based on purposive sampling (Patton, 1990; Trost, 1986) using information-rich cases for study.

This researcher contacted the senior HR executive from each of the nine organizations by email in April 2007, using address information located on the Internet. These individuals were asked to confirm that their organization met the above criteria, unless it was self evident that their company did. A twenty-minute meeting was requested with each senior HR executive to gain signed consent and participation in the study.

As expected, the responding senior HR executives either directly, or through their executive assistants, referred the researcher to either the HR manager responsible for orientation training and onboarding; or directly to the HR employee who designed the orientation training and onboarding program. No preparation for this second contact was required on the part of the organizational contact identified by the senior HR executive.

During the first meeting the researcher reviewed: (a) the research problem and questions, (b) a research plan overview and (c) a copy of the interview questions. The

contact, if not a designer of the company's orientation training, was then asked to consider participation in the research or to provide contact information for a designer of the company's orientation training. In the latter case, the contact was advised that they would not be informed as to whether or not the designer chose to participate in the research. Further, the contact agreed not to contact the designer and ask whether or not the designer had chosen to participate in the research.

Potential participants were advised that other companies with upstream oil and gas operations would be participating in the research and that anonymity would be protected by: (a) only identifying an interviewee by pseudonym and (b) only identifying a company as belonging to the group of twelve companies previously listed. Designers at four of the nine contacted companies agreed to participate in the research.

Validity, Reliability, Researcher Bias, and Ethics

In this section of the study both quantitative and qualitative validity are briefly discussed; **quantitative** in terms of content, criterion (concurrent and predictive), construct and consequential validity, and **qualitative** in terms of descriptive, interpretive, theoretical, internal and external validity. A discussion of reliability as applicable to this research, a statement concerning the researcher's biases, and a review of ethics concerns as they were managed for this research, complete this Methodology chapter.

Validity

'Validity' generally refers to the concern that a measurement measures what it is intended to measure (Ghiselli, Campbell, & Zedeck, 1981). Validity can be categorized into four types for quantitative methods (Gay & Airasian, 2003). Qualitative research validity

will be discussed in terms of five types of research validity (B. R. Johnson, 1997). Each validity type is briefly described in terms of the major issue associated with the validity type and any remediation steps undertaken to enhance the validity of this research.

Quantitative content validity.

Content validity refers to the extent to which "the operations measure what they are supposed to measure" (Ghiselli et al., 1981, p. 274). Professional or "subjective judgment is involved in all phases of content validity and is its paramount characteristic" (p. 277). Based upon the literature reviewed and the use of the instruments used for the sorting tasks, it is the researcher's judgment that the research has content validity.

Quantitative criterion (concurrent and predictive) validity.

Predictive validity was not relevant to this research. No attempt to demonstrate concurrent validity was undertaken as part of the research reported in this study.

Quantitative construct validity.

The instruments used for this research were all previously used in published research.

Quantitative consequential validity.

No harmful consequences are believed to have been experienced by any of the research participants nor were any reported.

Qualitative descriptive validity.

Descriptive validity is concerned with factual accuracy--Did what was reported as having taken place actually happen? In order to ensure a high level of descriptive validity was maintained, all the interviews were tape recorded and transcribed verbatim. Stockdale's (2003) procedure for transferring audio to computer was followed for

interviews recorded on a cassette recorder. Backup recordings done with an Apple i-Pod using a Belkin TuneTalk microphone were transferred directly to a computer. Transcripts were provided to interviewees with a three week period to make changes. None of the interviewees requested any changes to the transcripts.

Qualitative interpretive validity.

Interpretive validity refers to the degree to which the research participants' viewpoints, thoughts, feelings, intentions, and experiences were accurately reported. Two strategies used in this research to enhance qualitative interpretive validity were participant feedback and verbatim quotation. Verbatim quotation requires little inference about what was said, because exact words are provided in direct quotations.

Qualitative theoretical validity.

A theoretical explanation developed from a research study that fits the data and is credible and defensible, has theoretical validity. Triangulation was used to the extent that instructional design, HPT and decision theories were used to help develop insights and a cogent explanation of the data. Neither peer review nor pattern matching (B. R. Johnson, 1997) were used in this research.

Qualitative internal validity.

Internal validity relates to "the degree to which a researcher is justified in concluding that an observed relationship is causal" (B.R. Johnson, 1997, p. 287). Participant confirmation, and articulating researcher biases were two strategies used in this research to enhance internal validity (Lincoln & Guba, 2002).

Qualitative external validity.

External validity is the degree to which the conclusions in a study would hold at other times and places or with other people. The following kinds of information are reported in this study in order to help readers assess the extent to which the findings generalize to their situation:

> the number and kinds of people in the study, how they were selected to be in the study, contextual information, the nature of the researcher's relationship with the participants, information about any informants who provided information, the methods of data collection used, and the data analysis techniques used. (B. R. Johnson, 1997, p. 290)

Reliability

Three techniques for enhancing reliability suggested by Merriam (1988) were used in this mixed methods research: (a) explaining the researcher's position, (b) triangulation and (c) creation of an audit trail.

Yin (as cited in Onwuegbuzie, 2000) suggested using a case study protocol data collection strategy to enhance reliability. The interview protocol for this research (Appendix B) employed his recommendations and provides the basis for the audit trail just referenced above.

A potential source of difficulty in achieving reliability concerns the issue of quixotic reliability (Howell, et al., 2005). The research questions were assessed against this reliability threat by reviewing the research questions in the protocol with an external third party in an attempt to recognize and reword any questions that appeared to be problematic with respect to quixotic reliability.

Researcher Bias

No clearer statement of my bias could be penned than that expressed by Miles and Huberman (1994) in their text's introduction, where they shared their bias as realists, generally in the Bhaskarian tradition.

The reader is advised that the researcher worked for several years for an oil and gas company, in a variety of Human Resources roles. The company met the criteria which were used to identify the organizations invited to participate in this study; however, this company's management and designers were not asked to participate in the study.

Characteristics which I aspire to and which Merriam (1988) suggested are valuable to a researcher include sensitivity, a tolerance for ambiguity, and communication skills.

Ethics

This research was conducted in full accordance with the University of Calgary's Conjoint Faculties Research Ethics Board (CFREB) ethics guidelines. On April, 2007, a Certification of Institutional Ethics Review letter was provided to this researcher.

Prospective research participants were advised how and why they were selected, the purposes of the study, and how the results of the study will be used. Each individual was given the option of participating or not and advised that a participant could withdraw at any time. Participants were assured that their responses would in no way affect their employment performance assessment (if any), future opportunities, or their career. No appreciable harm to any participant resulted from participation in this research.

CHAPTER FOUR: FINDINGS

This chapter is organized by the company where the designer worked (Company's A, B, C and D). The findings at each company include the designer's: (a) demographics, (b) style of decision making, and (c) decisions about onboarding program intended outcomes, content, implementation and evaluation.

The findings presented at each company begin with a summary of the demographics of the designer(s) who made onboarding design decisions because non-programmed decision makers (Chapter 2, pp.'s 19-20) typically relied on their experience to recognize important features of a situation (Simon, 1982a). Previous research on decision makers in naturalistic settings (especially experienced decision makers in complex uncertain environments) found that the decision maker's expertise was integral to their decision process and resulting decisions (Klein, 1999).

Each designer's predominant decision making style was found using the Kinston and Algie (1989) framework (Table 1, p.17).

Company A: Designer Demographics and Predominant Decision Style Findings

Findings about the designer's decision making begin with a summary of her demographic characteristics, which are reported in Table 7. Additional relevant information about this designer is then provided. Decision process descriptions obtained from the designer interviews are classified in Table 8 using the Kinston and Algie (1989) framework. The predominant decision styles of this designer are then summarized.

The Company A onboarding designer was an individual with the following demographic characteristics:

Table 7. *Demographics of the Onboarding Designer - Company A.*

Characteristic	Company A Onboarding Designer
Age Range	30-40 Years Old
Gender	Woman
Company Department	Human Resources
Service - Current Job Service - Current Company	2 Years 4 Years
Total Work Experience	15 Years
Work Experience Relevant to Newcomer Orientation	This designer worked for 15 years outside the oil and gas industry in a variety of communication roles (including experience with newcomer orientation) for various companies before being hired by Company A.
Education	Her formal education consists of a BA in Communications and an MBA with a specialization in Leadership. This formal education is supplemented with coaching certification from the Coaches Training Institute.
Nature of Involvement in Newcomer Orientation (Current Job Role)	This designer designed the session, facilitated implementation of the onboarding program throughout the company and previously facilitated an orientation training event. She has ongoing responsibility for the onboarding program at Company A.
Self-assessed Level of Expertise	Expert Level 1 Expert 1 performers use specific goals to prioritize facts according to their relevance. They adopt a hierarchical process by which a plan is developed to organize the situation, and then use that plan to examine only those factors that are most relevant to the current goal and plan.
Important Knowledge, Skills and Abilities	The Company A designer felt it was important that a designer understand (a) business requirements, (b) the demographics of the organization (c) onboarding best practices, and (d) the organizational culture well enough to choose something pragmatic. She explained that pragmatism is really important….I think its recognizing what's realistic, it's recognizing what's appropriate and it's recognizing, I guess a tangent of realistic is (pause) I think very rarely can you (pause) most organizations aren't in a position to implement all the best practices so I think you need to be selective about which ones

	are most (pause) are going to be relatively easy to implement but also most relevant to the business needs, so which levers, of all the levers you can pull [all those different alternatives] which ones are really going to make the biggest impact. (Company A Designer, 2007b) Knowledge, skills and abilities this designer identified as important for designing onboarding programs included project management skills and "the ability to schedule, to get presenters, to pull materials together, you know—that sort of thing…the co-ordination skill" (Company A Designer, 2007b).

This designer has a "real passion for this [newcomer onboarding programs]" (Company A Designer, July 2 2007). Her workgroup was responsible for workforce planning, employment branding, and longer-term strategies for recruiting people with the skills that will be needed by the company in the future. She has "lots of access" to company demographical data (Company A Designer, July 2, 2007) and has responsibility "to stay abreast of just what's happening in the employee market and with demographics generally and so you understand whose coming to your organization" (Company A Designer, July 2, 2007).

Design decisions identified through the interviews with this designer are reported, classified according to Kinston and Algie's (1989) decision style framework, in Table 8.

Table 8. *Decision Making Style Findings - Company A.*

Decision Style	Decision Style Findings – Participant Citations
Rationalist (Value Focused)	When asked "what ought to be the knowledge and expertise of someone whose doing what you've done in terms of designing and implementing an orientation program?", this designer responded, "I think

	you need to understand the business requirements, ...” (Company A Designer, May 28, 2007) The importance of both the newcomer's learning goals and the organization's desired outcomes to onboarding design decisions was described by this designer as follows: > So really you look at … typically as a new person in an organization what kind of information are people interested in, [ok] balanced with as an organization, here’s what we want new people to know. … So, to give you a really concrete example…if you take the IT portion of the Orientation day …as a new person, this is what I would want to know, ‘how do I get set-up, you know, how do I set-up my email, etc. etc. From a company perspective we obviously want people to know that [right] but we would also want people to be very aware of our security policies [mmhhmm] of our IT usage policies…so in the content you see both of those things being addressed. (Company A Designer, July 10, 2007)
Empiricist (Empiricist)	No findings.
Pragmatist (Pragmatist)	This designer identified a pragmatic approach as important for designers of onboarding programs: > recognizing what’s realistic about what I can get done within all the parameters (pause) most organizations aren’t in a position to implement all the best practices so I think you need to be selective about which ones are most…are going to be relatively easy to implement but also most relevant to the business needs, so which levers, of all the levers you can pull (pause) which ones are really going to make the biggest impact. (Company A Designer, May 28, 2007) Factors that affected the information delivery medium selection included: (a) this designer's belief that some mediums would better

	communicate the material was important than if alternative mediums were used, (b) the need to reinforce certain content, provide alternative learning opportunities and/or to reinforce the importance of the content, and (c) a desire to present the content in a variety of formats. Content was repeated: (a) for emphasis or (b) when the complexity of the content was considered to "deserve a deeper dive" and (c) to accommodate various communication preferences. (Company A Designer, 2007 July 10, 2007) Policy topics such as harassment or ethics are mandatory so that the organization can hold the newcomer accountable for policy compliance. This designer described the effect of newcomers' lack of industry knowledge on the design of the orientation training: > So I think that in the design we defaulted to providing more information than less. [ok] And the rationale behind that would be, you know, 'we have to assume we have a whole bunch of people who have no background and it really doesn't hurt to reinforce those messages with people who do. (Company A Designer, July 10, 2007) The onboarding designer stated, "I think it's really critical that you understand the culture well enough to choose something that you can be pragmatic, pragmatism is really important" (Company A Designer, May 28, 2007).
Dialectic (Multi-Party)	No findings.
Systemic (Systems)	No findings.

Structuralist (Structuralist)	No findings.
Intuitionist (Imaginative)	In order to maintain the engagement of the newcomers a variety of presenters delivered the various topics (this designer stated, "I think it [the use of multiple presenters] keeps it interesting" (Company A Designer, July 10, 2007).

At Company A, the onboarding designer decision making style most frequently found was the pragmatic style. in this case, decisions about design were typically made using rationalist and pragmatic decision processes while implementation decisions were almost entirely pragmatic in style.

Data, such as exit statistics, was used by the designer as a major part of the justification for the onboarding project, which suggests some empiricist decision making. However, it must be remembered that the decision to approve or not approve the onboarding program proposal was made by company executives, and not this designer.

This designer also made reference to following some principles of communication theory, but in a rationalist sense; not in a structuralist (procedure based, following a step-by-step protocol) decision making fashion. This designer said that “the design for content and delivery really came from my communications background; ... you know, who is your audience, what’s your objective, therefore—kind of what are the key messages and how are you going to deliver that” (Company A Designer, July 10, 2007).

The intuitionist style was seldom used, as the onboarding designer generally relied more on incorporating ideas located through research than on generating creative original alternatives. The closest example found of an intuitionist decision is reported in Table 8.

To summarize, no examples of empiricist, dialectic, or structuralist decision making were found in the Company A designer interviews and only a very few examples of systemic and intuitionist examples were found. The pragmatist decision making style was the style most frequently found, followed by the rationalist style.

Company A - Onboarding Intended Outcomes

Onboarding programs are intended to lead toward planned outcomes. This designer indicated that the Company A onboarding program should contribute to various outcomes. She also indicated her level of agreement that the onboarding program she would design in an ideal future would contribute to the outcomes. The 66 outcomes were 9 organizational assimilation outcome statements from the Myers and Oetzel (2003) instrument, 14 organizational commitment outcome statements from the Mowday et al. (1979) instrument, 31 organizational identification outcome statements, (6 items from Mael and Ashforth (1992) plus 25 from Cheney (1983)) and 12 organizational socialization outcome statements from Haueter, Hoff Macan, and Winter's (2003) instrument. Details of the instruments and the procedure used were described in the Methodology chapter (Chapter 3) and the 66 outcomes are listed in Appendix D.

The designer's responses are reported in Table 9. The table shows, for example, that in Company A’s onboarding program this designer completely disagreed with 1 of the 9 organizational assimilation outcome statements from the Myers and Oetzel (2003) instrument, neither agreed nor disagreed with 2 of the 9 items, agreed with 4 of the 9 items and completely agreed with the remaining 2 items.

Table 9. *Frequency of Agreement with Intended Outcome Statements - Company A Designer.*

	Company A - Onboarding Intended Outcomes (Number of items)							
Organizational-	CD	D	SD	-	SA	A	CA	NR
Assimilation (Now)	1			2		4	2	
Assimilation (Future)		1			2	4	2	
Commitment (Now)			1	2	2	6	3	
Commitment (Future)				2	2	5	5	
Identification (Now)			1	10	6	12	2	
Identification (Future)				6	10	12	3	
Socialization (Now)				2	1	7	2	
Socialization (Future)					1	11		

Note: Table has been adjusted for reverse scored items.
CD – Completely Disagree, D – Disagree, SD – Somewhat Disagree, - Neither Agree nor Disagree, CA – Completely Agree, A – Agree, SA – Somewhat Agree

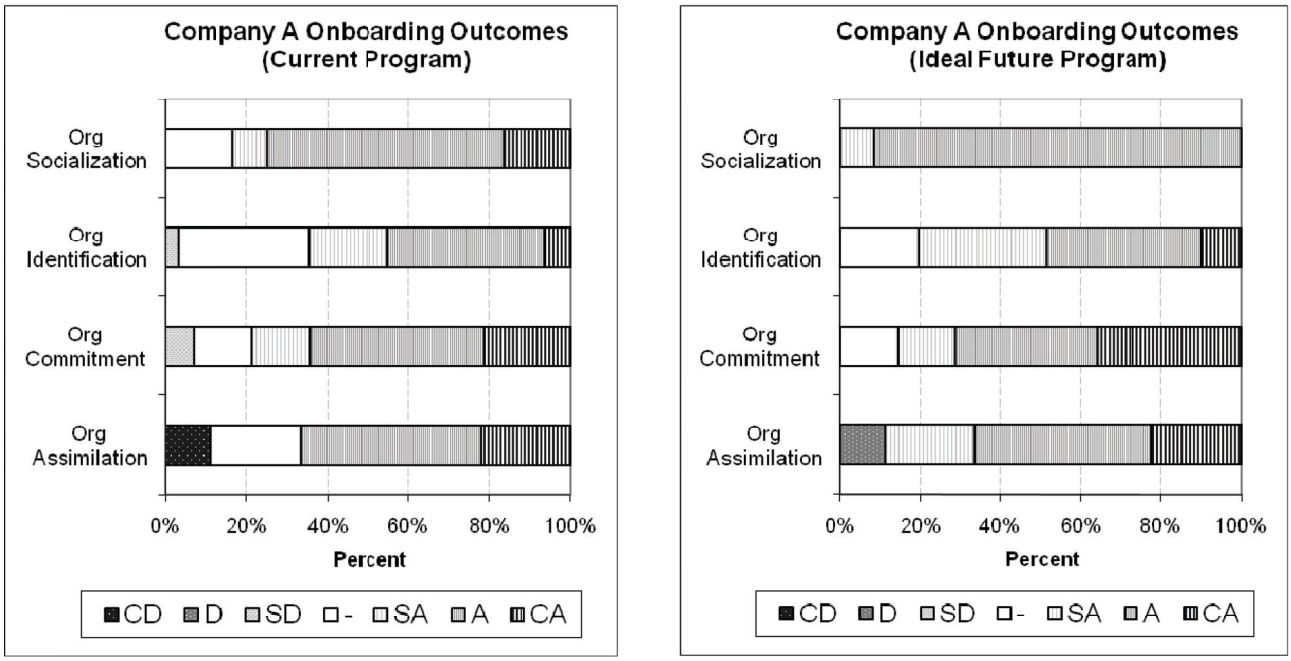
The above frequencies in Table 9 are converted to row percentages in Table 10.

Table 10. *Row Percentage Agreement with Intended Outcome Statements - Company A Designer.*

	Company A - Onboarding Intended Outcomes (Percentage of row items)							
Organizational-	CD	D	SD	-	SA	A	CA	NR
Assimilation (Now)	11	0	0	22	0	44	22	0
Assimilation (Future)	0	11	0	0	22	44	22	0
Commitment (Now)	0	0	7	14	14	43	21	0
Commitment (Future)	0	0	0	14	14	36	36	0
Identification (Now)	0	0	3	32	19	39	6	0
Identification (Future)	0	0	0	19	32	39	10	0
Socialization (Now)	0	0	0	17	8	58	17	0
Socialization (Future)	0	0	0	0	8	92	0	0

Note: Table has been adjusted for reverse scored items. Rows may not add to 100 due to rounding.
CD – Completely Disagree, D – Disagree, SD – Somewhat Disagree, - Neither Agree nor Disagree, CA – Completely Agree, A – Agree, SA – Somewhat Agree

The above row percentages in Table 10 are graphically represented in Figure 7.



CD – Completely Disagree, D – Disagree, SD – Somewhat Disagree, - Neither Agree nor Disagree, CA – Completely Agree, A – Agree, SA – Somewhat Agree

Figure 7. Current vs. Future Intended Outcomes - Company A Designer.

These findings on the designer's intended outcomes from the onboarding program are clear. This designer **agreed overall** that the **current** onboarding program should contribute to 47 (71%) of the 66 outcome statements.

She **completely agreed** with nine of the items for the **current** onboarding program and **completely disagreed** with only one **current** onboarding program item. These 10 items are reported in Table 11, which includes the domain (cognitive, affective, psychomotor) the outcome was classified in and also which construct(s) (organizational-assimilation, commitment, identification or socialization) the outcome is associated with. The constructs were discussed in the Literature Review (Chapter 2).

This designer was "pretty clear on the goals" and said, "it was very important to provide some context, that sort of big picture of Company A and to reinforce the branding

messages that we are taking out to the market...” (Company A Designer, May 28, 2007). She said that "we just really wanted to reinforce this is the value proposition, this is what you're going to get as an employee" (Company A Designer, May 28, 2007). The ‘value proposition’ is the sum of the benefits a newcomer is assured of receiving as a result of becoming an employee of Company A.

This designer stated that the ultimate goal of the onboarding program was employee retention (particularly newcomer retention) and saw retention as an outcome of engagement which involved "feeling connected, feeling like you made the right decision, feeling, you know, excited and hopeful about your opportunities at Company A--having all of the reasons why you joined be reinforced, or most of them be reinforced" (Company A Designer, May 28, 2007).

Table 11. *Outcome Statements rated “Completely Agree” or “Completely Disagree” - Company A Designer for the Current Onboarding Program.*

Construct Organizational-	"Completely Agree" with Outcome	Domain
Socialization	The participant understands the operations of this company (e.g., who does what, how sites, subsidiaries and/or branches contribute).	Cognitive
Assimilation	The participant thinks he or she has a good idea about how the company operates.	Cognitive
Identification	The participant is glad he or she chose to work for the company rather than another company.	Affective
Assimilation	The participant knows the values of the company.	Cognitive
Socialization	The participant understands how my job contributes to the larger company.	Cognitive
Commitment	The participant is proud to tell others that he or she is part of this company.	Affective

†Identification	The participant finds it difficult to agree with the company's policies on important matters relating to him or herself.	Cognitive /Affective
†Commitment/ Identification	The participant feels very little loyalty to this company.	Affective
†Commitment	The participant agrees, "There's not too much to be gained by sticking with this company indefinitely".	Cognitive /Affective
Construct Organizational-	"Completely Disagree" with Outcome	Domain
Assimilation	The participant helps to change the duties of his or her position.	Cognitive

† Reverse scored item

She also said that, "another goal, although I think it's very difficult to measure, is productivity" (Company A Designer, May 28, 2007). She stated, "I mean if you read the literature there's lots of evidence to say that someone who is onboarded well reaches productivity sooner" (Company A Designer, May 28, 2007).

This designer completely agreed (10 items), agreed (32 items) or somewhat agreed (15 items) that an **ideal future** onboarding program should contribute to 57 (86%) of the 66 outcomes. This designer was unable to comment on eight items and only disagreed with one item which is reported in Table 12.

Table 12. *Outcome Statements rated "Completely Disagree", "Disagree" or "Somewhat Disagree" - Company A Designer for an Ideal Future Onboarding Program.*

Construct	"Completely Disagree" with Outcome	Domain
--	--	
Construct Organizational-	"Disagree" with Outcome	Domain
Assimilation	The participant helps to change the duties of his or her position.	Cognitive
Construct	"Somewhat Disagree" with Outcome	Domain
--	--	

Company A – Program Content Findings

To recap, the researcher listed 63 potential orientation topics and defined them with short descriptions. The Company A designer responded to each topic by: (a) indicating if the topic was included in the company onboarding program and (b) rating how important each item was to their typical program participant. The resulting participant responses to the 63 potential topics were grouped into four categories for reporting: (a) context, (b) interpersonal, (c) logistics, and (d) managing systems.

This designer's current program includes 45 (71%) of the 63 potential topics, as reported in Table 13. Forty (89%) of the included topics were rated as being of high importance. The designer was uncertain as to whether or not an additional six items (10%) were included in her current program.

Table 13. *Included Orientation Topics - Company A.*

		Orientation Topic Categories				
STATUS	IMPORTANCE	Context	Interpersonal	Logistics	Mging Systems	Total
Included	High	11	3	16	10	40
	Low	1				1
	Medium	2	1	1		4
Included Total		14	4	17	10	45
Not Included	Low	2	2	1	2	7
	Medium	2		2	1	5
Not Included Total		4	2	3	3	12
Uncertain	High	1			2	3
	Medium	1	1			2
	(blank)		1			1
Uncertain Total		2	2		2	6
Total		20	8	20	15	63

Table 14 lists the eight items which this designer ranked as of low importance to typical onboarding participants. Only one of these low importance items, Company History, is included in the company's onboarding program.

Table 14. *Low Importance Items - Company A.*

Inclusion Status*	Topic	Topic Category
Not Included	Employee Demographics	Context
Not Included	Customers External	Context
Included	Company History	Context
Not Included	Welcoming Ceremony	Interpersonal
Not Included	Influence	Interpersonal
Not Included	Discipline	Managing Systems
Not Included	Quality of Work Life (QWL)	Managing Systems
Not Included	Parking	Logistics

*The designer classified each topic as "Included", "Not Included" or "Uncertain" in the current program.

This designer did not identify any items of high importance that are not included in the company's onboarding program but she was unsure if three high importance items were included or not. The three items are reported in Table 15.

Table 15. *High Importance Items (Not Included or Uncertain) - Company A.*

Inclusion Status	Topic	Topic Category
Uncertain	Decision Processes	Managing Systems
Uncertain	Work Processes (e.g. Flow charts)	Managing Systems
Uncertain	Individual's Importance to Company Success	Context

Company A - Program Implementation

Two separate sets of decisions are made with respect to the implementation of an onboarding program. The first area of decision making concerns the onboarding program

participants—who the program is for. Findings are described in terms of who the newcomers are. The second area concerns tactics used to ensure actual program implementation throughout the organization. Findings are offered on tactical decisions made to ensure the program is actually implemented throughout the organization.

Company A - Onboarding Participants

Newcomers were "a whole bunch of new people coming into this organization who may or may not know a lot about us" (Company A Designer, May 28, 2007). These newcomers were either finite term contractors or regular employees. An orientation session was held every other week in Calgary "because we have that many people joining our organization" (Company A Designer, May 28, 2007). When this designer was asked about the newcomers' attributes she said:

> … a lot of them would be engineers, project planning, project management type folks, who typically have an engineering background, supply chain people ... because of all the capital projects…so those would be the big buckets, but obviously, you know, we're hiring people in the support functions as well, to a lesser extent; so that would be people like finance, and accounting and HR, you know, Communications. So, on the engineering side …we have a huge range really, so we have people who are very experienced—you know, they've had sort of 20 odd years experience and then we also have people who are …maybe have 5 years or less of industry experience and to be quite honest that actually tends to be the demographic. (Company A Designer, July 10, 2007)

> ... most people minimally have a bachelor degree and an awful lot of people have Masters … the age range…its' probably skewed to the under 30 and that sort of 41 to 50, again, you know, to coincide with that [exactly that experience] yeap, yeap… and roughly 50% are employees and 50% are contract. (Company A Designer, July 10, 2007)

> …we do have a reasonable number of people coming to Company A who are new to Canada … Were finding that's interesting for some people because our business norms can be quite different for other people. (Company A Designer, July 10, 2007)

A finding from this research is that newcomers to Company A are heterogeneous.

Newcomers to an organization enter via a variety of paths which are shown in Table 16. Pre-entry newcomers are typically summer or co-op students hired for a finite term versus graduates that are hired on a career basis, directly from a campus. Orientation training can cover various levels of an organization. For example, a newcomer hired as a corporate trainer might receive orientation to the entire corporation (Corporate), to a division (Administrative Services), to a department (Human Resources), and lastly, to a workgroup or specific job (Training Group/Trainer).

The Company A information is summarized in Table 16.

Table 16. *Orientation to Organizational Level by Entry Path - Company A.*

Entry Path	*Organizational Level for Which Orientation is Provided*			
	Corporate	Division	Department	Work Group/Job
Pre-entry	●	●	●	●
Campus (Career)	●	●	●	●
Experienced	●	●	●	●
Merger/Acquisition	●	●	●	
Joint Venture				
Consultant	●	●	●	●

Findings in Table 16 are that newcomers, including consultants, are oriented to the corporation, division and department unless they are employees of another organization (i.e., working with Company A employees as part of a joint venture).

Company A - Onboarding Implementation Tactics

This designer obtained senior management approval to present the orientation onboarding program to each department management team. The argument used to obtain senior management approval tied onboarding to achievement of the twin strategic goals of growth and profitability. Growth and profitability would be threatened by unwanted newcomer attrition; and shortening the time required by newcomers to become fully productive could meaningfully improve organizational productivity, when large numbers of new employees were being hired. Further, the probability that a company could conduct its business in an operationally excellent way was reduced if unplanned workforce turnover occurred.

This designer observed that the following factors facilitated obtaining approval to design and subsequently implement the onboarding program:

> I think there were a couple of things—one was a recognition that we are doing a ton of hiring and our recruiting has really increased dramatically over the last few years...We really didn't do a lot for people in an office environment..... Another piece was [that] every other year we do an employee engagement survey. And so we did one last year and we started to take a look at the results and they were not very encouraging—it was going down, so you sort of know there is something going on there; and really anecdotal kinds of, qualitative kinds of information about people who were leaving pretty quickly because they weren't very effectively orientated, things weren't ready for them, they didn't get integrated well into the team and the company, etc. etc. And that was supported by some hard data where we looked at our attrition rates in people who have less than 3 years with the company and it was a lot higher than any other kind of demographic grouping in the company.... So you know that; then you consider the external context which is one, is one of the tightest employment markets ever. So if we're having to recruit to support our growth and that's being compounded by people leaving, you've got this sort of empty funnel.... but also it potentially could be impeding our productivity and it could be impeding the rate at which we can grow successfully. So those were kind of the conversations that were going on. (Company A Designer, May 28, 2007)

So this designer identified issues that helped to coalesce and energize her felt need for change amongst Company A's senior management. She used the fact that the organization was recruiting large numbers of people to justify the time and effort that would be required to improve existing practices. She justified the time and effort to improve onboarding tactics by citing recruiting activity as grounds for that work. Engagement survey data and attrition data were used in conjunction with powerful anecdotal stories so that this designer could provide a strong rational and emotional case for management to grant approval for an onboarding program.

Department management teams controlled the timing of the actual implementation within their departments, as they were required to fulfill various commitments prior to the onboarding program actually being implemented within their department. Once they completed these pre-requirements, the designer would then initiate implementation of the onboarding program in their department.

This designer's tactics for obtaining a department management team's commitment to successfully implement the orientation onboarding program are described below:

> … every business unit is at a different stage, right? of readiness and implementation and so, for example, in business units where their doing a lot of recruiting—it's an easier sell, because they get it. … they have all these new people coming onboard. … we've had to take a little bit of a different approach with each business unit in terms of implementation and a big part of it has been actually kind of developing the business case for business units. So for me getting in front of management teams and saying this is not airy, fluffy stuff guys; saying let me show you how this is impacting your business. Let me show you the implications for attrition, how that translates into hard costs. What that might do to your productivity [be]cause you have a vacation position. What that does for your [employees'] engagement [be]cause it means other people are being loaded up in the meantime … and now you're going to have to wait 2 more months to fill that position and so Joe next door is gonna have to pick up the slack and he's already tired—so it was painting that business case and also really holding up the mirror and 'let

> me tell you about some of the horrible experiences that people have had'—and guess what? You don't think they're going to tell their friends about that. And were trying to attract people to this company. (Company A Designer, May 28, 2007)

This study found that this designer's implementation success can be attributed to her decision to present onboarding as a solution to attrition and productivity challenges. This designer repeated the successful approach used earlier with senior management—combining empirical data with powerful anecdotal accounts of "horrible" newcomer experiences--to create a felt need for change amongst department managers. The "obvious" solution to the problems this designer articulated, would be for the department management team to implement the onboarding program within their department.

Company A - Program Evaluation

This designer planned to measure each of the elements that were used to justify the program—newcomer productivity, newcomer retention and newcomer engagement.

The research found that Company A designer decision making about how the onboarding program would be measured and evaluated was mostly pragmatic. An online survey and conversations with newcomers were available options that could readily be implemented.

When asked how the onboarding program was measured or evaluated this designer replied:

> I think it's difficult to measure impact of the difference it makes cause you can't say 'well, if you didn't have an onboarding program what do you think' [it's so hypothetical, yeah] you can't, so I think then we will also start to track attrition rates [mmhhmm] and what I want to do is look at the relationship between how well adhered to is the onboarding process and what happening with the attrition rate in that area...and I think the other thing is just anecdotal as well – you know, you just chat with people who are

> new to the organization and how are they doing and how are they feeling. And I think another big piece will be our next company wide engagement survey. Now orientation and how you're onboarded [understand] is one small component of that … that's the pragmatist in me, you know the survey is online, it's very quick, it's not time consuming, it's automatically tabulated, so [like Survey Monkey, that kind of thing] yeah. (Company A Designer, May 28, 2007)

To summarize, the researcher found that this designer had not implemented any onboarding program evaluation. She planned to use empirical data to attempt to correlate changes in attrition rates and engagement survey data with onboarding program implementation. Anecdotal data was also to be collected. This quantitative and qualitative data would be presented to senior management, to support their decision making regarding on-going authorization of the resources required to sustain the onboarding program.

Company B: Designer Demographics and Predominant Decision Style Findings

The findings about design decision making at Company B begin with a description of the design team that made the onboarding program decisions at the company. Demographic characteristics of interviewed team members are summarized in Tables 17-19.

Decision process descriptions obtained from the designers' interviews are classified in Table 20 using the Kinston and Algie (1989) framework. The predominant decision styles of this designer are then summarized.

A small design team made the decisions about the design and development of the orientation training and onboarding program at Company B. The core internal team members were the Information Systems (IS) project manager, and the Human Resources

(HR) professional who subsequently became the company's onboarding co-ordinator with on-going responsibility for the program.

The project team was supported by two external training consultants who assisted in the instructional design of the orientation training components of the onboarding program. Additional support was provided by: (a) an HR Administrative Assistant, (b) two IS developers, (c) part-time HR and IS subject matter experts, (d) a contact person from the Document Management group responsible for formatting and duplication of printed materials and (e) part-time businesses representatives.

The IS project manager, HR professional and one of the training consultants were all interviewed for this research.

The Company B HR onboarding co-ordinator was an individual with the following characteristics:

Table 17. *Characteristics of the HR Onboarding Co-ordinator - Company B.*

Age Range	41-50
Gender	Woman
Company Department	Human Resources
Service - Current Job Service - Current Company	$1^{1}/_{2}$ Years 5 Years
Total Work Experience	10 Years
Work Experience Relevant to Newcomer Orientation	10 Years
Education	Partial degree
Nature of Involvement in Newcomer Orientation (Current Job Role)	The HR onboarding co-ordinator was responsible for implementation of the onboarding program throughout the company, and maintains global contacts with her onboarding counterparts in other countries.
Self-assessed Level of Expertise	Proficient. An experienced and reliable worker, or one who has achieved a level of competence. Whereas previous stages involve deliberate, conscious choice, activity at this stage is the

	result of experience-based associations connecting context and current stimuli with plans that have proven to be successful. However, when unfamiliar and particularly important events are encountered, performers may still revert from this recognitional process to a more deliberate, analytical approach to decision making.

The Company B onboarding IT Project Manager was an individual with the characteristics shown in Table 18.

Table 18. *Characteristics of the IT Project Manager - Company B.*

Age Range	41-50
Gender	Man
Company Department	Information Technology (IT)
Service - Current Job Service - Current Company	1 Year 19 Years
Total Work Experience	19 Years
Work Experience Relevant to Newcomer Orientation	No previous work experience specific to newcomer orientation but IT experience was directly relevant to his onboarding computer systems responsibility
Education	Bachelor of Mathematics 2-3 Internal/External project management courses
Nature of Involvement in Newcomer Orientation (Current Job Role)	No further involvement after the onboarding program was implemented
Nature of Involvement in Newcomer Orientation (Previous Job Roles)	None
Self-assessed Level of Expertise	With Respect to Project Management: Proficient to Expert 1. Proficient. An experienced and reliable worker, or one who has achieved a level of competence. Whereas previous stages involve deliberate, conscious choice, activity at this stage is the result of experience-based associations connecting context and current stimuli with plans that have proven to be successful. However, when unfamiliar and particularly important events are encountered, performers may still revert from this recognitional process to a more deliberate, analytical approach to decision making.

	Expert 1. Performers use specific goals to prioritize facts according to their relevance. They adopt a hierarchical process by which a plan is developed to organize the situation, and then use that plan to examine only those factors that are most relevant to the current goal and plan. This process is more efficient than those observed in previous stages because it involves more selective information processing. With respect to onboarding: Advanced Beginner to Proficient. Advanced Beginner. As performers gain more practical experience in concrete situations, they begin to take into account more contextual factors and thus develop more sophisticated rules for performing a task. New episodes are perceived as being similar to prior examples, thereby enabling rudimentary recognition processes.

The IT project manager felt that an orientation program designer should have a good understanding of the organization and the company culture.

The Company B onboarding instructional design consultant was an individual with the following characteristics:

Table 19. *Characteristics of the Instructional Design Consultant - Company B.*

Age Range	41-50
Gender	Woman
Company Department	External Consultant (Own Company) Title: Learning Development Consultant
Service - Current Job Service - Current Company	Not applicable (consultant for 15+ years). Company B has been a client of this consultant for approximately 15 years. The Learning Development consultant operates her own firm.
Total Work Experience	15+ years
Work Experience Relevant to Newcomer Orientation	She felt very familiar with the Company B's culture. Sessional instructor at the University of Calgary for HR courses in staffing, training and development, and performance management.
Education	2-3 Instructional Design courses in the 1980s (for example, Criterion Referenced Instruction A number of Train-the-Trainer courses over the years including at least 2 professional development conferences/seminars each year Bachelor of Commerce MBA

Nature of Involvement in Newcomer Orientation (Current Job Role)	After the IT Project Manager had finished his involvement in the onboarding program, this designer was contracted to sit in a session as a participant, review participant feedback and make revision recommendations.
Nature of Involvement in Newcomer Orientation (Previous Job Roles)	She worked in Human Resources (HR) as a Training Advisor in the late 1980s and had years of experience designing and delivering training programs, including a 6-12 month Orientation [Onboarding] program for new Marketing campus hires.
Self-assessed Level of Expertise	Master 1. Performers deal with task demands in an effortless and automatic fashion. They rely on learned, experience-based, context-sensitive associations that provide them with a deep understanding of the situation, and that allows them to engage in fluid, intuitive actions. Rather than following rules, experts exploit both their experience base and the information in the environment to guide action. Expert processes are largely perceptual and automatic. This designer provided the following rationale in selecting between the Master 1 and Master 2 levels: I deal with, you know, the instructional design and facilitation [mmhhmm] quite automatically and I rely on my experience. I mean I do follow some rules and principles but rely based more on experience. This one (on expertise list) in terms of being able to teach because I have taught it at the university level [mmhhmm] so [pause] I wouldn't say I'm among (?) an elite group of experts though [well] who set standards. So, probably the Master 1. (Company B Consultant, September 10, 2007)

Design decisions identified through the interviews with the interviewed decision makers at Company B are now reported, classified by decision style categories (Table 1).

Table 20. *Decision Making Style Findings - Company B.*

Decision Style	Decision Style Findings – Participant Citations
Rationalist (Value	Actually, one of the things that I kept thinking about was, you know, really, what's the objective

Focused)	here. What do you want to accomplish with this orientation program. And, you know, it's really about getting employees excited about Company B, it's about getting them to feel good about their decision to join Company B and to come away from it feeling a part of Company B and knowing the Company B way. So I wasn't, wasn't sure whether those objectives were really, really clear in people's minds. (Company B Consultant, September 10, 2007) …it's just really important to; let's clarify again what the objectives are, and make sure that the presentations align and all the activities as well, align with those objectives…. I thought about it, so what's the purpose, like why would you run an orientation program. [yeah] What do you hope success will look like [yeah] what do you want the target population to walk away knowing more about and being able to do more effectively. (Company B Consultant, September 10, 2007) So it was more like, 'To welcome employees to Company B and make them feel a part of Company B' Those I think were the general objectives [ok that was] To know and understand Company B policies, might have, you know, would probably be, I think, as far as they would have gotten.…these are the objectives I believe you are trying to achieve [ok] and these are the objectives that each presenter should be addressing in their presentation. This should, you know, make sure that they're covering off on all of these things, you know, based on the unique content. (Company B Consultant, September 10, 2007) One of my first recommendations was, you know, revisiting the objectives with each presenter. (Company B Consultant, September 10, 2007) We reviewed those [objectives] in detail and made them Company B [mmhhmm] with the, you know, with, the Company B global but with the Company B specific feel [mmhhmm] in certain areas. So the message will be consistent [mmhhmm] across

	Company B global and it will also have additional Company B information …The coaching that they do with the new hire's manager to, you know, setting everything up …we looked at the Company B global program, looked at the content and the activities…some activities-that, I mean, they just did, and you know how when things get handed down and handed down, it, like, soon there becomes like no rationale-like why are you doing it. (Company B Consultant, September 10, 2007)
Empiricist (Empiricist)	Some examples of empiricist decision making were identified in the interview transcripts with the Company B Project Manager: I just did a web search and found 4 or 5 different people who were doing consulting in this area—one fellow was selling his white paper and quite reasonably priced so it was one of these ones; … some of the actual HR companies that we use like Towers-Perrin and William Mercer… In the early going of the project …I did a review of internal services and what people's perceptions was [existing practice] yeah [and how it was perceived] yeah, how it was perceived. And we followed a couple of people through in how it was done early on—before anything else we watched what was done and tried to do a process mapping for that. (Company B Project Manager, July 12, 2007) 2 years ago when we were starting on this the risk was fairly low that HR systems would change dramatically and that's not laughter (Company B HR Onboarding Co-ordinator: yeah, that's not the case at all) the case today …our pension program changed once in 20 years, [that's right, I saw that] our insurance program changed every 5 years and the employee share program, I think, had been 10 years in place without changes. (Company B Project Manager, July 12, 2007)
Pragmatist (Pragmatist)	[The technology supported being able to do some things that they wanted to do] Yes, absolutely. Like for example, They have a Learning Management System so, going back to the

	example of the Respectful Workplace and Supervisory modules—I mean they can easily, I mean it's not a manual process [to schedule] to schedule them and like they can, you know, sign them up into (name of the company LMS) and it gets sent to their (electronic) calendar, their registered in the program, their cost centre gets charged, their participation in the program [like a reminder notice] yeah, exactly. (Company B Consultant, September 10, 2007) So it was previous, where are our biggest problems that helped us in the design of what we are doing. (Company B HR Onboarding Co-ordinator, September 7, 2007) … at first when we said this to people they said, 'you know, really thanks Company B HR Onboarding Co-ordinator, for the sales pitch that was really great and it sounds like you're going to do it but come on [yeah, with your little group, I mean, come on] yeah, so that was the big thing [yeah, and letting go] yes [so how did you overcome that?] well, I think the only way we could overcome it is to really put it through to the test, so try us out…let's see how it goes and if it's all disaster and the computer hasn't arrived, you're welcome to go back; and you don't have to use our service again. If you want to carry on doing it after that, that's fine. (Company B HR Onboarding Co-ordinator, September 7, 2007) I mean the only real drivers were the fact that we had so many complaints and the fact that we needed to improve retention. So that was really the biggest two drivers for why we wanted to do it. (Company B HR Onboarding Co-ordinator, September 7, 2007) So the fact that we had so many new supervisors was another big driver [it was a supportive thing because they didn't know how to do that, so they weren't saying, 'heh, I don't need you, I've done this a hundred times myself'] yes, exactly and yes, so very new for them [they were happy to have the

	help] very happy to have the help and they didn't have any onboarding themselves because nothing was there so, you know, yeah [yeah, yeah and they are technical people, by and large they weren't reading journals and coming to you and saying, 'this is how I want it to be' they were just 'oh, that sounds great, that's fantastic, thank-you'] yes, exactly, exactly. (Company B HR Onboarding Co-ordinator, September 7, 2007) Rather than reinvent the wheel what we did is we took a look at their onboarding program and we said, "while gosh, you know, what are some of the things that we think are really good in their orientation program?' But what is some of the things, and complaints, and miseries that we've had that they haven't really addressed. So we added on those pieces but we tried to stay within their orientation because frankly, it was pretty good and we also, in the back of our minds always knew that if we were going to (?) deliver it here, we had to make sure that other companies from Company B global that might be moving here would get the same presentation [which turned out to be prescient] (laughter) yeah, a really good thing. (Company B HR Onboarding Co-ordinator, September 7, 2007) We want to make sure that there, you know, if there are some safety issues that that's addressed right away, and things like that. Yeah, some of it is pretty important to us that they get right at the beginning—but also some of it, like the Corporate Orientation is, if you give that to them to soon [right] it's too much and they can't absorb it and they don't understand the basics …[yeah, it's a nice balance, there's a choice in there about, you know, if they're here too long they are dismissing what you say, because they've already reached their own conclusions] exactly. (Company B Designer, July 11, 2007) I mean that was one of the mandates early on-was find the things that are really broken and try to get those fixed quickly [ok] so [well, low-hanging

	fruit, I think you had, was the term] yeah, yeah, so… . (Company B Project Manager, July 12, 2007)
Dialectic (Multi-Party)	No findings.
Systemic (Systems)	The onboarding designer did utilize some system flowcharting, which provided evidence of systemic decision making, especially with respect to planning the IT aspects of the newcomers' experience. They thought that there was never enough resources to do the onboarding-that it was just a bunch of bad programs and a bunch of bad IT people out there that weren't getting it all done and why did we have these crazy systems. Instead of somebody stopping to go, 'well no, the systems are all in place, we just haven't put them together' so there was that [that's very interesting isn't it?] yeah, they thought the IT people don't know what they're talking about - it was everybody's fault but what they didn't realize was no, everyone was pretty diligent about security issues at IT and all the different things they had to worry about; they just didn't put it all together. (Company B HR Onboarding Co-ordinator, September 7, 2007) While frankly there was no process. So what we did is we developed a 1-page e-form that went to all of these departments at the same time…. … so we said, 'well wait a minute why couldn't we just fill this all out with all the same information at the top and then specific information for each one we'll fill out at the bottom, and were good to go. I can't tell you, I mean it seems simple, but no one ever thought of it for 20 years. (Company B HR Onboarding Co-ordinator, September 7, 2007)
Structuralist (Structuralist)	No findings.
Intuitionist (Imaginative)	Only a single example of intuitionist decision making was identified in the interview transcripts: I think some of it was intuitive, to just say, from a human nature side of it to say, well gosh, you

	know, if I was coming into a new place I'd want someone to offer me a coffee, or welcome me, or whatever the case may be. (Company B HR Onboarding Co-ordinator, September 7, 2007)

Interestingly, the external Instructional Design consultant was the only interviewee at any of the companies who identified the impact of systemic environmental factors such as performance appraisal, but logically, her comments were possibly applicable to the designers at all four companies:

> I think the compensation program probably helped because I think that it was certainly part of their performance contracts to, to bring this in and to deliver it, so that probably helped … I think the profile of this project was certainly a motivating factor, absolutely … Personal development. Absolutely. I think that for [the IT Project Manager], you know, it was a whole new area of learning for him and I know [the HR onboarding coordinator] always; (name of Company B HR Onboarding Co-ordinator) did an enormous amount of research as well and for her own personal, professional development. (Company B Consultant, September 10, 2007)

Company B – Onboarding Intended Outcomes

The Company B HR onboarding co-ordinator indicated that the current onboarding program would contribute to 66 outcomes. She also indicated her level of agreement that the onboarding program she would design in an ideal future would contribute to the outcomes. Details of the instruments and the procedure used were described in the Methodology chapter and the 66 outcomes are listed in Appendix D.

The onboarding co-ordinator's responses are reported in Table 21. The table shows that, for example, for the current Company B onboarding program the co-ordinator neither agreed nor disagreed with 2 of the 9 organizational assimilation outcome items, strongly

agreed with 4 of the 9 items, completely agreed with 2 of the 9 items and did not respond to the 1 remaining item.

Table 21. *Frequency of Agreement with Intended Outcome Statements - Company B Onboarding Co-ordinator.*

	Company B - Onboarding Intended Outcomes (Number of items)							
Organizational-	**CD**	**D**	**SD**	**-**	**SA**	**A**	**CA**	**NR**
Assimilation (Now)				2	4		2	1
Assimilation (Future)		1		1		2	5	
Commitment (Now)			5		4	4	1	
Commitment (Future)			1				13	
Identification (Now)	1	1		5	8	15	1	
Identification (Future)	1			2	2	3	22	1
Socialization (Now)			4	1	5	2		
Socialization (Future)	1	1	1		4		5	

CD – Completely Disagree, D – Disagree, SD – Somewhat Disagree, - Neither Agree nor Disagree, CA – Completely Agree, A – Agree, SA – Somewhat Agree

The above frequencies in Table 21 are converted to row percentages in Table 22.

Table 22. *Row Percentage Agreement with Intended Outcome Statements - Company B Onboarding Co-ordinator.*

	Company B - Onboarding Intended Outcomes (Percentage of row items)							
Organizational-	**CD**	**D**	**SD**	**-**	**SA**	**A**	**CA**	**NR**
Assimilation (Now)	0	0	0	22	44	0	22	11
Assimilation (Future)	0	11	0	11	0	22	56	0
Commitment (Now)	0	0	36	0	29	29	7	0
Commitment (Future)	0	0	7	0	0	0	93	0
Identification (Now)	3	3	0	16	26	48	3	0
Identification (Future)	3	0	0	6	6	10	71	3
Socialization (Now)	0	0	33	8	42	17	0	0
Socialization (Future)	8	8	8	0	33	0	42	0

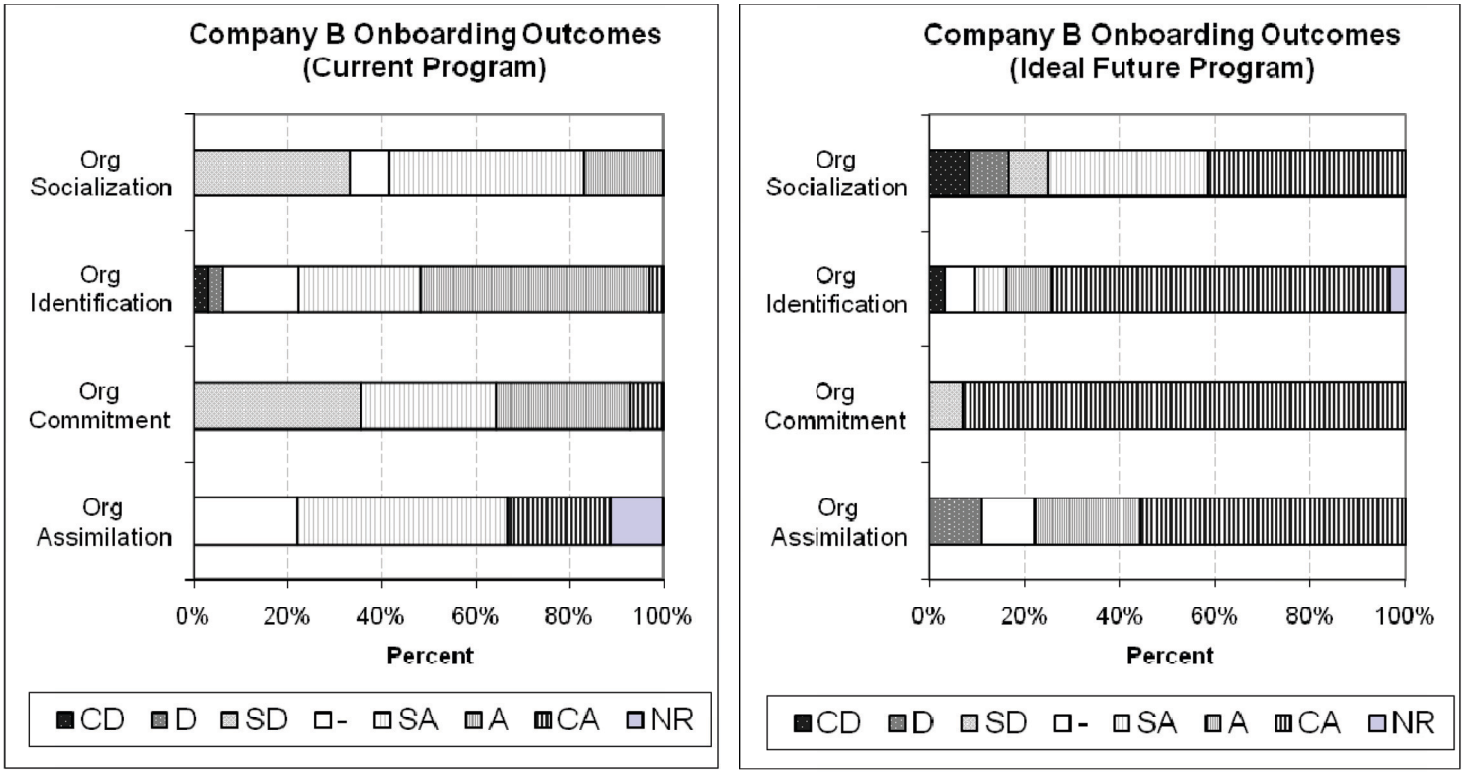
CD – Completely Disagree, D – Disagree, SD – Somewhat Disagree, - Neither Agree nor Disagree, CA – Completely Agree, A – Agree, SA – Somewhat Agree

The above row percentages in Table 22 are graphically represented in Figure 8.

The HR onboarding co-ordinator **overall agreed** that the **current** onboarding program should contribute to 46 (70%) of the 66 outcome statements.

She **completely agreed** with four of the items for the **current** onboarding program and **completely disagreed** with one **current** onboarding program item.

These five items are reported in Table 23 which includes the domain (cognitive, affective, psychomotor) the outcome was classified in and also which of four constructs (organizational- assimilation, commitment, identification or socialization) the outcome is associated with. The constructs are discussed in the Methodology chapter.



CD – Completely Disagree, D – Disagree, SD – Somewhat Disagree, - Neither Agree nor Disagree,
CA – Completely Agree, A – Agree, SA – Somewhat Agree

Figure 8. Current vs. Future Intended Outcomes - Company B Onboarding Co-ordinator.

Table 23. *"Completely Agree" and "Completely Disagree" Onboarding Program Outcomes (Current) - Company B.*

Construct Organizational-	"Completely Agree" with Outcome	Domain
Assimilation	The participant knows the values of the company.	Cognitive
Assimilation	The participant understands the standards of the company.	Cognitive
† Commitment /Identification	The participant agrees, "There's not too much to be gained by sticking with this company indefinitely".	Cognitive /Affective
Identification	The participant talks up the company to friends as a great company to work for.	Cognitive /Affective
Construct Organizational-	"Completely Disagree" with Outcome	Domain
Identification	The participant agrees that the association with the company is only a small part of who he or she is.	Cognitive /Affective

† Reverse scored item

The HR onboarding co-ordinator completely agreed (45 items), agreed (5 items), or somewhat agreed (6 items) that an **ideal future** onboarding program should contribute to 56 (85%) of the 66 items. She was unable to comment on 3 (5%) of the 66 items. This designer completely disagreed (2 items), disagreed (2 items) or somewhat disagreed (2 items) with 6 (9%) of the 66 items which are reported in Table 24.

The Company B onboarding co-ordinator responded to 63 potential orientation topics by: (a) indicating if the topic was included in the company onboarding program and (b) rating how important each item was to their typical program participant. The resulting participant responses to the 63 potential orientation topics were grouped into four

categories for reporting: (a) context, (b) interpersonal, (c) logistics, and (d) managing systems.

Table 24. *Disagreement with Possible Orientation Outcomes (Ideal Future) - Company B.*

Construct Organizational-	"Completely Disagree" with Outcome	Domain
Socialization	The participant understands the internal politics within this organization (e.g., chain of command, who is influential, what needs to be done to advance or maintain good standing).	Cognitive
Identification	The participant agrees that the association with the company is only a small part of who he or she is.	Cognitive /Affective
Construct Organizational-	"Disagree" with Outcome	Domain
Socialization	The participant knows the specific names of the products/services produced/provided by this company.	Cognitive
Assimilation	The participant offers suggestions for how to improve productivity.	Cognitive
Construct Organizational-	"Somewhat Disagree" with Outcome	Domain
Socialization	The participant knows the history of this company (e.g., when and who founded the company, original products/services, how the company survived tough times).	Cognitive
Commitment	The participant would accept almost any type of job assignment in order to keep working for this company.	Cognitive /Affective

Company B – Program Content Findings

This co-ordinator's current program includes 49 (78%) of the 63 potential topics, as reported in Table 25. Forty-three (88%) of the included were rated as being of high importance. The designer was uncertain as to whether or not an additional nine items (14%) were included in her current program.

Table 26 lists the seven items which the HR on-boarding co-ordinator ranked as of low importance to typical onboarding participants. Three of these low importance items are

included in the company's onboarding program, while the co-ordinator was uncertain about whether or not one additional item was included as an orientation topic.

Table 25. *Newcomer Topics Inclusion - Company B.*

		CATEGORY				
STATUS	IMPORTANCE	Context	Interpersonal	Logistics	Mging Systems	Total
Included	High	11	5	17	10	43
	Low	3				3
	Medium	1	1		1	3
Included Total		15	6	17	11	49
Not Included	High			1		1
	Low	2			1	3
	Medium		2	1	1	4
	(blank)	1				1
Not Included Total		3	2	2	2	9
Uncertain	High	1			1	2
	Low				1	1
	Medium	1		1		2
Uncertain Total		2		1	2	5
Total		20	8	20	15	63

Table 26. *Low Importance Items - Company B.*

Inclusion Status	Topic	Topic Category
Yes	Company History	Context
No	Competitors	Context
Yes	Products & Services	Context
Yes	Customers Internal	Context
No	Work Processes (e.g. Flow charts)	Managing Systems
No	Employee Demographics	Context
Uncertain	Quality Program (inc Service Commitment)	Managing Systems

Parking was the only item of high importance that was not included in the Company B orientation program. The HR onboarding co-ordinator was unsure if two high importance items are included or not.

Table 27. *High Importance Items (Not Included or Uncertain) - Company B.*

Inclusion Status	Topic	Topic Category
Not included	Parking	Logistics
Uncertain	Decision Processes	Managing Systems
Uncertain	Individual's Importance to Company Success	Context

The content and design were strongly influenced by problems that had resulted from previous newcomer experiences:

> So it was previous, where are our biggest problems that helped us in the design of what we are doing. … and for us, clearly a lot of that was around the technology, was a big part of it and, and lack of concern that the manager just forgot they had hired me, you know, so you want to make that you get that in there, and your manager's not on holidays and things like that when you arrive which frankly was the way it was before onboarding came in …that's really what made us decide what was needed for the participants. (Company B HR Onboarding Co-ordinator, September 07, 2007)

That there were not just cognitive outcomes can be seen in the following quotation from the HR onboarding co-ordinator:

> we knew that there's already so many e-learning things going on, that that's just another way of not having the face-to-face, another way of saying, 'Go to your office and turn your DVD on and learn everything you need to know' and we've, we have experienced that that's not always the best way, especially when you're trying to network and get to know people in the very first time that your coming into a company. [yeah] so we knew that we didn't want to do that. (Company B HR Onboarding Co-ordinator, September 07, 2007)

Company B – Program Implementation

Decisions made by the Company B HR Onboarding Co-ordinator with respect to the implementation of an onboarding program are first described in terms of the newcomers—program participants who the program is implemented for. Findings about tactical decisions made to ensure the program was actually implemented throughout the organization are then discussed.

Company B – Onboarding Participants

Every person that hired into Company B is expected to receive orientation training "because it is what gets them functional, so they are expected to take that - it is not geared to a certain grade or a certain department, or a certain level or a certain business. It's is all…it is everybody" (Company B HR Onboarding Co-ordinator, September 7, 2007).

When the Company B HR onboarding co-ordinator was asked which newcomer traits or characteristics were considered in her design choices, she replied, "I mean the thing is we're hiring such a broad range of folks [mmhhmm] because we're hiring so many [experienced hires, campus people] yeah [admin] right, it's kind of across the board" (Company B HR Onboarding Co-ordinator, September 7, 2007). A finding from this research is that newcomers to Company B are heterogeneous.

Newcomers to an organization enter via a variety of paths which are shown in Table 28. A similar table was explained earlier (Table 16). Company B information is summarized in Table 28.

Table 28. *Orientation to Organizational Level by Entry Path - Company B.*

Entry Path	*Organizational Level for Which Orientation is Provided*			
	Corporate	Division	Department	Work Group/Job

Pre-entry	●			
Campus (Career)	●			
Experienced	●			
Merger/Acquisition	●			
Joint Venture	●			
Consultant				

Table 28 shows that new Company B employees all receive orientation to the corporation regardless of the entry path by which they came into the company, as did newcomers arriving via a merger/acquisition or joint venture arrangement. Consultants did not receive any orientation to the organization.

Company B – Onboarding Implementation Tactics

The project manager and the HR onboarding program co-ordinator identified four factors which led to the initiation of a project to create an onboarding program at Company B:

1. Administrative issues at times prevented newcomers from becoming productive as quickly as possible; for example, computer access wasn't always available on the day of the newcomer's arrival.
2. Oil sands employment was ramping up and there was a recognition within HR, IS and senior management that integration of newcomers could be improved. Exit interview data from employees resigning early in their career showed that the top reasons for leaving could be addressed by an onboarding program.
3. Retention and attraction could be strengthened if the company had an excellent onboarding program that would enhance the external image of the corporation.

4. The strategy of operational excellence supported the standardization of an onboarding process for use across the organization.

Senior management at Company B created both a project charter and a steering team which was sponsored by the vice-president of Human Resources. Other steering team members included the manager of talent and development, the manager of shared IT infrastructure and the HR manager of oil sands. Four products were specified in the project charter: (a) an onboarding service, (b) a revised corporate orientation program, (c) a CD with information and forms and (d) software to support the logistics of an onboarding program.

The first six months of the project were spent in an assessment phase during which the team identified best practices for onboarding programs and created an initial design. The results from prototyping a newly designed program led to the involvement of an external Instructional Design consultant, who observed, "I would say there was some level of dissatisfaction because they'd done a pilot" (Company B Consultant, September 10, 2007). She stated:

> We wanted to make it more participatory. And more engaging for participants because we felt that that would really help to accomplish the objective of having employees who were engaged and feeling confident in their decision to join Company B. So, participation, yes; commitment meaningful active ongoing, tangible support for the innovation-that's never been a stumbling block, that's always been…very much there and same with leadership. (Company B Consultant, September 10, 2007)

The project had strong support at the most senior executive levels "first of all we had amazing senior leadership buy-in. Which I think this program would never have been successful had we not" (Company B HR Onboarding Co-ordinator, September 7, 2007).

Company B – Program Evaluation

When asked how the onboarding program was measured or evaluated, the HR onboarding co-ordinator described a supervisor survey and the pilot evaluation process that was used for ongoing evaluation of the implemented onboarding program. The supervisor survey was sent out about every three months; it asked about the recent onboarding experience of the newcomers:

> How happy are you with the onboarding service and what your new hire is receiving… And then the survey comes back to say, you know, from the manager's perspective, how are we doing in onboarding. And it's like 97% so, we've got one manager that doesn't want to use us, cause he was one of the guys on the pilot, and the problem being is that in the pilot we did a heck of a lot of handholding. (Company B HR Onboarding Co-ordinator, September 7, 2007)

A summary of the survey results was periodically provided to senior management, though not to the supervisors. A supervisor who was unhappy with the onboarding service provided to their new hires would be contacted directly by the HR onboarding co-ordinator for follow-up. The Company B HR Onboarding Co-ordinator added:

> Same thing works with the new hires so what we do is at 2 weeks, 3 months and 6 months—we survey the new hires. And first of all, on the first day of orientation, they get an orientation [questionnaire] to say, 'So how was the process, what was it? Did you like it? Was it good? What could we do to improve? So there's that kind of thing. Then, 2 weeks after, we call them and the big reason were doing that is we want to make sure that they have everything they need and that everything went well and if it didn't why hasn't it.…So there's a piece on, So how was the administration, there's a piece on how was the workplace—did you get a welcoming feeling, was the business unit good with you. You know, you're in your business now, how are they treating you and then there's the, 'So how did your supervisor do?' So those are the 3 parts to those and then we do that survey and then 3 months later we ask, 'So, is this the job you thought it was going to be?'...And we came up with those survey questions was a combination of just what we know intuitively but also how our exit

> surveys, our exit interviews [the data from that] and the data from all of that to say, 'So why are people leaving Company B'. (Company B HR Onboarding Co-ordinator, September 7, 2007)

Company C: Designer Demographics and Predominant Decision Style Findings

Findings about the designer's decision making begin with a summary of her demographic characteristics in Table 29. Additional relevant information about this designer is then provided.

Decision process descriptions obtained from the designer interviews are classified in Table 30 using the Kinston and Algie (1989) framework (Table 1). The predominant decision styles of this designer are then summarized.

The Company C onboarding designer was an individual with the characteristics shown in Table 29.

This designer said that someone designing an orientation program ought to have HR generalist experience and a level of knowledge and experience appropriate to the complexity of the organization.

Design decisions identified through the interviews with this designer are now reported, classified according to Kinston and Algie's (1989) framework (Table 1).

Table 29. *Demographics of the Onboarding Designer - Company C.*

Characteristic	Company C Onboarding Designer
Age Range	41-50
Gender	Woman
Company Department	Human Resources
Service - Current Job Service - Current Company	10 Years
Total Work Experience	20 Years
Work Experience	3 Years

Relevant to Newcomer Orientation	Designed and delivered an orientation program at an oil and gas company
Education	Bachelor of Science (honours) A one year (part-time) private program on change management provided helpful education related to the design, implementation and sustainment of the orientation program at Company C.
Nature of Involvement in Newcomer Orientation (Current Job Role)	Designer of the onboarding program and orientation training with overall accountability for design, implementation and on-going operation (including continuous improvement) of the program. Administration of the program was recently delegated to an employee reporting to this designer.
Self-assessed Level of Expertise	Master 1 Deal with task demands in an effortless and automatic fashion. Master 1. Performers deal with task demands in an effortless and automatic fashion. They rely on learned, experience-based, context-sensitive associations that provide them with a deep understanding of the situation, and that allows them to engage in fluid, intuitive actions. Rather than following rules, experts exploit both their experience base and the information in the environment to guide action. Expert processes are largely perceptual and automatic.

Table 30. *Decision Making Style Findings - Company C.*

Decision Style	Decision Style Findings – Participant Citations
Rationalist (Value Focused)	The sequencing of content was carefully designed to provide newcomers with the right amount of information at the right time, as shown in the following quotations: ...we were very deliberate about offering different types of elements, different types of experiences...There's individual meetings set up with a supervisor, the other people in the organization, the HR Advisor for a quick check-in.... (Company C Designer, October 10, 2007) The newcomer is provided with information they are to review at home and which is supported with an on-line tutorial that reviews the key elements of the benefits plans. Next, are "individual meetings, there's the group benefit thing, there's the Welcome

	Wednesday which is a group so, again, very deliberate to promote group dynamics and networking and to know you're not the only new employee at Company C. (Company C Designer, October 10, 2007)
Empiricist (Empiricist)	No findings.
Pragmatist (Pragmatist)	The following are examples of pragmatic decision making at Company C that were identified in the interviews with the Company C designer: So, again, we used to do it [orientation] individually and we found that our HR Advisors were, like, doing it full time. (Company C Designer, October 10, 2007) ... part of our orientation and part of our checklists are that new employees need to go through some policy review and check off those policies and there on line...Non-harassment, our Business Ethics, you know—those kind of things, they need to sign off on those .... (Company C Designer, October 10, 2007) ...we were just conscious not to overwhelm with too much information on day 1--to take this slowly so that's why we do our Welcome Wednesday every 2 weeks....you can't orient everything in one day. (Company C Designer, October 10, 2007)
Dialectic (Multi-Party)	Only a few instances of dialectic decision making were reported the interviews with the Company C designer: we did video conferencing with them [stakeholders] quite frequently to make sure that we were all on the same page and they were included and that kind of stuff, so that would be the only thing. (Company C Designer, October 10, 2007) but we had partnerships with Communications and

	IT—that made it go very, very well [ok] So that, that would be the [key] IT, Communication partnership, and we had executive support. (Company C Designer, October 10, 2007)
Systemic (Systems)	The only evidence of systemic decision making was found in the following quotation from one of the interviews with the Company C designer: So I had 2 people from my group at the time, on the project team...one was focusing on sort of process maps. [ok] Because there's a lot of depth in this program; like the IT guy doesn't magically appear...they were both sort of Proficient Professionals [ok]. (Company C Designer, October 10, 2007).
Structuralist (Structuralist)	No findings.
Intuitionist (Imaginative)	A possible reference to an intuitionist style of decision making identified from the Company C designer interview transcripts is shown below: I want to kick the Welcome Wednesday up a notch—I think it's boring [ok] so I've asked for some research to be done. Some creativity be applied....something compelling. (Company C Designer, October 10, 2007). Intuitionist decision making was described in the context of making design decisions, given what is known about the newcomers: I think you do get sort of an intuition about, you know, who your stakeholders are, who your clients are, so obviously, were not gearing to, you know, we don't have a lot of immigrants, for instance, where English is their second language. That's just not a target for us at all so I certainly know the target group. [And so you have sort of a tacit knowledge of 'that's going to work'] mmhhmm

	['that not so much'] Right, yes, yes. (Company C Designer, October 10, 2007).

At Company C, the onboarding designer decision making styles most frequently found were the rationalist and pragmatic styles. No examples of empiricist or structuralist styled decision making were identified. Only a few examples of systemic or intuitive styled decision making were found. Dialectic styled decision making was also found to be quite limited. More examples of decision styles would have been desirable but both the interviews with this designer were scheduled for less time than had been committed to.

Company C – Onboarding Intended Outcomes

This designer indicated that the current onboarding program would contribute to 66 outcomes. Details of the instruments and the procedure used were described in the Methodology chapter (Chapter 3) and the 66 outcomes are listed in Appendix D.

The designer's responses are reported in Table 31. The table shows that, for example, for the current Company C onboarding program the designer disagreed with 1 item, somewhat disagreed with 1 item, etc. The Company C designer did not provide her level of agreement that a future ideal onboarding program would contribute to the various outcomes. The frequencies in Table 31 are converted to row percentages in Table 32. The row percentages in Table 32 are graphically represented in Figure 9.

This onboarding designer overall **agreed** that the **current** onboarding program should contribute to 38 (58%) of the 66 outcome statements.

She **completely agreed** with 13 of the items for the **current** onboarding program and **completely disagreed** with 1 **current** onboarding program item. These 14 items are reported in Table 33 which includes the domain (cognitive,

Table 31. *Frequency of Agreement with Intended Outcome Statements - Company C Designer.*

	Company C - Onboarding Intended Outcomes (Number of items)							
Organizational-	**CD**	**D**	**SD**	**-**	**SA**	**A**	**CA**	**NR**
Assimilation (Now)		1	1	2	2	1	2	
Assimilation (Future)								9
Commitment (Now)	1	1		3		5	4	
Commitment (Future)								14
Identification (Now)		2	1	11	3	9	5	
Identification (Future)								31
Socialization (Now)		2	1	2	1	4	2	
Socialization (Future)								12

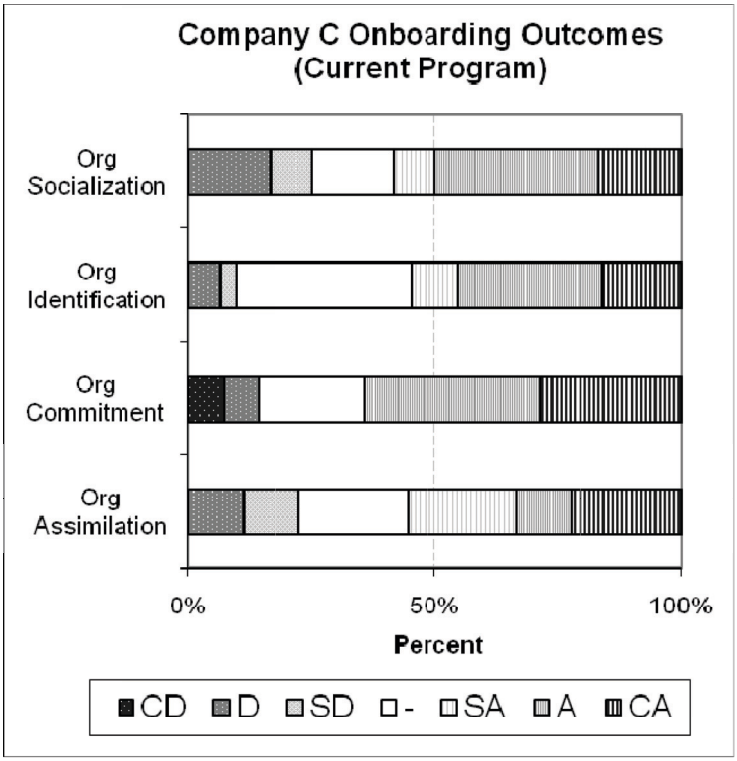
CD – Completely Disagree, D – Disagree, SD – Somewhat Disagree, - Neither Agree nor Disagree, CA – Completely Agree, A – Agree, SA – Somewhat Agree

Table 32. *Row Percentage Agreement with Intended Outcome Statements - Company C Designer.*

	Company C - Onboarding Intended Outcomes (Percentage of row items)							
Organizational-	**CD**	**D**	**SD**	**-**	**SA**	**A**	**CA**	**NR**
Assimilation (Now)	0	11	11	22	22	11	22	0
Assimilation (Future)	0	0	0	0	0	0	0	100
Commitment (Now)	7	7	0	21	0	36	29	0
Commitment (Future)	0	0	0	0	0	0	0	100
Identification (Now)	0	6	3	35	10	29	16	0
Identification (Future)	0	0	0	0	0	0	0	100
Socialization (Now)	0	17	8	17	8	33	17	0
Socialization (Future)	0	0	0	0	0	0	0	100

CD – Completely Disagree, D – Disagree, SD – Somewhat Disagree, - Neither Agree nor Disagree, CA – Completely Agree, A – Agree, SA – Somewhat Agree

affective, psychomotor) the outcome was classified in and also which of four O-ACIS constructs that the outcome is most closely associated with. The constructs were discussed in the Methodology chapter (Chapter 3).



CD – Completely Disagree, D – Disagree, SD – Somewhat Disagree,
- Neither Agree nor Disagree, SA – Somewhat Agree, A – Agree,
CA – Completely Agree

Figure 9. Current Program Intended Outcomes - Company C Designer.

Table 33. *"Completely Agree or Disagree" Orientation Program Outcomes-Company C.*

Construct	"Completely Agree" with Outcome	Domain
Assimilation	The participant knows the values of the company.	Cognitive
Assimilation	The participant understands the standards of the company.	Cognitive
† Commitment	The participant feels he or she could just as well be working for a different company as long as the type of work was similar.	Affective
Identification	The participant finds it difficult to agree with the company's policies on important matters relating to him or herself.	Cognitive /Affective
Commitment	The participant is extremely glad to have chosen this company to work for over others being considered at the time he or she joined.	Affective

Commitment/ Identification	The participant really cares about the fate of the company.	Affective
Commitment/ Identification	The participant talks up this company to friends as a great company to work for.	Cognitive /Affective
Identification	The participant feels that the company cares about him or her.	Affective
Identification	The participant has warm feelings toward the company as a place to work.	Affective
Identification	The participant is very proud to be an employee of the company.	Affective
Identification	The participant would be quite willing to spend the rest of his or her career with the company.	Cognitive /Affective
Socialization	The participant knows the structure of the company (e.g., how the departments fit together).	Cognitive
Socialization	The participant understands this company's objectives and goals.	Cognitive
Construct	"Completely Disagree" with Outcome	Domain
† Commitment	The participant agrees, "There's not too much to be gained by sticking with this company indefinitely".	Cognitive /Affective

† Reverse scored item

Company C – Program Content Findings

The Company C designer responded to 63 potential orientation topics by: (a) indicating if the topic was included in the company onboarding program and (b) rating how important each topic was to their typical program participant. The resulting participant responses to the 63 potential orientation topics were grouped into four categories for reporting: (a) context, (b) interpersonal, (c) logistics, and (d) managing systems.

This designer's onboarding program included 41 (65%) of the 63 potential topics, as reported in Table 34. Twenty-nine (71%) of the included topics were rated by the designer as being of high importance to newcomers.

Table 34. *Newcomer Topics Inclusion - Company C.*

		CATEGORY				
STATUS	IMPORTANCE	Context	Interpersonal	Logistics	Mging Systems	Total
Included	High	9	2	10	8	29
	Low	3	2	2	1	8
	Medium	2		2		4
Included Total		14	4	14	9	41
Not Included	High			1		1
	Low	6	4	5	5	20
	Medium				1	1
Not Included Total		6	4	6	6	22
Grand Total		20	8	20	15	63

Table 35 lists the 28 items this designer ranked as of low importance to typical newcomers. Eight items of low importance to typical orientation participants were included in the Company C orientation program as identified in Table 35.

Table 35. *Low Importance Items - Company C.*

Topic in Company C Orientation	Topic	Topic Category
Yes	Culture	Interpersonal
Yes	Dress Code	Logistics
Yes	Employee Demographics	Context
Yes	Products & Services	Context
Yes	Social Club (inc Athletic)	Interpersonal
Yes	Supplies	Logistics
Yes	Work Environment	Context
Yes	Work Processes (e.g. Flow charts)	Managing Systems
No	Attendance	Logistics
No	Company Future	Context
No	Company Philosophy	Context
No	Competitors	Context
No	Customers External	Context

No	Customers Internal	Context
No	Decision Processes	Managing Systems
No	Discipline	Managing Systems
No	EEO/Diversity	Managing Systems
No	Employee-Management Relationship	Interpersonal
No	Fitting In	Interpersonal
No	Fresh Eyes	Logistics
No	Hours of Work	Logistics
No	Industry Overview	Context
No	Influence	Interpersonal
No	Parking	Logistics
No	Procedures (e.g. Exp Account, Billing Client, etc.)	Logistics
No	Quality of Work Life (QWL)	Managing Systems
No	Quality Program (inc Service Commitment)	Managing Systems
No	Welcoming Ceremony	Interpersonal

A facilities tour (physical or virtual) was the only item of high importance that was not included in the Company C orientation program. This topic is an item in the Logistics category.

Company C – Program Implementation

Onboarding program implementation decisions made by the Company C designer are described in terms of the newcomers—the program is implemented for them. Findings about tactical decisions made to ensure actual program implementation are then discussed.

Company C – Onboarding Participants

Newcomers to an organization enter via a variety of paths which are shown in Table 36. Details of a similar table (Table 16) were described earlier in the Company A Newcomer Attributes section of the Company A findings. Findings for Company C are reported in Table 36 which shows that consultants do not receive an orientation at Company C; however, newcomers under contract might, as according to the Company C

Table 36. *Orientation to Organizational Level by Entry Path - Company C.*

Entry Path	*Organizational Level for Which Orientation is Provided*			
	Corporate	Division	Department	Work Group/Job
Pre-entry	●			●
Campus (Career)	●	●	●	●
Experienced	●	●	●	●
Merger/Acquisition	●			●
Joint Venture				
Consultant				

designer, "if we were bringing a temp in for a week--not so much, but if we're bringing someone in for a four month contract or a mat leave or something, they would get something more significant (Company C Designer, July 10, 2007).

The Company C designer paid special attention to students, new grads, converted contractors and contractors and was therefore aware that newcomers were arriving with diverse backgrounds and interests. As the interviews progressed this designer acknowledged some assumptions were made about the newcomers:

> For the sort of the mainstay program which would be the office program, I guess we make a lot of assumptions…that they are computer literate [well, and yeah,] yeah, it's just not a question. I don't think anybody would walk through these doors that isn't [wouldn't, yeah] So I think that's the biggest assumption, much past, you know, some of the demographic and everything I don't have, we didn't have that information. [ok] we've got information of who we hire and everything but we didn't necessarily use that in the design. [these are going to be] … highly technical geology, geophysics, engineers for the most, yes. We know that our population's well educated, so … So I guess those would be the criteria that we would have designed around. (Company C Designer, October 10, 2007)

Company C – Onboarding Implementation Tactics

A redesigned prototype was piloted in the organization approximately one year before the first interview. Previously the organization had a "self-service" orientation:

> So, you had your computer hooked up, there was an email welcome message, there were lists of things you should do but all self-service [ok] and we realized that self-service in a large company like ours could be a bit bewildering [ok] and that we needed more face time and we needed; I would say; my language, a warmer welcome to employees. (Company C Designer, October 10, 2007)

When asked about program implementation the Company C designer said that cost constraints were not a significant design factor and identified six conditions that supported the implementation:

1. Dissatisfaction with the status quo,
2. Adequate resources,
3. Adequate time,
4. Participation by two key stakeholder groups (the IT department and Corporate Communications),
5. Senior management commitment,
6. Leadership, meaning, active, ongoing, and tangible support for the orientation program implementation by those who directly supervise the users of the orientation program.

In this case, a project group was formed that did research and benchmarking. This project group reported to this designer who had two members of her group on the team. This team also had representatives from the internal IT organization and the Corporate Communications group.

One of this designer's employees focussed on the development of a weekly one-day program and the other employee worked on process mapping "because there's a lot of depth in this program; like the IT guy doesn't magically appear and because we've got x different buildings and everything ... logistics have to be well coordinated." (Company C Designer, October 10, 2007).

The Communications professional provided expertise on the branding of the program including the look of the binders, PowerPoint presentations, and an accompanying website, as well as the editing of all the documentation.

The project had executive support which included the support of the CEO, “We took it right to [CEO’s name] and he was very keen on it, so... that certainly elevated its importance…he was wonderful” (Company C Designer, October 10, 2007).

Involvement of the IT department and support of the Facilities department enabled the onboarding program designer to achieve the goal of having a workspace ready with a welcome card on it and an IT professional available to meet the newcomer within two hours of his or her arrival.

Company C – Program Evaluation

Company C surveyed newcomers 2 weeks and 3 months after they arrived for work. Questions on the first survey included:

> Was everything there waiting for you? Did your manager meet with you? Did an IT person show up? You know, all of those kinds of things. Did your HR person check-in? Did you have your benefits/ we've got some open-ended questions, you know, how was this experience? And, yeah, that kind of thing so it's measured very much to the elements of the program. (Company C Designer, October 10, 2007)

Both surveys were administered electronically and the tabulated results were analyzed quarterly by this designer. The response rate was approximately 80% and the satisfaction rating was above 90%. This designer used the information to monitor the program's administration and to steward the program to a vice president as part of an overall stewardship of this designer's performance objectives. This designer's orientation program report "would report things like 98% satisfaction, x number of people attended [various onboarding activities]" (Company C Designer, October 10, 2007), etc. This designer stated that:

> The 90 day survey is probably more, 'How did your group orient you to your job?' [oh] So it's not so much that we've got a program to cover that but we just want to make sure that a leader and the group is cognizant that after 2 weeks you've still got to do your high performance contract, you've still got to engage in the Performance Management System and you've got to understand and have clarity about the role. You know, those kinds of things … They can't do anything without [right] computers. It's pretty fundamental [if you're sitting here 3, 4 days or a week, I mean no productivity] Absolutely. (Company C Designer, October 10, 2007)

Company D: Designer Demographics and Predominant Decision Style Findings

The findings about the designer's decision making begin with a summary of her demographic characteristics in Table 37. Additional relevant information about this designer is then provided.

Decision process descriptions obtained from the designer interviews are classified in Table 39 using the Kinston and Algie (1989) framework (Table 1). The predominant decision style of this designer is then identified.

The Company D orientation program designer was an individual with the characteristics shown in Table 37.

When asked to rate the relevance of learning principles identified by Merrill (Merrill, 2002) to the organization's orientation program (1 very low relevance to 7 very high relevance), this designer created Table 38.

Table 37. *Demographics of the Orientation Program Designer - Company D.*

Age Range	51-60 years
Gender	Woman
Company Department	Human Resources
Service - Current Job Service - Current Company	5 months 5 months
Total Work Experience	20 years (industry experience)
Work Experience Relevant to Newcomer Orientation	15 years
Education	B.A. in Psychology; in addition, she is a Certified Human Resource Professional (CHRP).
Nature of Involvement in Newcomer Orientation (Current Job Role)	Responsible for redesign and ongoing co-ordination of the orientation program in Canada.
Nature of Involvement in Newcomer Orientation (Previous Job Roles)	The designer has previous experience in planning, delivery and facilitation of orientation training in another industry.
Self-assessed Level of Expertise	Expert Level 1 Use specific goals to prioritize facts according to their relevance. They adopt a hierarchical process by which a plan is developed to organize the situation, and then use that plan to examine only those factors that are most relevant to the current goal and plan. This process is more efficient than those observed in previous stages because it involves more selective information processing.

Table 38. *Relevance of Principles of Learning – Company D.*

Principles of Learning	Personal Opinion	Actual Practice
Learning is promoted when learners observe a demonstration	6	No
Learning is promoted when learners apply the new knowledge	6	--
Learning is promoted when learners engage in a task-centered instructional strategy	6	Yes
Learning is promoted when learners activate prior knowledge or experience	6	Yes
Learning is promoted when learners integrate their new knowledge into their everyday world	6	No
Learning is promoted when learners observe a demonstration of the skills to be learned that is consistent with the type of content being taught	6	No
Demonstrations are enhanced when learners receive guidance that relates instances to generalities	5	No
Demonstrations are enhanced when learners observe media that is relevant to the content	4	No

1=very low, 7=very high relevance of the principle to the organization's orientation program.

Table 39. *Decision Making Style Findings - Company D.*

Decision Style	Decision Style Findings – Participant Citations
Rationalist (Value Focused)	It was originally ... sitting back and reflecting on what the current employee induction was getting feedback on.
Empiricist (Empiricist)	No findings.
Pragmatist (Pragmatist)	I think her ultimate goal, is perhaps, a lot of forms can be done online so that's something we can move towards and it will cut out a lot of robotic repetition of her role. (Company D Designer, May 14, 2007). Were just not at the point where we can go out and grab the orientation packages from each of the units – they don't know who we are, they don't understand the centralized HR role. (Company D Designer, May 17, 2007). So every 2 to 3 years you're getting a new manager, executive of each of the disciplines so I

	can't ever see it coming to the point where were all buying in to one Company D Canada orientation. It will still be separate, because that's what their world is.... (Company D Designer, May 17, 2007)
Dialectic (Multi-Party)	… were trying, finally, to tap into our counterparts in the bigger units, because we are budget constrained, so we said, well, who can we go to, to find out what they've got. They're not willing to give us everything but they're definitely willing to share but you just have to think what pieces you want. (Company D Designer, May 17, 2007)
Systemic (Systems)	No findings.
Structuralist (Structuralist)	No findings.
Intuitionist (Imaginative)	No findings.

At Company D, the onboarding designer decision making style most frequently found was the pragmatic style.

Company D - Onboarding Intended Outcomes

This designer indicated that the current onboarding program would contribute to 66 outcomes. She also indicated her level of agreement that the onboarding program she would design in an ideal future would contribute to the outcomes. Details of the instruments and the procedure used were described in the Methodology chapter and the 66 outcomes are listed in Appendix D.

This designer's responses are reported in Table 40. The table shows that, for example, for the current Company D onboarding program the designer strongly agreed with 5 of the 9 organizational assimilation items and agreed with the remaining 4 items.

The frequencies in Table 40 are converted to row percentages in Table 41 and the row percentages in Table 41 are graphically represented in Figure 10.

Table 40. *Frequency of Agreement with Intended Outcome Statements - Company D Designer.*

	Company D - Onboarding Intended Outcomes (Number of items)							
Organizational-	CD	D	SD	-	SA	A	CA	NR
Assimilation (Now)					5	4		
Assimilation (Future)					1	7	1	
Commitment (Now)		1	1		1	9	2	
Commitment (Future)				1		10	3	
Identification (Now)		1	1		9	19	1	
Identification (Future)		1		2	3	20	5	
Socialization (Now)					11	1		
Socialization (Future)					1	11		

CD – Completely Disagree, D – Disagree, SD – Somewhat Disagree, - Neither Agree nor Disagree, CA – Completely Agree, A – Agree, SA – Somewhat Agree

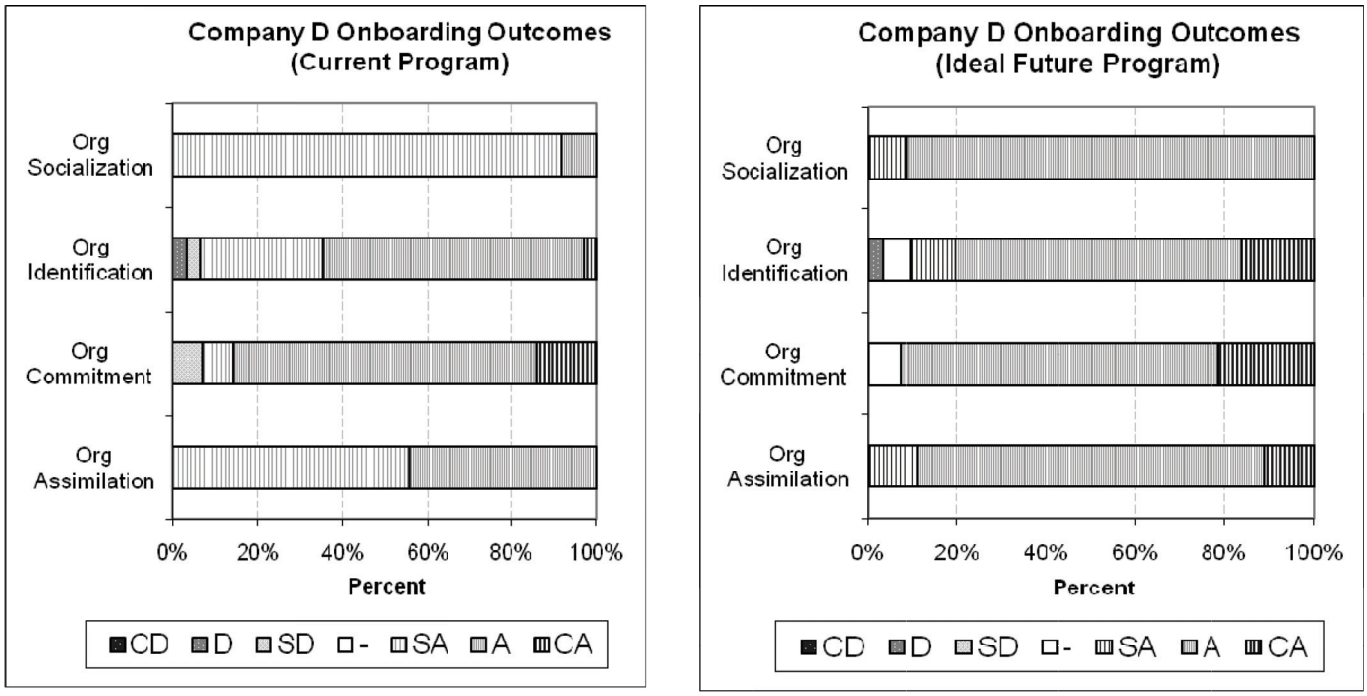
Table 41. *Row Percentage Agreement with Intended Outcome Statements - Company D Designer.*

	Company D - Onboarding Intended Outcomes (Percentage of row items)							
Organizational-	CD	D	SD	-	SA	A	CA	NR
Assimilation (Now)	0	0	0	0	56	44	0	0
Assimilation (Future)	0	0	0	0	11	78	11	0
Commitment (Now)	0	7	7	0	7	64	14	0
Commitment (Future)	0	0	0	7	0	71	21	0
Identification (Now)	0	3	3	0	29	61	3	0
Identification (Future)	0	3	0	6	10	65	16	0
Socialization (Now)	0	0	0	0	92	8	0	0
Socialization (Future)	0	0	0	0	8	92	0	0

CD – Completely Disagree, D – Disagree, SD – Somewhat Disagree, - Neither Agree nor Disagree, CA – Completely Agree, A – Agree, SA – Somewhat Agree

This designer overall **agreed** that the **current** onboarding program should contribute to 62 (94%) of the 66 outcome statements. She **completely agreed** with three of the items for the **current** onboarding program and **completely disagreed** with none of the **current** onboarding program items. The three items are reported in Table 42 which

includes the domain (cognitive, affective, psychomotor) the outcome was classified in and also which O-ACIS construct the outcome was associated with. The constructs are discussed in the Methodology chapter (Chapter 3).



CD – Completely Disagree, D – Disagree, SD – Somewhat Disagree, - Neither Agree nor Disagree, CA – Completely Agree, A – Agree, SA – Somewhat Agree

Figure 10. Current vs. Future Intended Outcomes - Company D Designer.

Table 42. *"Completely Agree or Disagree" Onboarding Program Outcomes (Current) - Company D.*

Construct	"Completely Agree" with Outcome	Domain
Commitment	The participant would accept almost any type of job assignment in order to keep working for this company.	Cognitive /Affective
† Commitment	The participant agrees, "There's not too much to be gained by sticking with this company indefinitely".	Cognitive /Affective
† Identification	The participant finds it difficult to agree with the company's policies on important matters relating to him or herself."	Cognitive /Affective
Construct	"Completely Disagree" with Outcome	Domain
--	--	--

† Reverse scored item

This designer completely agreed (9 items), agreed (48 items) or somewhat agreed (5 items) that an **ideal future** onboarding program should contribute to 62 (94%) of the 66 outcomes. This designer was unable to comment on three items and only disagreed with one item which is reported in Table 43.

Table 43. *Disagreement with Possible Onboarding Outcomes (Ideal Future)-Company D.*

Construct	"Completely Disagree" with Outcome	Domain
--	--	--
Construct	"Disagree" with Outcome	Domain
Identification	The participant often describes him or herself to others by saying, "I work for company name" or "I am from company name."	Cognitive /Affective
Construct	"Somewhat Disagree" with Outcome	Domain
--	--	--

A complete list of the items is included as Appendix D of this study.

When discussing the goals of the onboarding program at Company D this designer said:

> We definitely have a strategy. The original goal was to make sure that we centralized the benefits induction. That was really what this was all about – making sure the forms are all completed and that they are all turned in on the first day of employment. That's the end goal. Then our (inaudible) overview of the company's policies and so forth, a very general overview of the company's philosophy... the end result, and whether you can measure that is to lower frustration at not being fully operational … . (Company D Designer, May 14, 2007).

Company D – Program Content Findings

Components of the onboarding program at Company D were designed globally:

> New managers … [get] a 2 day orientation; all managers across the globe are invited to that one within the first 6 months of starting and they must attend. So that's how you get the global culture, the networking, understanding what were all about from a global perspective. (Company D Designer, May 17, 2007)

However, there is a local Canadian component which primarily deals with such induction details as a benefits overview and signing up and a safety and security orientation. The transmission of culture is the responsibility of the management at the country level.

The Company D designer responded to 63 potential orientation topics by: (a) indicating if the topic was included in the company onboarding program and (b) rating how important each item was to their typical program participant. The resulting participant responses to the 63 potential orientation topics were grouped into four categories for reporting: (a) context, (b) interpersonal, (c) logistics, and (d) managing systems.

This designer's current program includes 48 (76%) of the potential topics, as reported in Table 44. Forty-five (94%) of the included topics were rated as being of high importance.

Table 44. *Company D Newcomer Topics Inclusion.*

		CATEGORY				
STATUS	IMPORTANCE	Context	Interpersonal	Logistics	Mging Systems	Total
Included	High	15	2	16	12	45
	Medium	1	1	1		3
Included Total		16	3	17	12	48
Not Included	High		1	2	1	4
	Low		1			1
	Medium	1				1
Not Included Total		1	2	2	1	6
Uncertain	High	2	2	1	2	7
	Low		1			1
	Medium	1				1
Uncertain Total		3	3	1	2	9
Grand Total		20	8	20	15	63

The designer was uncertain as to whether or not an additional nine items (14%) were included in her current program.

Table 45 lists the two items which this designer ranked as of low importance to typical newcomers.

Table 45. *Company D Low Importance Items.*

Topic in Company C Orientation	Topic	Topic Category
No	Welcoming Ceremony	Interpersonal
Uncertain	Employee-Management Relationship	Interpersonal

Table 46. *Company D High Importance Items (Not Included or Uncertain).*

Inclusion Status	Topic	Topic Category
Not included	EEO/Diversity	Managing Systems
Not included	Fresh Eyes	Logistics
Not included	Influence	Interpersonal
Not included	Orientation Evaluation	Logistics
Uncertain	Culture	Interpersonal
Uncertain	Customers External	Context
Uncertain	Facilities Tour (physical or virtual)	Logistics
Uncertain	Individual's Importance to Company Success	Context
Uncertain	Quality Program (inc Service Commitment)	Managing Systems
Uncertain	Social Club (inc Athletic)	Interpersonal
Uncertain	Work Processes (e.g. Flow charts)	Managing Systems

Four items of high importance were not included in the Company D orientation program as reported in Table 46. In addition, this designer ranked seven items of high importance but she was uncertain if those items were included in the orientation. These items are also reported in Table 46.

The only item of low importance to typical orientation participants currently included in the Company D orientation program that might be included in the orientation was the Employee-Management Relationship (this designer was uncertain whether this topic was included in the orientation or not).

Company D – Program Implementation

Decisions made by the Company D designer with respect to the implementation of an onboarding program are first described in terms of the newcomers—who the program was implemented for. Findings about tactical decisions made to ensure the program was actually implemented throughout the organization are then discussed.

Company D – Onboarding Participants

Newcomers to an organization enter via a variety of paths which are shown in Table 47. A similar table (Table 16) was explained in the Company A – Newcomer Attributes section of the Company A findings. Company D findings are summarized in Table 47.

Table 47 shows that orientation to all levels of the organization is provided for new employees, except those entering the organization by way of merger or acquisition—those newcomers only receive orientation to the corporate level. Consultants and individuals working in the organization as part of a joint venture do not receive any orientation.

Table 47. *Company D Orientation to Organizational Level by Entry Path.*

Entry Path	*Organizational Level for Which Orientation is Provided*

	Corporate	Division	Department	Work Group/Job
Pre-entry	●	●	●	●
Campus (Career)	●	●	●	●
Experienced	●	●	●	●
Merger/Acquisition	●			
Joint Venture				
Consultant				

Company D – Onboarding Implementation Tactics

The onboarding program at Company D had the support of senior management and the VP of HR, in particular. At the start of the year, the vice-president of Human Resources identified the goal of developing a newly revitalized orientation process for newcomers. Existing materials, created and used independently by various departments, were gathered and incorporated into a new program between March and May. The instruction for creating the new program was "go and gather all the orientation materials that have been used up till now, blow it up, explode it, and create a new typical program, whatever that is" (Company D Designer, May 14, 2007).

A formal presentation of the new program was made to the HR management team and approval to pilot was obtained. The new program was piloted by some of the departments as part of their orientation training. Revisions were incorporated and during July the material was finalized and packaged in hard copy for use by the departments. The revised orientation training has been delivered since May 2007. Prior to the revisions, the orientation was delivered by each of the organization's divisions—it would now be delivered by the orientation designer's assistant. The length was approximately two hours

and the content was mostly comprised of a benefits sign-up process. Because this designer was new to the organization, an assistant was provided to assist with the development and delivery of the orientation training.

Company D – Program Evaluation

When asked how the onboarding program would be measured or evaluated this designer responded:

> Oh, were going to do that. You know we'll measure it – this will be after 1 month – employees on staff – 1 of our HR staff (inaudible) or from my team (inaudible) for these purposes will just come and sit down for a half hour with a checklist every 2nd month or whatever interval is most reasonable. (Company D Designer, May 14, 2007)

CHAPTER FIVE: ANALYSIS

To facilitate reading this chapter, the research problem is restated and the study's methodology is briefly reviewed. The remainder of the chapter answers the research questions with analysis and interpretation of the findings.

Problem Restatement and Methodology Review

As stated in Chapter 1, the research problem is to understand the design decisions and rationales of instructional designers of upstream Canadian oil and gas orientation training.

The units of analysis are the design decisions for upstream oil and gas organization orientation training and onboarding programs delivered in 2007 to organizational newcomers. Design decisions for upstream oil and gas orientation training and onboarding programs are found in upstream oil and gas companies. The most knowledgeable informants about these decisions were found to be the designers who were involved in the deliberations that led to the decisions.

Participants were selected for interviews by using purposive sampling (Patton, 1990; Trost, 1986) using information-rich cases for study. A total population of twelve organizations were identified within the Canadian upstream oil and gas industry that: (a) had upstream oil and gas operations in Canada (as defined by Human Resources and Skills Development Canada (2005)), (b) oriented 10 or more individuals into the organization in 2005 and 2006 and (c) planned to orient 10 or more individuals into the organization in 2007. The researcher had a relationship with three of these companies that precluded their

participation as case locations and four of the remaining nine companies had designers that agreed to participate in the research. The findings and analysis in this study therefore represent a cross section of significant onboarding oil and gas companies in 2007.

A multi-case studies design was selected to describe onboarding decisions which is: (a) consistent with critical realism, (b) appropriate for studying design decisions and (c) feasible, given the resources available for the research.

The critical decision method of cognitive task analysis was used to study decision making in a natural context. During two semi-structured qualitative interviews, participant designers provided brief descriptions of key orientation and onboarding design decisions and responded to probes about the decisions. Decisions were classified using the Kinston and Algie (1989) framework as slightly modified by Goitein and Bond (2005).

O-ACIS outcomes were sorted by participants according to their level of agreement that their company's current program, or an ideal future one, would contribute to the various outcomes. Research participants also sorted 63 orientation topics according to their perception of the importance of the topics to an organizational newcomer; while also indicating whether or not each topic was currently included in their company's onboarding program.

The designer's decisions were studied as naturalistic phenomenon (real-world situations, unfolding without experimental manipulation), from a holistic (complex, synergistic, systemic) and unique case perspective, using mixed data acquired by the researcher while maintaining empathetic neutrality and recognizing the dynamic nature of the cases as outlined in the Methods chapter of this study (Chapter 3, p. 52).

Actual decisions regarding onboarding program (a) intended outcomes (b) content, (c) implementation, and (d) measurement were presented in Chapter 4, as well as findings about the decision processes which led to the decisions at each of four company locations. The findings will now be analyzed.

Analysis of findings

Orientation training is a designed learning event which the researched organizations provided as part of an onboarding program. Onboarding experiences including formal orientation training were designed to result in newcomer learning.

Research Question 1

Research question 1 asked: **What are the key characteristics of the orientation training designer (individual or team) for each case?**

Findings describing the onboarding designers are descriptions of individuals at companies A, C, and D, and of a team at Company B, are reported in Chapter 4.

Except for the Company B Information Technology (IT) project manager, and for an external consultant contracting with Company B, all of the interviewed designers worked in the Human Resources function of their company and had on-going responsibility for their company's onboarding program.

Company B (3 interviewees) and Company C (1 interviewee) designers were aged 41-50, Company A's designer was 30-40 and the Company D designer was 51-60. The designers were all women except for a Company B IT project manager. All the interviewees had attended university.

The average age of the designers was older than the average age of newcomers who entered the organization by a pre-entry path (summer students/co-op work term students) or directly from campus as a career hire (Statistics Canada, 2007).

Excluding the external consultant, all of the interviewees had been in their current role for two or fewer years; although they all had a decade or more of work experience. Additionally, all of the interviewees reported that their years of work experience relevant to the task of designing both orientation training and an onboarding program exceeded ten years (the Company C designer believed that her 17 years of HR generalist experience were essential to her onboarding program design success).

Designers self-assessed their level of expertise regarding the design, development and implementation of orientation training and onboarding programs as described in the Methodology chapter (Chapter 3). The combined responses are reported in Table 48.

Table 48. *Self-Assessed Level of Onboarding Design Expertise.*

	Self-Assessed Level Of Onboarding Design Expertise
Company A – Onboarding Designer	Expert 1
Design Team: Company B – HR onboarding coordinator Company B – IT Project Manager Company B – Instructional Design Consultant	 Proficient Proficient to Expert 1 (Project Mgt) Advanced Beginner to Proficient (Onboarding) Master 1
Company C – Onboarding Designer	Master 1
Company D – Onboarding Designer	Expert 1

Note: Definitions for the expertise levels are in Appendix B.

Table 48 shows that Company B had an external consultant at the self-assessed Master 1 level of expertise while the other three company designers assessed their expertise level as either Expert 1 or Master 1. The self-assessed level of expertise is a key designer

characteristic because, as discussed in the literature review, decision researchers have found that experts make decisions differently than novices. The decision making that led to the orientation training and onboarding decisions studied in this research will be analyzed in the response to question 4 in this chapter.

A possible reason that the programs for newcomers at each of the four companies were designed with an onboarding/human performance technology emphasis instead of an orientation training/instructional systems design emphasis could be that none of the interviewees, except the external consultant, had a training background. The pilot location interviewee was a trainer and her organization's newcomer program did have an orientation training/ instructional systems design emphasis—in fact, the pilot location did not have an onboarding program.

The context, or environment, in which these designers were making decisions, could be construed to be a characteristic of, or at least associated with, the designers; the environment certainly affected at least some of their decisions. The environment is discussed under questions 6, 7 and 8 in this chapter.

Research Question 2

Research question 2 was: (a) **How were the learning objectives and goals identified for the orientation training?** and (b) **Why were they identified as they were?**

A concept map and associated discussion will provide a cross-case analysis of the findings describing how learning objectives and goals for orientation training and onboarding programs were identified at the four case locations.

Why were the learning objectives identified as they were? As will be discussed, cross-case analysis demonstrates that the onboarding learning experiences were created to further management's strategic objectives of improving productivity and retention. The findings also demonstrated that the designers believed that their company's strategic objectives would be supported by the O-ACIS of newcomers. Designers agreed that orientation training and onboarding programs should contribute to 90% of the outcome statements used in this research. These consolidated O-ACIS outcome responses will be analyzed across the cases in some detail.

Some potential ethical issues will be discussed in the conclusions section of this chapter.

How Learning Objectives and Goals were Identified for Orientation Training

To combine the findings about the designers' decision making processes, the process of identifying learning objectives and goals was diagrammed in a concept map (Figure 11).

At all four companies, this researcher found that the onboarding designer's process of establishing learning objectives and goals could be traced back to senior management's strategic objectives. At each case location these objectives included multi-billion dollar Alberta oilsands development and the renewal and expansion of the company's workforce. The management process of setting strategic objectives was beyond the scope of this research and therefore senior management strategic objectives are the starting point in the above diagram.

Designers in this study were found to strongly believe that senior management expected productivity and retention improvements to facilitate the achievement of

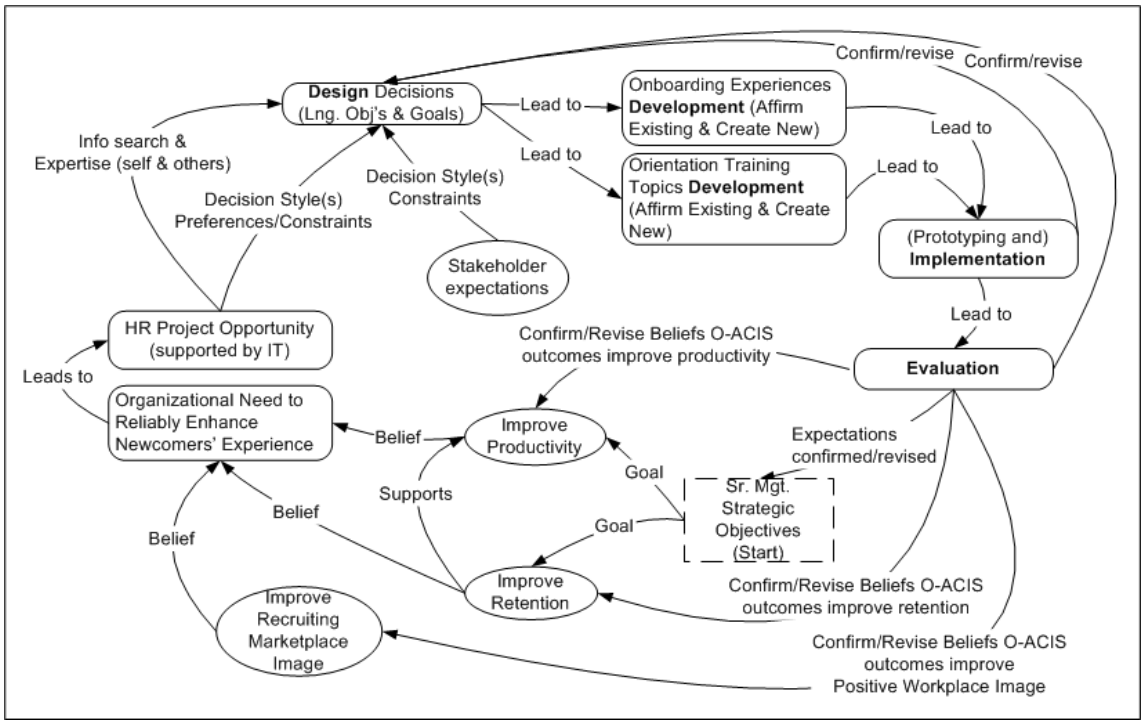


Figure 11. Learning Objectives and Goals Decision Process.

management's strategic objectives (retention, an end itself, was also a means of improving productivity) at three of the four companies. Achieving the goals of improving productivity and retention were believed to contribute to accomplishing strategic objectives, as shown in Figure 11.

A secondary rationale was also found for establishing an HR project to reliably enhance newcomer's entry experiences. Designers believed that in order to successfully recruit in a competitive environment, a company must maintain and enhance their recruiting marketplace image. At two of the four companies, the designers believed that there was room for improvement in this regard. The research data doesn't allow the

researcher to state whether or not this was also a belief of senior management and the HR senior leaders, or was restricted to the designers.

To achieve goals of productivity, retention, and the enhancement of the company's workplace image, management concluded that their organization needed to reliably enhance the newcomers' experience (Figure 11). Establishing a reliable process to achieve valued output is a hallmark of operational excellence. This was to be achieved by commissioning an HR project to improve existing orientation training and implement (or renew) an onboarding program. IT involvement provided differing levels of supporting computer infrastructure at each of the four companies.

The HR professionals tasked with these projects undertook varying levels of information search and then relied on their expertise to make design decisions. At Company B, this expertise was supplemented with the expertise of two external instructional design consultants. The style of decision making was constrained by: (a) the preferences of the HR professional(s) designing the orientation training and onboarding program, and also (b) various stakeholder expectations and (c) circumstances. In other words, the decision making styles that were used were affected by factors such as: (a) the preferences and expectations of the stakeholders and of the designers themselves, (b) the time available for information search and (c) the expertise of the decision maker.

Design decisions included establishing learning objectives, selecting orientation training topics and determining how those topics would be presented (Figure 11). Decisions about onboarding experiences included determining program goals, and when and how: (a) resources, (b) the opportunity to develop relationships and (c) active engagement with company management (including the hiring manager) and peers would be provided.

Decisions ranged along a continuum from programmed to non-programmed type decisions. These design decisions led to developing new training/onboarding experiences or to confirming the use of existing training/onboarding experiences (Figure 11).

Design decisions were confirmed or revised as orientation training and onboarding program prototypes were piloted and then implemented within the four companies (Figure 11). Evaluation of the results of implementation led senior management (and designers) to confirm or revise their beliefs that onboarding can improve retention, productivity and recruiting marketplace image. The designers also confirmed or revised their beliefs that onboarding can contribute to O-ACIS.

This study found that all of the designers' appeared to assume that newcomers have certain learning goals—to learn both their job role and the cognitive information and affective attitudes necessary to succeed in their new organization. Designers clearly wanted newcomers to achieve those learning goals so that the senior management goals (increased productivity, improved retention and maintaining or enhancing a positive image in the recruiting marketplace) would be achieved.

Why Learning Objectives and Goals were Identified as They Were

At all four companies, designers established some explicit but mostly implicit learning objectives and explicit onboarding goals, based on their senior management's desire to reliably improve the initial experiences of newcomers.

It became clear during the course of the research data gathering that learning objectives for the orientation training delivered to newcomers were part of a bigger picture than that usually described by conventional front-end instructional design or human performance technology analyses. This study found that orientation training topics such as

the company history, company mission and vision, etc. have some importance in and of themselves. However, in addition to providing newcomers with information about such topics the orientation training, and more particularly, the onboarding program, provided newcomers with additional learning about the organization. Additional learning that is intended to result in O-ACIS of the newcomer.

Table 49 combines all cases, summarizing the research findings which offer strong evidence that designers at each of the companies intended (i.e. *designed* orientation training and more particularly, the onboarding program) to achieve the outcomes of O-ACIS.

Table 49. *Agreement Responses for Intended Outcomes (all Respondents).*

Onboarding Intended Outcomes (should contribute to)	**Combined Designer Responses**							
	CD	D	SD	-	SA	A	CA	NR
Organizational-	**Now**							
Assimilation	1	1	1	6	11	9	6	1
Commitment	1	2	7	5	7	24	10	-
Identification	1	4	3	26	26	55	9	-
Socialization	-	2	5	5	18	14	4	-
Total Number	3	9	16	42	62	102	29	1
% of Row Total	1	3	6	16	24	39	11	-
Organizational-	**Future**							
Assimilation	-	2	-	1	3	13	8	9
Commitment	-	-	1	3	2	15	21	14
Identification	1	1	-	10	15	35	30	32
Socialization	1	1	1	-	6	22	5	12
Total Number	2	4	2	14	26	85	64	67
% of Row Total	1	2	1	5	10	32	24	25

CD – Completely Disagree D- Disagree SD – Somewhat Disagree
"-" – Neither Agree nor Disagree NR – No Response
CA – Completely Agree A- Agree SA – Somewhat Agree,

Table 49 is summarized in Table 50 which displays row percentages of disagreement (CD, D, and SD), "neither agree nor disagree", and agreement (CA, A, and

SA). The percentages were calculated using the number of responses in a category (row) divided by the total number of responses in the category (i.e. Non-Responses are excluded from the calculation).

Table 50. *Percentage of Agreement for Intended Outcomes (all Respondents).*

Onboarding Intended Outcomes (% of Row Responses)			
Combined A-D Designer Responses	Disagree	Neither Agree nor Disagree	Agree
	Now (Existing)		
Assimilation	9%	17%	74%
Commitment	18%	9%	73%
Identification	6%	21%	73%
Socialization	15%	10%	75%
	Future (Ideal)		
Assimilation	7%	4%	89%
Commitment	2%	7%	90%
Identification	2%	11%	87%
Socialization	8%	0%	92%

It is clear from Table 50 that the percentage responses for O-ACIS all increased from the Now (Existing) result to the Future (Ideal) result; with an average overall Future (Ideal) percentage agreement of approximately 90%. This analysis is further summarized in Table 51.

Table 51. *Increase in Agreement (all Respondents).*

Onboarding intended outcomes (should contribute to)	Now (Existing) Percentage Agreement	Future (Ideal) Percentage Agreement
Assimilation	74%	89%
Commitment	73%	90%
Identification	73%	87%
Socialization	75%	92%
Range	75%-73%=2%	92%-87%=5%
Column Average	74%	90%

Based on the evidence gleaned in this study, it appears safe to conclude that learning experiences are designed by research participants to contribute to the O-ACIS of newcomers.

Did the designers focus on one or two of the O-ACIS constructs? The individual company averaged scores are reported in Table 52, for the highest and lowest averages for each company. For example, 5.1 was the average of the Company A designer scores for the 31 identification items (Appendix D lists the 66 item scores), which was the lowest average of any of the O-ACIS constructs scored by the Company A designer.

Table 52. *Individual Company Agreement with Intended Outcomes.*

	Now (Existing)		**Future (Ideal)**	
	Least Preferred Goal	**Most Preferred Goal**	**Least Preferred Goal**	**Most Preferred Goal**
Company A	Identification (5.1)	Socialization (5.8)	Identification (5.4)	Commitment (5.9)
Company B	Socialization (4.4)	Assimilation (5.3)	Socialization (5.1)	Commitment (6.7)
Company C	Assimilation/ Socialization(4.8)	Commitment (5.2)	No Data	No Data
Company D	Socialization (5.1)	Commitment (5.9)	Identification (5.8)	Commitment (6.1)

The organizational commitment construct had the highest average score for all three of the designers that completed the task of scoring the 66 outcome statements for a future (ideal) onboarding program. The identification and socialization constructs had the lowest average scores of the four O-ACIS constructs.

The 14 individual outcome items with the highest combined scores from all four of the O-ACIS constructs are reported in Table 53. The table also includes the key concept

associated with the outcome and a classification of the outcome by learning domain (i.e. cognitive or affective).

Table 53. *Highest Scored Items with Key Concept and Learning Domain.*

[**Rank Order and Outcome Category**] Consolidated Item	Key Concept	Learning Domain
[**1 Identification**] The participant finds it difficult to agree with the company's policies on important matters relating to him or herself.	Policy	Cognitive (Knows and Agrees)
[**2 Assimilation**] The participant understands the standards of the company.	Standards	Cognitive (Understands)
[**2 Assimilation**] The participant knows the values of the company.	Values	Cognitive (Knows)
[**3 Commitment**] The participant is proud to tell others that he or she is part of this company.	Proud	Affective (Feels)
[**3 Identification**] The participant is very proud to be an employee of the company.	Proud	Affective (Feels)
[**3 Identification**] The participant feels that the company cares about him or her.	Company cares	Affective (Feels)
[**4 Commitment**] Often, the participant finds it difficult to agree with this company's policies on important matters relating to its employees.	Policy	Cognitive (Knows and Agrees)
[**4 Commitment**] The participant is extremely glad to have chosen this company to work for over others being considering at the time he or she joined.	No "Buyer's Remorse"	Affective (Feels)
[**4 Commitment/Identification**] The participant talks up this company to friends as a great company to work for.	Proud-Great Company	Affective (Feels)
[**4 Identification**] The participant agrees that the company's image in the community represents him or her as well.	Company image represents newcomer	Cognitive (Agrees)
[**4 Identification**] The participant is glad he or she chose to work for the company rather than another company.	Great Company	Affective (Feels)
[**4 Identification**]	Warm feelings	Affective

The participant has warm feelings toward the company as a place to work. Note: This item was presented twice and was scored the same in each instance.		(Feels)
[**5 Commitment/ Identification**] The participant feels very little loyalty to this company.	Loyalty	Affective (Feels)
[**5 Socialization**] The participant understands how to act to fit in with what the company values and believes.	Value and beliefs actions	Cognitive (Understands)

Outcome statements from all four of the O-ACIS constructs are represented in these highest ranked items. The key concepts addressed by these outcomes are that the newcomer: (a) understands and acts in accordance with company policies/standards /values and (b) is proud of the company he or she is (c) happy to have joined.

Interestingly, these 14 individual items with the highest combined scores were equally divided between the cognitive and affective domains. O-ACIS occurs as cognitive and affective learning occurs. Learning, which results from planned experiences, occurs as newcomers construct or revise their mental models of their relationship to the organization (subsequently effecting their perceptions of future experiences).

A designer creating learning experiences that form a learning environment would therefore have to draw from instructional design literature to design both cognitive and affective domain learning. Martin and Briggs (1986) suggested affective outcomes could include developing: (a) a positive attitude toward a subject area, and (b) a rational, (i.e. cognitive) basis for an attitude. Orientation training and onboarding programs provide a potentially rich context for studying attitude change resulting from designed learning experiences—experiences intended to result in the O-ACIS of newcomers.

This researcher, based on the findings, suggests that more frequent examples of explicit learning objectives would have been located during the study if the designers at the case locations had been experienced trainers or if they had formal education in instructional design. Support for this statement is found in the fact that the Company B external consultant, an experienced trainer educated in instructional design, helped the Company B design team to clarify their program's learning goals. The similarly experienced and educated pilot location designer also had specific learning outcomes for her organization's orientation training program.

Regardless of the presence (or absence) of formally stated learning objectives, the designers acknowledged that their intention was to advance the outcomes of O-ACIS with their onboarding program.

Some ambiguity with respect to intended outcomes probably results from the negative connotations of terms such as 'assimilation' and 'socialization.' Being helped to 'learn the ropes' sounds less threatening than to be 'socialized.' The general goal to 'overview company policies' would evoke less newcomer attention than the specific goal of 'attitude change/consolidation such that the newcomer supports the company's environmental policy.'

It must be noted that the onboarding programs were not only designed to promote O-ACIS, but also to contribute to productivity goals by minimizing the time required by the newcomer to become fully productive. In the Literature Review (see Figure 5, p. 40), the Van Tiem, Moseley, and Dessinger (2004) Human Performance Technology (HPT) model was presented. This HPT model incorporated the element of environment support.

Environmental support has "the potential to sustain actual performance or raise actual performance to the desired or optimal level" (Van Tiem, et al., 2004, p. 33). The onboarding designers made design decisions that provided newcomers with environmental support. For example, findings in this study clearly indicated that designers provided immediate access to the computer, telephone and company Intranet. This was done to address a primary objective of reducing the time required for a newcomer to become fully productive. However, the designers were thereby also supporting important newcomer learning about the organization, which would occur as a result of their being provided with environmental support in a timely fashion.

Providing timely support for a newcomer encourages the O-ACIS of the newcomer. A lack of environmental support would be detrimental to efforts at achieving O-ACIS. The corollary is that there may be evidence of the organization's *actual* learning goals and outcomes in the presence or absence of environmental support that is provided. Alternatively, a lack of environmental support may simply be evidence of organizational ineptness.

These designers were very concerned with a human performance technology aspect of environmental analysis, worker analysis, which "focuses on what is happening with the workers" (Van Tiem et al., 2004, p. 33). Evidence of this concern was seen in the six outcomes with the highest combined respondent scores, which are certainly consistent with a concern for the newcomers' knowledge, motivation and expectations:

- The participant knows the values of the company.
- The participant understands the standards of the company.
- The participant finds it difficult to agree with the company's policies on important matters relating to him or herself.

- The participant is proud to tell others that he or she is part of this company.
- The participant is very proud to be an employee of the company.
- The participant feels that the company cares about him or her.

Cognitive and affective learning objectives are associated with the above outcome statements.

Table 54 shows that the three designers (the Company C designer did not provide this requested data) did not unanimously disagree with any of the intended outcomes for an ideal future onboarding program. None of the designers offered alternative outcomes when provided the opportunity to do so.

Table 54. *Onboarding Intended Outcomes in an Ideal Future.*

Onboarding Intended Outcomes in an Ideal Future Number of items			
	Disagree	Neither Agree nor Disagree	Agree
Assimilation			
Company A	1		8
Company B	1	1	7
Company D			9
Total	2	1	24
Commitment			
Company A		2	12
Company B	1		13
Company D		1	13
Total	1	3	38
Identification			
Company A		6	25
Company B	1	2	27
Company D	1	2	28
Total	2	10	80
Socialization			
Company A			12
Company B	3		9
Company D			12

Total	3	-	33

Note: Company C did not provide this information

These outcomes provide a useful basis for future onboarding research.

Research Question 2 Summary

The answer to the research question of how learning objectives and goals were established was provided with a concept map (Figure 11) and the associated description which was developed from cross case analysis. Learning objectives and goals, whether explicit or not in company documents, were explicitly identified in the research. The onboarding program at each of the four company case locations served as a "mechanism" for the O-ACIS of newcomers. At a deeper level, the "mechanism" that in turn enables O-ACIS of newcomers to occur is a learning process. Enabling conditions must be present for intended learning (i.e., organizational- assimilation, commitment, identification and socialization) to occur (e.g., timely provision of computer, telephone and Intranet access).

This is a valuable perspective, because orientation training has been widely practiced, as will likely also be the case with onboarding. However, neither has been widely researched as a designed learning phenomenon concerned with the attitude change associated with newcomer O-ACIS.

Research Question 3

Research question 3 was: (a) **How does the orientation training designer profile the learner and how does the designer use the profile for design decisions?** and (b) **Why is the profile developed and used as it is?**

In this study of designer decision making at four major energy companies, no evidence of learner profiling beyond that described below in question part A was found. The predominant reasons for not assessing the newcomers' entry skills and characteristics were: (a) newcomers were very diverse, and (b) the designers felt they had a basic intuitive understanding of the newcomers such that it was unnecessary to undertake more formal analysis.

How the Orientation Training Designer Profiles the Learner and How the Designer Uses the Profile for Design Decisions

Though a comparison of all findings across the cases shows no consideration of learner profiling in terms of a conventional Instructional Systems Design (ISD) analysis, these designers did profile learners in terms of their entry paths. The learners for the orientation training and onboarding program were organizational newcomers who entered an organization via various paths. A newcomer may have entered an organization by being hired as a summer student. Another newcomer may have been assigned by his company to work at another company as part of a joint venture agreement between the two organizations. The newcomer's path is a characteristic of the newcomer.

A newcomer could be provided information generic to the entire company, specific to a division within the company, specific to a department within a division, etc. These levels of orientation information were in fact provided by the various company designs as shown in Table 55.

Table 55. *Learners for Levels of Organizational Orientation.*

	Organizational Level for Which Orientation is Provided			
Entry Path	Company Wide	Division	Department	Work Group/Job

Pre-entry (Summer/Co-op)	A,B,C,D	A,D	A,D	A,C,D
Campus (Career)	A,B,C,D	A,C,D	A,C,D	A,C,D
Experienced	A,B,C,D	A,C,D	A,C,D	A,C,D
Merger/Acquisition	A,B,C,D	A	A	C
Joint Venture	B			
Consultant	A	A	A	A

Note: A=Company A, B=Company B, C=Company C, D=Company D

Pre-entry newcomers (summer students and co-op term students) are oriented to the entire corporation at all four companies, as are campus newcomers (new graduates hired from campus), experienced hires and employees joining the organization as a result of a merger or acquisition.

The designers at each of the four companies are therefore designing learning experiences about the organization as an entire company, for newcomers entering the organization through a variety of paths. One would expect these different groups of newcomers to be quite diverse from each other in their background knowledge of the corporation, industry and competitors.

Why the Profile is Developed and Used as it is

The clearest and most concise summary statement which described the designers' profiling of newcomers at all four of the companies was provided by the Instructional Design external consultant, contracted by Company B:

> So when we were designing it we knew it had to be for all levels, for, like the mailroom clerk, you know, cliché [mmhhmm] to senior professionals, you know, engineers, MBAs, … technologists and admin support-everything in between. … So we know that there will be male, female; we know they could be any age, [twenty on] I'm guessing that they're not usually much past fifty, if they're joining. But, so, we know that they're between the ages of 19 and 50

> [mmhhmm] All levels of academic experience, all levels of work experience-because some are mature hires [new students], some are grads [yeah…wow, what a challenge] We don't know anything about learning styles, prior knowledge, general abilities, or computer skills. We expect that they're motivated because they're starting a new job and so they're interested and keen and want to do well [mmhhmm] so we made, you know, the assumption that they'd have a fairly positive attitude coming into the training and that being adult learners they would need frequent breaks and lots of activity to break things up. (Company B Consultant, September 10, 2007)

Wedman and Tessmer (1993) researched course developers' actual utilization of eleven instructional design (ID) activities. Seventy of their 72 respondents "did less than half of the ID activities in every project" (p. 48). In their research, developers reported that they assessed the trainee's entry skills and characteristics occasionally (34%) or Never (10%). When this research was replicated (Winer & Vásquez-Abad, 1995), only 10% of the respondents reported performing all of the ID activities, although 80% of respondents agreed that the activities were part of the ID process.

Reasons for designers *not* doing ID activities included: (a) the design decision was already made, (b) lack of time, (c) the activity was considered unnecessary (d) the sponsor would not support the designer doing the activity, (e) lack of expertise and (f) lack of money (Winer & Vásquez-Abad, 1995). An additional reason, observed in this study, was that the designers at the oil and gas companies felt they already had an intuitive understanding of the newcomers, based on the designers' experience.

Secondary reasons for a lack of learner profiling found in this study appear to be: (a) a lack of time, (b) design decisions that could have incorporated this information were already made or (c) a lack of expertise such that they didn't know how to do the profiling and/or how learner profiling could be used in their design decision making. It was pointed

out under research question 1 that only the Company B external consultant had experience and formal education as a trainer.

Senior management did not prevent designers from profiling newcomers. Support for this statement comes from the fact that the sponsors were trying to address strategic issues and not immediate tactical concerns (see research question 1) and none of the interviewees reported extremely close project scrutiny—the type of "micro-management" wherein a sponsor dictates the exact steps of project execution to be undertaken. Finally, a lack of financial resources was reported *not* to be a constraint at any of the case locations.

Research Question 4

Research question 4 was: (a) **How does the orientation training designer make instructional decisions about content inclusion, scope and sequencing, media and timing for program duration and timing?** and (b) **Why were the decisions made that were made?**

A multitude of instructional decisions are made during the design, development, implementation and evaluation of an onboarding program. Designers made decisions that ranged from programmed choices amenable to solution using operational research techniques for solution, to non-programmed decisions requiring extensive judgment. The critical decision method of cognitive task analysis was used to identify key decisions the designers made with respect to content, scope and sequencing, media and timing.

Findings about how the designers made their design decisions will be discussed here using a process model developed for non-programmed decision making analysis in naturalistic settings (Klein, 1989, 1999). The styles of decision making found across all the

cases are reported with the most prevalent forms of decision making identified. This section then concludes with findings about why the decisions were made.

How the Orientation Training Designer makes Instructional Decisions about Content Inclusion, Scope and Sequencing, Media and Timing for Program Duration and Timing

For the decisions that were identified in this research, the RPD model (Klein, 1989) allowed this researcher to describe and interpret the designers' decision making, using the findings:

1. The Company A, C, and D designers rated themselves as experts or masters; while the Company B external consultant characterized her design team with a self-assessed master level of expertise. All of the designers had extensive work experience which they regarded as relevant to the onboarding design task. The designers perceived the process of designing orientation training and an onboarding program to be a typical HR project—hence the perceived relevance of their backgrounds and their high levels of self-assessed expertise. They felt they understood the types of goals and priorities that made sense, the cues to attend to, what was likely to occur and typical responses to those occurrences.
2. While an HR project was not a new task, the designers experienced the situation of designing orientation training and an onboarding program as a new context for an HR project. The interviews showed that the designers matched features of the present onboarding HR project with their past experiences, as would be anticipated from the RPD model description of decision making.
3. Four by-products of matching the onboarding project with typical HR projects are that relevant cues in the environment were recognized, expectancies were formed,

plausible goals were established and the designer took action (design decisions were made and project recommendations were presented to senior management).

4. The design recommendations were approved by management and the orientation training and onboarding programs were successfully implemented. Presumably, the designers had mentally evaluated the probability of successful implementation, as suggested by the RPD model, but this was not confirmed with the designers.

The design decisions found (reported by company in Tables 8, 20, 30 and 39) were most frequently pragmatic or rationalist styled (Kinston & Algie, 1989) as summarized in Table 56.

Table 56. *All Cases - Designer Decision Making.*

Company	Observations	Decision Making Style						
		R	E	P	D	S	T	I
A	**Most frequent decision style**: pragmatic **Comment**: Decisions about design were typically made using rationalist and pragmatic decision processes while implementation decisions were almost entirely pragmatic in style	◉	○	●	○	⊙	○	⊙
B	**Most frequent decision style**: pragmatic **Comment**: Pragmatic and decision style examples were identified far more frequently than the other styles	◉	⊙	●	○	⊙	○	⊙
C	**Most frequent decision style**: pragmatic and rationalist styles were tied. **Comment**: Systemic, intuitive and dialectic examples were very limited.	●	○	●	⊙	⊙	○	⊙
D	**Most frequent decision style**: pragmatic **Comment**: Rationalist and dialectic examples were very limited.	⊙	○	●	⊙	○	○	○

● Most Frequent Decision Style ○ No instances were found in the interview data
◉ Several Instances were found ⊙ Few Instances were found
Decision Making Style Letters: R:Rationalist E:Empiricist P:Pragmatist D:Dialectic

S: Systemic T: Structuralist I:Intuitionist

The primary decision making styles were pragmatic and rationalist–not intuitive (creative), empirical (other than IT aspect of flowcharting), or dialectic (other than consulting stakeholders.)

There are three reasons for these findings. *First*, the cognitive task analysis method used for this research (Critical Decision Method) is a method of identifying key decisions. It is therefore not surprising, that non-programmed decisions predominated the findings. The designers must have made many structuralist decisions but the critical decision method is not oriented towards identifying programmed decisions—at least not in the context of organizational training and onboarding decision making.

A *second* reason for these findings is that the onboarding programs were somewhat incremental in nature. Designers spoke of well understood problems and the solutions, which hadn't been previously implemented (or hadn't been recently implemented, in one company) were none-the-less, in a number of instances, well understood extensions and improvements of existing practices.

The *third* reason for these findings is that the Recognition Primed Decision making process may appear to the decision maker him- or herself to be best described as a pragmatic decision making style. The expert decision maker may have simultaneously, and largely subconsciously, considered: (a) the available data, (b) whether any additional data gathering or (c) extended analysis was required (empiricist), (d) the interpersonal dynamics (dialectic) inherent in the situation and (e) systemic interactions that might occur as a result of implementing the various options.

As experts, the designer would have required less conscious effort than a novice to follow such an internal (rational) process (i.e. the RPD model) while creative options drawn from past experience may not seem particularly creative (intuitionist) to the designer him or herself.

In essence, the reason the majority of the decisions made by onboarding designers are classified as pragmatic may be that the designer *subconsciously* completed a sophisticated and wide-ranging analysis to select an option with a high probability of successful implementation.

Why the Decisions Made were Made

Factors that influenced decisions about content, scope and sequencing, media and timing will now be discussed. The designers all felt that content and the way it was presented (scope and sequence, media, timing) would contribute to the goals that were established (learning objectives and goals were discussed under research question 1. The company designers included the following percentages of 63 possible content topics: Company A) (71%), Company B) (78%), Company C) (65%) and Company D) (76%). Only 5 of 63 possible topics were unanimously reported by the respondents as either "Not Included" in the onboarding program or "Uncertain".

Orientation training design decisions may reflect: (a) information from the Analyze, Design, Develop, Implement, Evaluate (ADDIE) stage of analysis, (b) the designer's model(s) of instruction and (c) feedback from the ADDIE develop, implement and evaluate stages. The designers at each of the case locations piloted their programs to get feedback on their design decisions. Two of the designers also incorporated information from articles and books on orientation training and onboarding programs. There was no evidence, however,

of any decision making based on the mapping of learning objectives or program goals to the content topics.

All of the designers reviewed the past practices of their respective organizations. In addition, all of the designers voiced empathetic comments about how they would like to learn if they were an organizational newcomer.

While it could be construed as being some form of learner analysis, empathizing with newcomers is not a typical learner analysis process within instructional design. As the designers studied in this research described the scope and sequence of their onboarding programs it appeared that the "Layers of Necessity Model" (Tessmer & Wedman, 1990) may be a more appropriate model for analyzing why orientation training and onboarding decisions were made, than more traditional ADDIE models (see, for example, Dick & Carey, 2001). Tessmer and Wedman wrote that the "layers-of-necessity model can be personalized based on professional expertise and judgment of the developer" (p. 85).

Rowland (1992) studied decision making by both expert and novice instructional designers and found that expert designer decision making was very similar to that reported by Klein (1999). The expert process (Table 57) was followed by the onboarding designers studied in this research for problem representation, solution generation, solution, and decision making. There was too little evidence to verify whether the steps of problem analysis, internal resources or external resources were done in an expert or novice fashion.

An additional factor likely to have influenced the design decisions regarding content, scope and sequencing, media and timing (which was not directly observed but which the researcher felt to be present) was the designers' desire to meet the expectations of stakeholders including newcomers, IT, department managers and particularly senior

management. Stakeholders were found to have expectations regarding the experiences that the organization should legitimately provide newcomers and designers factored at least some of these expectations into their design decisions (Figure 11).

Table 57. *Expert and Novice Instructional Designer Problem Solving,*

	Experts	Novices
Problem interpretation	Ill-defined	Well-defined
Problem analysis	Lengthy analysis Solution ideas used to constrain analysis	Little analysis Quickly move to solution generation
Problem representation	Causal network Deep system understanding	Literal, as given Surface feature understanding
Solution generation	Weak links maintained Address points of attack on causal network (model of system)	Strong links established early address knowledge deficits
The solution	Variety of interventions	Instruction
Internal resources	Experiences as designer Templates Design templates	Experiences as learner
External resources	Single reading	Continuous re-examination
Decision making	Base on multiple, global factors	Base on single, local factors

Note. From "What do Instructional Designers Actually Do?" by G. Rowland, 1992, *Performance Improvement Quarterly, 5*(2), p. 80. Copyright 1992 by International Society of Performance Improvement. Reprinted with permission.

Research Question 5

Research question 5 asked: (a) **How does the orientation training designer use formative and/or summative measures?** and (b) **Why is the measurement information used as it is?** Formally, or informally, with or without a lot of measurement, the orientation training and onboarding programs were evaluated—it is the nature of

stakeholders (especially managers) to reflect on the value created, versus the time and effort invested in company activities.

This researcher found that all of the research participants believed their program should create value by contributing to the O-ACIS of newcomers. While there was high agreement by the respondents with the O-ACIS outcomes, no instruments comparable to those used for the outcome statements in this study were used by the designers themselves for measurement.

Designer perspectives on measurement and evaluation are summarized by company in Table 58.

At two of the companies, the onboarding programs were so recently implemented that the designers spoke in the future tense—they had decided what would be done with respect to measurement and evaluation, as reported in Chapter 4, but had not yet implemented their decisions.

Information was collected by company B and company C designers to measure program implementation and to steward results to management. The researcher surmised that this stewardship helped to ensure that implementation remained a priority for department managers and also to maintain senior management's continued funding and support of the program. Measurement of the extent of the implementation of the onboarding program, and satisfaction with the program (both management and newcomer), were the primary measures used (though one designer planned to correlate program implementation with the more distal outcomes of retention and engagement.)

Potential opportunities for measurement ranged from formative (in-progress) to summative (end-of-activity) measures of several possible factors. Seven possible measurement factors are itemized in Table 59.

Table 58. *Designer Evaluation Perspectives.*

	Data Source	Status	Comment
Company A	Not stated	Planned	This designer will use empirical data to attempt to correlate changes in attrition rates and engagement survey data with program implementation by the departments. Anecdotal data will also be collected. This quantitative and qualitative data will be presented to senior management, for their decision making regarding authorization of the resources required to sustain the onboarding program.
Company B	Supervisor Newcomer	Implemented	The HR onboarding coordinator uses a supervisory survey for ongoing program evaluation. The survey is sent out approximately every three months and asks about the onboarding experience of the specific newcomers during that time period. Newcomers are surveyed at end of day 1, 2 weeks, 3 months and 6 months. Summarized results are periodically provided to senior management, though not to the supervisors. Supervisor may be contacted directly regarding the onboarding of newcomers.
Company C	Newcomer	Implemented	The designer electronically surveys newcomers 2 weeks and 3 months after arrival. The 3 month survey is to ensure that the leader and workgroup establish performance expectations and role clarity. Tabulated results are analyzed quarterly and stewarded periodically to management.
Company D	Not Stated	Planned	The designer plans to measure the onboarding program after 1 month. HR staff will sit down for a half hour with a checklist every 2nd month or whatever interval is most reasonable.

Project execution metrics include budget and schedule. Prototype metrics involve measuring the reaction to a prototype. Implementation can be measured in terms of actual

timing (versus schedule), the percentage of newcomers participating in the program and the number and quality of the onboarding experiences that newcomers received. Learning objectives that may be measured include content knowledge and the extent of a newcomer's assimilation, commitment, identification and socialization. Indirect effect measures such as the effect of newcomer participation (non-participation) in orientation training and onboarding program can be measured using variables such as retention, productivity and workplace image.

The researcher found the measurement and subsequent evaluation of the orientation training and onboarding programs to be somewhat paradoxical at each of the case locations. Project execution and program implementation—activities measures—were reported to senior management. On-the-other-hand, outcome measures such as O-ACIS were not being measured. Even the associated measures of retention, productivity, and workplace image were either not being measured, or were only being evaluated on the basis of mostly anecdotal evidence.

Table 59. *Formative and Summative Measurements Utilized by the Designers.*

Potential Measurement Opportunity	Formative	Summative
Project execution	●	●
Prototyping	●	●
Orientation training and onboarding program implementation	●	●
Learning Objectives	○	○
Onboarding Experiences	●	●
Organizational- Assimilation, Commitment, Identification, Socialization	○	○
Retention, Productivity, Workplace image	○	⊙

Measured at all case locations: ● Measured at some case locations: ⊙

Measurement was not reported: ○

None of the designers cited statistics to show the impact on retention of participation in an onboarding program.

This seemed paradoxical, since at all four case locations approval to implement an onboarding program was based on the contribution of orientation training and onboarding programs to senior management's strategic goals of retention and productivity.

Reasons for the paradox are attributable to one, or a combination of: (a) a lack of management expectations of outcome measures, (b) lack of available expertise to establish and maintain measurement processes and (c) a belief that the existing measurement system was providing sufficient information for evaluation purposes.

Because management authorized an HR project which resulted in expenditure of organizational resources of time and money, accountability was expected. Analysis of these findings shows that the designers developed measures that could be reported to senior management to steward project execution (program implementation) and which would confirm or revise management's beliefs about the relationship between the implemented program and the strategic objectives of productivity, retention and an enhanced recruiting marketplace image.

Research Question 6

Research question 6 was: (a) **What are the significant features of the *organizational* political, economic, social and technical environment the designer considered?** and (b) **Why are they considered most significant?**

The Human Performance Technology (HPT) model "acknowledges the complexity of the workplace and the interrelationships among all organizational factors" (Van Tiem, et al., 2004, p. 2). Three significant factors in the organizational environment that the designer considered were: (a) support of senior management, (b) the financial strength of their company and (c) cultural elements of an operationally excellent company.

The most significant factor in the organizational environment that the designers at all four locations identified was the support of senior management. The HPT model includes the step of *intervention implementation and change* and notes that for implementation and change to occur, the "practitioner's first step is to ensure adequate commitment from stakeholders, such as senior management …" (Van Tiem, et al., 2004, p. 125). Ely (as cited in Ensminger, Surry, & Miller, 2002, p. 9) identified eight conditions that influence success in implementing innovations, one being the perception "that the powerbrokers of the organization (i.e. Presidents, CEO, Vice Presidents) actively support the implementation". Ely (1990) said that "this is not blind commitment, but firm and visible evidence that there is endorsement and continuing support for implementation" (p. 300). Further to this point, in a report from the Corporate Leadership Council, the authors wrote that "change proposals will only succeed if they obtain support from the senior executives of an organization" (Corporate Leadership Council, 2003, p. 1).

The second key environmental factor identified by the designers was the economic situation at all four of the companies where the research was conducted. The considerable financial strength of all 12 potential company locations was described in the Findings (Chapter 4). The designers all reported that their decisions were not significantly impacted by cost constraints.

The third key environmental factor observed at all four of the companies was an organizational culture of operational excellence. An operationally excellent culture values: (a) disciplined teamwork, (b) process focus and (c) a "one size fits all" conformance mindset. Onboarding, a standardized process that requires disciplined teamwork between the HR employee responsible for administering the process, the hiring manager, the IT department providing a computing environment, etc., epitomizes operational excellence. Onboarding is culturally consistent with a strategy of operational excellence.

Analysis of the research findings indicates that three factors combined to create a nearly ideal onboarding design environment: (a) senior management support, and an environment wherein (b) cost was not a significant consideration and (c) a reliable process oriented perspective was highly valued. The orientation training and onboarding programs studied in this research represented the designers' best designs—they were decision making in an environment that didn't hold the constraints often faced by their colleagues in different circumstances.

An additional way to classify significant factors in the organizational environment is presented in Table 60, adapted from Tessmer and Ritchie (1997). The table provides a framework for identifying learning environment contextual factors that were common to the four company locations in this study.

One environmental constraint that appeared to be present at all four companies was the company's Information Technology (IT) infrastructure. The researcher found that the IT options that were implemented were standard applications (i.e. email, static webpages, Learning Management Systems). Specifically, there was no evidence that Web 2.0 technologies were considered in making onboarding design choices.

Web 2.0 social technologies include social networking services, collaborative filtering, social bookmarking, file sharing and tagging, mashups, instant messaging, wikis, blogs and podcast which are “but the tip of the social software iceberg” (Boulos & Wheeler, 2007). Jonassen, Howland, Marra, and Crismond (2008) said that "social software, like Web 2.0, means different things to different people.

Table 60. *Contextual Factors Within the Orienting, Instructional, and Transfer Contexts.*

	Orienting Context (Before learning)	Instructional Context (During learning)	Transfer Context (After learning)
Learner Factors	Learner was assumed to know little about the organization but to have the goals of achieving competency and O-ACIS.	Designers generally presented declarative knowledge implying learners should see themselves as receivers	Designers believed that newcomers would see the utility of the onboarding experiences and resources provided Transfer coping was supported by role assignments to the immediate manager, and in some cases, to the workgroup peers. The newcomers' backgrounds varied widely.
Immediate Environment Factors	Social support is provided to the newcomer through onboarding requirements of the immediate manager, workgroup peers, and fellow newcomers.	Onboarding extends the learning period over a period of months from the time the newcomer enters the organization. Content topics did not appear to be differentiated by professional discipline other than some additional content (for example, project methodology) provided on the basis of job requirements.	Transfer opportunities Social support Situational cues

Note. Adapted from Tessmer and Richey, 1997, p. 92.

At its heart, however, is the capacity to bring people together and support sharing online communities through the use of technology" (p. 101).

Other elements afforded by computer technology, such as community and collaboration for geographically dispersed newcomers and increased authenticity in presenting scenario-based learning situations, were used by the designers. More established advantages of computer technology such as ease of update, access, etc. were utilized to provide access to current information, on-demand learning and experiences such as virtual tours.

Research Question 7

Research question 7 consisted of two parts: (a) **What are the significant features of the *industry*, political, economic, social and technical environment that the designer considered?** and (b) **Why are they considered most significant?**

These organizations all shared the same economic and social external environment at their Canadian operations, an environment which was a very significant factor in the decisions that were made at each of the case locations. The following key elements of the external environment were described in Chapter 4: (a) the global oil and gas industry, and (b) a booming Canadian oil and gas industry.

The composite picture that emerged for the setting in which the decisions being studied were made, was of an industry competing in a global market place by producing and marketing internationally traded crude oil, natural gas and petroleum products. These companies operated huge assets (ranked among the top 50 in Canada) with an average Canadian workforce size of 5,000 employees. Sales, cash flow, and revenue clearly

provided these companies with the financial wherewithal to be able to execute their business strategies.

These companies had large capital spending plans. All of these companies required a highly educated and experienced employee workforce to execute their capital spending plans in an operationally excellent manner. Boomer (the population cohort born between 1946 and 1964) retirements, combined with rapid expansion plans in the industry (particularly of the Alberta oil sands), placed each of these companies in the midst of an ongoing competition for talent. For these companies, newcomer attraction, retention and engagement, were absolutely critical business issues. For these reasons, orientation training and onboarding programs had the attention and strong support of senior management.

The findings in this study are clear that environmental factors were significant in designer decision making scenarios. These factors created a supportive context within their organization for the design, development, and implementation of an onboarding program. Successful completion of a mega-project in an operationally excellent way required a highly skilled workforce. Operational excellence required that "everybody knows the battle plan and the rule book, and when the buzzer sounds, everyone knows exactly what he or she has to do" (Treacy & Wiersema, 1995, p. 53). Effective onboarding of newcomers accelerates their socialization and discourages resignations; while simultaneously accelerating productivity improvements by assisting the newcomers to quickly learn to competently perform their jobs.

Research Question 8

Research question 8 was: (a) **What are the significant features of the political, economic, social and technical environment *external to the industry and organization* that the designer considered?** and (b) **Why are they considered most significant?**

Research question 8 expands the environmental considerations beyond the organization (research question 6) and the oil and gas industry (research question 7), to identifying regional and global environment features considered by the designers. An Alberta government study that was included in the Findings chapter (Chapter 4) will be used to identify four significant regional environmental features that the designers considered. Then three global environmental features identified by Merriam, Caffarella, and Baumgartner (2007), all of which were considered by the designers, will be identified.

Four primarily regional trends, identified in the Appendix A (Table 64) that were features of the environment considered by the designers, are expanded upon in Table 61.

One additional regional feature identified in the Findings chapter was the buoyancy of the Alberta, Calgary and Fort McMurray/Wood Buffalo economies during 2007, the period of data gathering for this study. The designers were definitely aware of these "hot" local economies which allowed workers to be selective about the industry they worked in and demanding in their expectations of employers.

Table 61. *Regional Social and Demographic Trends Considered by Designers as Significant Features of the Environment.*

1. Albertans who are obtaining a higher education are entering the workforce later. … **Implications:** Because of their higher education and training, large student loans, and increased living expenses, youth	The designers were aware that young workers have high expectations of employers. This feature of the environment was a factor that was supportive of

have high expectations upon entering the workforce. They are looking for high salaries, good benefits and flexible work arrangements.... Increased job opportunities and labour shortages in some trades allow employees to be selective and demanding in their jobs. Young workers do not feel obligated to be loyal to one employer. (pp.'s 8-9)	onboarding program implementation.
2. Alberta's population is aging. With the front wave of baby boomers now entering their sixties, many will be close to the traditional retirement age around 2010. (p. 9)	The designers were very aware of the impact of boomer retirements on the workforce and believed effective onboarding fostered the retention and productivity of the newcomers that would replace retiring workers.
3. Migration into Alberta continues. Alberta's strong economy continues to draw people from other provinces and countries. (p. 9)	The designers considered onboarding an important way to integrate newcomers arriving from a variety of backgrounds and cultures.
4. Employer and Employee Expectations …Increased competition and the rapid pace of change places a higher demand on both employee and employer productivity and adaptability. (p. 17)	The designers recognized the need for workforce productivity (adaptability contributes to productivity) and saw onboarding as a way of accelerating the time to full productivity for newcomers.

Source: The left column was adapted from Alberta Human Resources and Employment (2004).

Merriam, et al. (2007) wrote that "what one needs or wants to learn, what opportunities are available, the manner in which one learns—all are to a large extent determined by the society in which one lives" (p. 25). They identified three environmental

features “shaping the learning needs of adults in today’s world: changing demographics, the global economy, and technology” (p. 7). These three features were also identified in the Alberta government document referenced earlier (Alberta Human Resources and Employment, 2004).

To summarize, significant features of the external environment considered most significant by the designers are now stated along with their rationale:

1. Demographic changes resulting in worker shortages in developed countries were impacting the designers’ companies. Successful execution of oil sands projects was central to the companies' growth strategies and required highly skilled workforces. The companies needed to replace a sizeable portion of their existing workforces as mature workers retired. A lack of information, and misinformation, significantly impeded the ability of the industry to grow a skilled labour force (Petroleum Human Resources Council of Canada, 2009).
2. Soaring global demand for their company’s products when the designers made their onboarding decisions enhanced the strategic importance of the onboarding program.
3. Available computer technology enabled the companies to manage the logistical complexity in onboarding programs that would otherwise be much more complex and expensive. Designers used the affordances of technology to manage the logistics of onboarding but did not appear to have incorporated Web 2.0 software applications, to enhance newcomers’ social interactions.

The environmental factors discussed under research questions 6, 7 and 8 interact and overlap—they have been classified as they are because it seemed like a reasonable way

to address the questions. These regional and global factors were viewed as significant by the designers because they created a context that made worker productivity, retention and recruiting, critical strategic business issues.

On the other hand, political factors, with respect to regional or global governments, were not identified by designers as significant factors in the environment. It should be noted that the last data gathering interview was conducted on October 10, 2007 and that the majority of the interviews were conducted during the summer of 2007. Alberta government royalty rates had last changed in 1997 prior to a change on January 1, 2009; although a royalty review panel released a report portending the 2009 change on September 18, 2007 (Alberta Energy, 2009).

Suggestions for Future Research

A number of directions should be pursued in future research. Five specific suggestions are that:

1. The research methodology in this study is applied in other contexts, to study onboarding at smaller oil and gas companies or with organizations in other sectors of the economy. The Deliberation/Decision Analysis tool (Appendix C) unpacked and used as a series of questions would provide a useful supplement to the Interview Guide (Appendix B). The Instructional Design Activities Survey (Wedman & Tessmer, 1993) could also be used in conjunction with the questions in Appendices A and B for more generalized instructional design decision research.

2. The 63 orientation topics used in this research are used in surveys of newcomers and/or managers to determine which topics they perceive to be most significant. The topics could be correlated with the O-ACIS outcomes and used to develop scales for measuring characteristics of orientation training and onboarding programs.
3. Rousseau (1995) observed that "social scientists have done little to investigate the psychological and social underpinnings of contractual thinking and behavior as they affect enduring employment relationships" (p. 3). However, more recently Guest (2007) observed a surge in "interest in the psychological contract as a potentially useful analytic framework" (p. 132) "within which to study aspects of the employment relationship" (Guest & Conway, 2002, p. 22). Rousseau (1995) defined the psychological contract as "individual beliefs, shaped by the organization, regarding terms of an exchange agreement between individuals and their organization" (p. 9). HR practices were shown by Sels, Janssens, and Van den Brande (2004) and by Guest (2007) to be important to the nature of the psychological contract formed by employees with their company. The development of psychological contracts by organizational newcomers was discussed by (De Vos, Buyens, & Schalk, 2003, 2005) but there is a real need to integrate psychological contract research with instructional design theory, and particularly learning environments in an onboarding context.
4. Since an attitude is "a general evaluative summary" (Albarracin, Johnson, & Zanna, 2005, p. 82) of affect, behaviour, and cognition, it appears that

orientation training and onboarding programs provide a potentially rich research context for studying attitude change resulting from designed learning experiences.

Researcher Insights

Three insights of potential assistance to future researchers will now be shared. First, the researcher experienced considerable difficulty in getting participants to schedule the interviews and to complete the sorting tasks. A strategy that may be helpful in a similar situation would be to schedule all the interviews at the first meeting. In order to keep the requested time for the interviews as short as possible, the sorting tasks were started during the first interview and then completed by the interviewee after the interview. Scheduling three interviews (two interviews were conducted) and completing the sorting tasks during the interviews would be another strategy for getting all of the data gathering completed in a shorter period of time than was experienced by the researcher.

Second, some of the participating designers expressed some concerns about sharing the details of their onboarding programs, which were considered to be a competitive advantage. During the data gathering, the researcher came to realize that the designers really didn’t need to fear that their disclosures would result in loss of competitive advantage. Successful implementation requires far more than just reading about what another organization is doing to replicate that within a different company. Implementation of an onboarding program requires the support of a variety of groups and individuals including the company's IT organization, recruiting group, senior management and

department managers. In addition, the onboarding program has to fit the company (goals, culture, etc.).

A final insight came about through the pilot experience. The pilot location designer had a training background, a Master's degree in Continuing Education and experience in designing, developing and delivering classroom-based orientation training. The pilot confirmed the research procedures and tools would all provide data that could be analyzed using an instructional systems design framework. It was a real surprise to find out that in the oil and gas companies where the research was conducted, something unexpected was to be discovered. The research insight with regards to this experience is to expect the unexpected when doing research in a naturalistic field setting.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

Fifteen key findings from the research are identified in this chapter under four topics: (a) decision making, (b) onboarding, (c) instructional design and human performance technology and (d) research methodology. Implications of the findings for both theory and practice are discussed with the caveat that, "There is nothing so practical as a good theory" (Lewin, 1951, p. 169).

Decision Making

Five key findings about the decision making of the designers studied for this research emerged:

1. The designers self-assessed their level of expertise regarding decision making about the organization's onboarding program as high.
2. The design decisions found were predominately non-programmed decisions.
3. Six of the seven decision making styles identified by Kinston and Algie (1989) were found.
4. The onboarding designers most commonly made the researched decisions using the pragmatic decision making style, and to a substantially lesser extent, the rationalist style.
5. The onboarding design decisions clustered in three cells on Table 1: (a) *pragmatic starting design decisions* concerning the identification of actionable opportunities, (b) *pragmatic resolving design decisions* about realizing the most attractive opportunities and (c) *rationalist starting design decisions* which involved identifying common goals and values (Table 1).

Implications for Theory

The researched onboarding designers rated their expertise level as high regarding their onboarding design decisions, yet they generally had little, if any, knowledge of instructional design. An obvious implication is that human resource professionals outside of the training function feel fully competent to make learning and instructional design decisions. As a consequence, **onboarding design researchers should not limit themselves to studying individuals in traditional trainer roles**.

A more significant implication for onboarding theory development is that **literature relevant to learning and instructional design in an onboarding context can be found in and outside of the field of educational technology or the even broader field of education.** The corollary is that business researchers or others studying human resources topics such as onboarding, retention, productivity, recruiting marketplace image and O-ACIS, will be conducting incomplete literature reviews if they do not review educational technology and broader relevant educational literature.

The onboarding designers studied in this research made non-programmed decisions primarily using a pragmatic decision making style. However, the findings included examples of key decisions made using six of the seven decision styles identified by Kinston and Algie (1989). Only examples of the structuralist style of decision making were not found. Since the structuralist style relies on following rules and the critical decision research method identified primarily non-programmed decisions the structuralist style appears to be primarily associated with programmed decisions.

The majority of the decision makers studied by Goitein and Bond (2005) primarily used two styles of decision making. The onboarding designers studied in the research for

this research also primarily used two decision making styles—the pragmatic and rationalist styles.

The RPD model was reported by Goitein and Bond (2005) to apply to the empiricist, pragmatist and systemic styles of decision making. **Consistent with Goitein and Bond, the research for this study found that the RPD model described the pragmatic style of decision making.**

Rationalist style decision making starts from a foundation of common goals and values, but the RPD model instead starts when an experienced decision maker experiences a changed context. Under the RPD model, a decision maker establishes goals after evaluating how typical the new situation is and given the circumstances, what goals are plausible. Therefore the RPD model does not provide a very useful description of rationalist style decision making.

Simon (1997) and Lindblom (1979) both provided descriptions of decision making that are more applicable to rationalist style decision making than the RPD model. Both researchers portrayed decision makers as deliberating upon only a few alternatives. Lindblom emphasized: (a) common goals as the starting point of decision making and (b) that decisions are based upon goal attainment trade-offs inherent in each alternative. Simon alternatively argued that decision makers select the first alternative that satisfies, but doesn't necessarily optimize, goal attainment.

The finding that important rationalist styled decisions identified by the designers clustered at the design step of "start with common goals and values" (Table 1), supports the use of either Lindblom's or Simon’s description of decision making to model the rationalist decision making process of onboarding designers.

Additional decision examples from future research, for the remaining rationalist design steps of explore, develop, and resolve, would help to confirm whether Lindblom's or Simon's description is most descriptive of onboarding designers' decision making.

These research findings about onboarding designer decision making validate using the RPD model to describe onboarding designer pragmatist decisions. The RPD model was more useful for describing this most common onboarding decision style than: (a) the classical model of decision making, (b) the incremental decision making model or (c) the garbage can model of decision making.

The dearth of empirical styled decisions found, suggests that the classical model of decision making never applied to these designers' decision processes--i.e. none of them identified all the possible design alternatives, explored and developed all of these alternatives and then formally evaluated each alternative in terms of feasibility, cost and effectiveness, before making a decision.

The critical decision method was used in this research to identify decisions. It did not uncover enough details about the decision making process to be able to determine if disjointed incrementalist stratagems (Lindblom, 1979) were being used, particularly for the pragmatic styled decisions identified in this study.

No evidence of the garbage can model of decision making was found. This could be because: (a) the chaotic decision process described by Cohen, March and Olsen (1972) was not used by the researched designers, (b) the garbage can model of decision making was used by the designers but not for the key decisions identified using the critical decision method or (c) the researched onboarding designers consciously or unconsciously retroactively created a coherent rationale for their decisions.

The ADDIE model (Molenda, 2004) emphasizes that the first step of instructional systems design is analysis. The onboarding designers started with goals prescribed by management, not goals obtained from analyses of the learners, task or content. This is consistent with the RPD model and the decision making descriptions offered by Simon (1997), Lindblom (1979), and Cohen, March and Olsen (1972).

Only the classical decision making model emphasizes rigorous analysis of the problem, as the first step in decision making. Of the seven Kinston and Algie decision styles (1989), only the systemic style of decision making starts with analysis, and few decisions were found that were made using this style. The implication for theory, which will be elaborated upon in the Instructional Design and Human Performance Technology (HPT) section of this chapter, is that the ADDIE model is not rigorously followed by onboarding designers as a classical decision making process of instructional design.

Implications for Practice

Pragmatist styled decision makers seize opportunities. Consistent with this style of decision making, the pragmatist decisions identified in the findings, clustered at the starting design step of "identification of actionable opportunities"(Table 1, p. 17) and the resolve design step of "seizing the most attractive opportunities" (Table 1). Rationalist decisions are focused on common goals. The final cluster of key decisions occurred at the rationalist initial design step of "start with common goals and values" (Table 1).

A major implication for practice is that onboarding designers should avoid rushing the starting step for pragmatic or rationalist styled start design decisions. Time and effort should be budgeted and spent on the start step of design (Table 1).

Training designers in the use of common decision making styles for design decisions will enable them to select an optimal style for each decision they make. Training should be structured so as to provide decision makers with the opportunity to consider "constraints, consequences, and broader situational factors" (Orasanu, 1995, p. 1261) and practice recognizing situational cues and potential solutions, thereby reducing "the threat of 'inert' knowledge, or knowledge that can be told but not applied" (p. 1262). Learning knowledge in context is facilitated with situational debriefs that help the learner recognize the key learning points that were presented in a scenario.

HR professionals responsible for onboarding design need to learn about instructional design, learning theory, learning experiences and learning environments. Conversely, instructional designers responsible for onboarding design would greatly benefit from learning about HR topics such as O-ACIS; retention, and productivity. The study, research and practice of these topics from a learning perspective is important for both HR professionals and instructional designers.

Onboarding

Four key findings about onboarding decision making by the designers studied for this research emerged:

6. The onboarding programs were designed to support achievement of senior management strategic goals (retention and productivity).
7. The designers studied for this research viewed O-ACIS as a means of achieving strategic management goals and also maintaining or enhancing their company's recruiting marketplace image.

8. The designers studied for this research showed some overall preference for commitment construct outcome statements (of the O-ACIS constructs). However, outcome statements from each of the four O-ACIS constructs were among the top five ranked statements of the 66 outcome statements.
9. Onboarding program evaluation within the organizations consisted of project progress reports, participant feedback from managers and newcomers, and occasionally, a retention metric. Actual learning was not measured or reported; nor was productivity or an onboarding program's effect upon the organization's recruiting market place image.

Implications for Theory

Onboarding is a mechanism by which learning in the cognitive and affective domains occurs. The learning is intended to result in newcomer O-ACIS; desired outcomes of the researched onboarding program designers. This O-ACIS was believed by the designers to in turn lead to the management strategic goals of increased retention, productivity and to a maintained or enhanced recruiting marketplace image. The researched onboarding programs emphasized achievement of management goals. A management perspective dominated the design, from the initiation of the project to development of an onboarding program, through to program evaluation.

Very little peer reviewed literature about onboarding exists, and no previous research has connected onboarding with the O-ACIS literature. The findings reported here provide a preliminary step towards ultimately demonstrating a causal relationship (or lack thereof) between: (a) the management goals of retention, productivity and the

organization's image in the recruiting marketplace, (b) O-ACIS and (c) onboarding programs.

The researched designers did not show a strong preference for only one or two of the O-ACIS constructs. These findings confirmed that there is a great deal of overlap between these constructs.

To reiterate one of the suggestions for future research made earlier, the O-ACIS outcome statements can form the basis for a validated instrument that could be used to consistently and reliably measure orientation training and onboarding program outcomes.

The management goals of retention and productivity, and the organization's image in the recruiting marketplace, as well as the designer's desired O-ACIS outcomes, are important characteristics of the researched onboarding programs. They provide a context for discussing the implications for instructional systems design theory, which will be discussed later in this chapter.

Implications for Practice

The O-ACIS outcomes used in this research (Appendix D) can be used by onboarding designers to achieve clarity when onboarding objectives are established and also when evaluating an onboarding program's effectiveness—i.e., to what extent were the O-ACIS outcomes achieved?

As an onboarding program design strategy, the desired O-ACIS outcomes (Appendix D) could form the rows of a matrix with the columns of the matrix being formed from the content being considered for inclusion (Table 6 lists example content item descriptions). Each column (topic) should have at least one row intersection and each row (O-ACIS outcome) should similarly have one or more column intersections.

Instructional Design and HPT

Three key findings emerged from this onboarding design research concerning instructional design and human performance technology:

10. The designers relied on their intuitive understanding of the newcomers' learner characteristics, and not on any type of formal learner analysis.
11. The design process for creating learning experiences and a learning environment is better represented with a situated learning model (Herrington & Oliver, 2000; Young, 1993) than with the ADDIE model.
12. The onboarding programs required the presence of enabling computing technology. This HPT enabling environmental factor was essential (provided the affordance) to creating the learning environments envisioned by the designers researched in this study.

Implications for Instructional Design and HPT Theory

The previously stated finding of a lack of evidence for the classical decision making model is strengthened by the finding that designers relied on their intuitive understanding of newcomer characteristics rather than on formal learner analysis. **The designers did not use the ADDIE model as a formal design approach.** Neither this highly prescriptive approach to designing learning experiences described by Dick and Carey (2001) nor classical decision making was found. The conceptual phases of ADDIE (i.e., analyze, design, develop, implement, evaluate) can be seen; but not in use as an overall integrated prescriptive approach for onboarding decision making.

The Layers of Necessity model (Tessmer & Wedman, 1990) is consistent with the most common style of decision making found in this research, which was

pragmatic decision making. The Layers of Necessity describes a situationally contingent approach to design and was descriptive of the onboarding designers approach to the generalized stages analysis, design, development, implementation and evaluation.

The Gentry (1994) Instructional Project Development and Management (IPDM) model emphasizes communication and a project orientation and can assist onboarding theory research by providing lists of techniques and job aids that onboarding designers may use.

Traditionally, newcomers attended an orientation classroom event (Anderson, Cunningham-Snell, & Haigh, 1996). Newcomers participating in onboarding programs will likely still participate in some classroom training but the classroom provides only some of the planned learning experiences that collectively create a learning environment. The onboarding designers recognized that onboarding was about learning and that they had developed planned learning experiences. Examples of learning experiences outside of classroom training were welcoming events, planned newcomer interactions with managers and peers, provision of a mentor, etc. These combined learning experiences formed the learning environment. The learning environment was predominately situated in the same context in which the learning was to be applied. A situated learning model describes the onboarding learning situation for a number of reasons.

Situated learning models incorporate: (a) authentic context and activities, (b) access to expert performances and modeling of processes, (c) multiple roles and perspectives, (d) coaching and scaffolding at critical times, (e) integrated assessment of learning within the tasks; (f) articulation to enable tacit knowledge to be made explicit, and (g) supporting collaborative construction of knowledge. (Herrington & Oliver, 1995).

Onboarding designers incorporating critical characteristics of situated learning into their design (Herrington & Oliver, 2000; Young, 1993) would have a relevant and comprehensive model for making design decisions. Other instructional design models more specifically describe design as the process of planning and implementing experiences intended to create a learning environment that will foster learning by organizational newcomers that results in their O-ACIS.

Lombardozzi's (2008) four categories of resources for creating a learning environment offer such an instructional design model. The onboarding designers attended to all four of the learning environment categories. For example, study and reference materials were delivered via Intranet content at all of the researched companies. The onboarding designers also carefully designed events intended to foster relationships and networks, prepared formal learning activities and measured the support from managers for the newcomers.

Because onboarding designers are interested in changing newcomer attitudes, which will result in O-ACIS; **instructional design theory for onboarding needs to incorporate instructional design models concerned with learning (change) in the affective domain.**

Kamradt and Kamradt (1999), as discussed in the Literature Review (Chapter 2), provided a foundation for incorporating the affective domain into an instructional design model relevant to onboarding design theory development. Their general strategy was supported by Bednar and Levie's (1993) guidance for designing persuasive instruction and Mager's (1984) operant conditioning based approach to attitude training.

In addition to the situational learning design literature, socialization literature which emphasized the learning aspect of socialization can provide relevant learning

principles (Ashforth, Sluss & Saks, 2007, Fisher, 1986, Goldstein, 1993, Klein & Weaver, 2000).

The finding that enabling computer technology provided affordances supports the integration of HPT into ISD theory development for onboarding program design. Computer technology has facilitated the evolution from a one day orientation classroom event to an onboarding program. Designers contemplate affordances—what exists and what can be adapted, or created to achieve design goals. Snell (2006) reported that an enabling technology platform was one of the keys to successful onboarding. HPT provides a theoretical context for environmental analysis.

Lastly, **traditional instructional design has a place in onboarding design theory.** Job task learning by newcomers can be effectively designed using conventional instructional design models to facilitate the newcomer becoming fully productive as quickly as possible. The elaboration theory of instruction model (Reigeluth, 1999) is appropriate to the situated learning context of a newcomer. The model offers a sequencing approach to instruction that will guide the designer in presenting content for job task learning.

Implications for Instructional Design and HPT Practice

Four suggestions for the training of instructional designers that are consistent with this research, are that: (a) heuristics used by experts be taught, (b) cases be used to help novices develop an experience base to draw from, (c) instructional products be reviewed and criticized, (d) creative processes and reflexive methods to help learners find and fashion new ideas, be incorporated into the training (Rowland, 1992).

Problems and issues faced by designers implementing an instructional design model

were discussed by Hanlis (2004). **An additional problem faced by designers of orientation training and onboarding programs is the potential ethical implications of fostering O-ACIS,** particularly though the use of contrived experiences commissioned by management directive. Induction programs for enculturation are intended to socialize newcomers, to "'affect one's emotional and psychic process, sense of well-being and identity'" (Casey, 1995, p. 86).

Research Methodology

Three key findings about this methodology for studying decision making by onboarding designers emerged during the study:

13. The research explored onboarding designer decision making that was relatively unconstrained by resources such as budget or management access and support.
14. The critical decision method was an effective way to research onboarding decisions. However, the decision making process could be further clarified with more detailed analysis using the Deliberation/Decision Process Data Table (Appendix C). This would enable future researchers to determine if disjointed incrementalist strategies identified by Lindblom (1979) were in use.
15. The Kinston and Algie (1989) framework (Table 1) can be used to effectively classify designer decision making styles.

Implications for Theory

Designers studied for this research, reported strong management support for the implementation of their onboarding program and that they were not resource constrained. It could be the case that onboarding programs are only developed under these circumstances.

It seems more likely that onboarding programs are also developed under less ideal circumstances and that design decision making is affected by the management support and resources that are available. Research within many organizations should compare optimal and less optimal situations to understand onboarding design decision making in a variety of circumstances.

The critical decision method used in conjunction with a Deliberation/Decision Process Data Table (Appendix C), would allow future researchers to determine if disjointed incrementalist strategies (Lindblom, 1979) are used by onboarding designers. Researchers would also be able to determine if designer decision making at times followed the garbage can process described by Cohen, March and Olsen (1972). Alternatively, future researchers will have to schedule much more than three hours time with interviewees to allow the probing associated with the critical decision method to work down to a level of detail that would provide the information found in the Deliberation/Decision Process Data Table (Appendix C).

A key reason the Kinston and Algie (1989) framework provides an effective framework for studying decision making is because it is grounded in philosophy. Visscher-Voerman and Gustafson (2004) used the same developmental approach (Richey & Klein, 2007; Richey, Klein & Nelson, 2004) for researching the design decisions of instructional designers, as was used for the research reported in this study. They found the traditional ADDIE stages in the activities of the twenty four instructional designers they studied, but they found that the designers' approach to analysis, design, development, implementation and evaluation varied according to their philosophical perspectives. Visscher-Voerman and Gustafson (2004) reported that "philosophy provided a useful background for helping trace

back the origins of the different design approaches" (p. 76) and they identified design decision examples of three philosophies.

The three philosophies that Visscher-Voerman and Gustafson (2004) found represented were pragmatism, rationality (a prominent form of critical theory) and modernism (also known as scientific rationality or end-means rationality). They looked for examples of a fourth philosophy but found no examples of a postmodernist approach to decision making.

The application of the Kinston and Algie (1989) decision framework to onboarding designer decision making provides a foundation for extending Visscher-Voerman and Gustafson's (2004) work to the traditional philosophies of rationalism, empiricism, pragmatism, dialectic, and structuralism. Two additional philosophically based approaches which are titled "systemic" and "intuitionist" complete the Kinston and Algie framework (Table 1).

The philosophy underlying the systemic approach was discussed by Von Bertalanffy (1950), Banathy and Jenlink (2004) and Mingers (2000, 2006). The intuitionist approach is similar to the "artistic" paradigm which Visscher-Voerman and Gustafson (2004) tied to postmodernism. Algie (1976) had earlier connected this form of decision making with the subjectivist school of philosophy. He wrote that, "Effectiveness is in the eye of the beholder….Everything is relative to the individual involved and his personal emotions" (p. 6).

Implications for Research Methodology Practice

Future researchers seeking to research onboarding design decisions made under ideal conditions should identify organizations where O-ACIS is an imperative tied to the

strategic management goals of retention, productivity and recruiting marketplace image. Such organizations are likely to be in a high growth mode in a booming economy. Prospective newcomers would have attractive options for alternative employment, especially with industry competitors.

The critical decision method used in conjunction with the Deliberation/ Decision Process Data Table (Appendix C) will enable researchers to understand the detailed process of decision makers which can be classified using the Kinston and Algie (1989) framework.

Summary

The decisions onboarding designers made about learning goals and learning experiences for newcomers to their organizations were studied at four organizations with Canadian upstream oil and gas operations. Findings at each of the company locations were described in terms of decision styles and decisions about intended outcomes, content, implementation, and measurement. Fifteen key findings from the research were identified in this chapter under the topics of: (a) decision making, (b) onboarding, (c) instructional design and human performance technology and (d) research methodology.

The research problem was to understand the design decisions and rationales of instructional designers of upstream Canadian oil and gas orientation training. The problem remains a fascinating one because onboarding designers intend to affect the attitudes and behaviour of individuals entering an organization.

The interviewed designers wanted to ensure: (a) newcomers became productive as quickly as possible, (b) newcomer retention rates were maximized and (c) the

organization's ability to attract future newcomers was enhanced by its treatment of current newcomers. The designers made their decisions under realistic yet ideal conditions.

Examining design decisions made with respect to newcomer orientation training and onboarding showed that instructional design frameworks could be used to understand how newcomers' organizational- assimilation, commitment, identification and socialization (O-ACIS) can be supported with designed learning experiences.

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APPENDIX A: THE CONTEXT FOR THE COMPANY LOCATIONS

This research occurred in 2007, in which the four companies where onboarding design decisions were studied all faced a similar environment for their upstream Canadian operations. These companies were situated in the context of an environment which significantly influenced the decision making of the onboarding designers. For example, rising oil prices and worker shortages in Alberta raised concern about employee retention and newcomer attraction. Oil and gas companies planning massive oilsands developments needed to expand their workforces in a highly competitive environment. Management was willing to resource onboarding program design, development and implementation in order to increase worker retention and productivity. This management practice and support affected decision making by the designers.

The following shared key elements of the external environment are described: (a) the global oil and gas industry, (b) the Canadian oil and gas industry, and (c) the external Canadian and Alberta economic environment.

Global Overview of the Oil and Gas Industry

The modern oil and gas industry is said by many to have started in 1859 when Edwin Drake struck oil after drilling 69.5 feet into Pennsylvanian soil. Drake's high quality crude could be refined into a new type of lamp oil called kerosene (Berger & Anderson, 1992). Less than one hundred fifty years later, petroleum is a bedrock of Western civilization.

The U.S. Department of Energy (DOE) reported that petroleum (crude oil and natural gas liquids (NGLs)) continued to be "the world's most important primary energy source" (Energy Information Administration, 2007, p. 1). The world produced 81.4 million

barrels of crude per day in 2005, the latest available data in the above cited DOE report. The U.S. consumed 20.8 million barrels per day of petroleum—25 percent of the world's 2005 consumption. The 12 potential case company locations, which will be described later, were all connected to the U.S. and global marketplaces.

Petroleum companies are usually categorized into three components with an upstream component involved in exploration for, and production of, crude oil and natural gas. A midstream component is responsible for oil and gas processing, storage and transportation while a downstream component performs refining, distribution and marketing functions. Integrated petroleum companies operate in all three segments while other oil and gas companies operate in one or two of the segments. Each of the four case locations in this study had upstream operations.

The National Energy Board (NEB) explained crude oil pricing as follows:

> Canadian crude oil is priced relative to the crude oil benchmark West Texas Intermediate (WTI), at Cushing, Oklahoma. Figure 1 [Figure 12] shows that WTI crude oil prices have been extremely volatile in recent years. In 1998, oil prices fell sharply as the world was experiencing a glut of crude oil. Prices fell to levels not seen since 1986... Beginning in 2002, a huge increase in worldwide demand, particularly in China, combined with a series of geopolitical events that had an effect on global oil supplies, contributed to a rapid rise in crude oil prices.... In a global oil market, disruption to supplies in one region will be reflected in crude oil prices worldwide. …. As rapid development of the oil sands resources continues, Canada will play a larger role in influencing world crude oil market dynamics. (National Energy Board, 2008a)

Canadian Oil and Gas Industry

A year after Edwin Drake struck oil in Pennsylvania, James Miller Williams incorporated the Canadian Oil Company in 1860 and produced oil from a 49 foot deep well drilled in Ontario (Berger & Anderson, 1992).

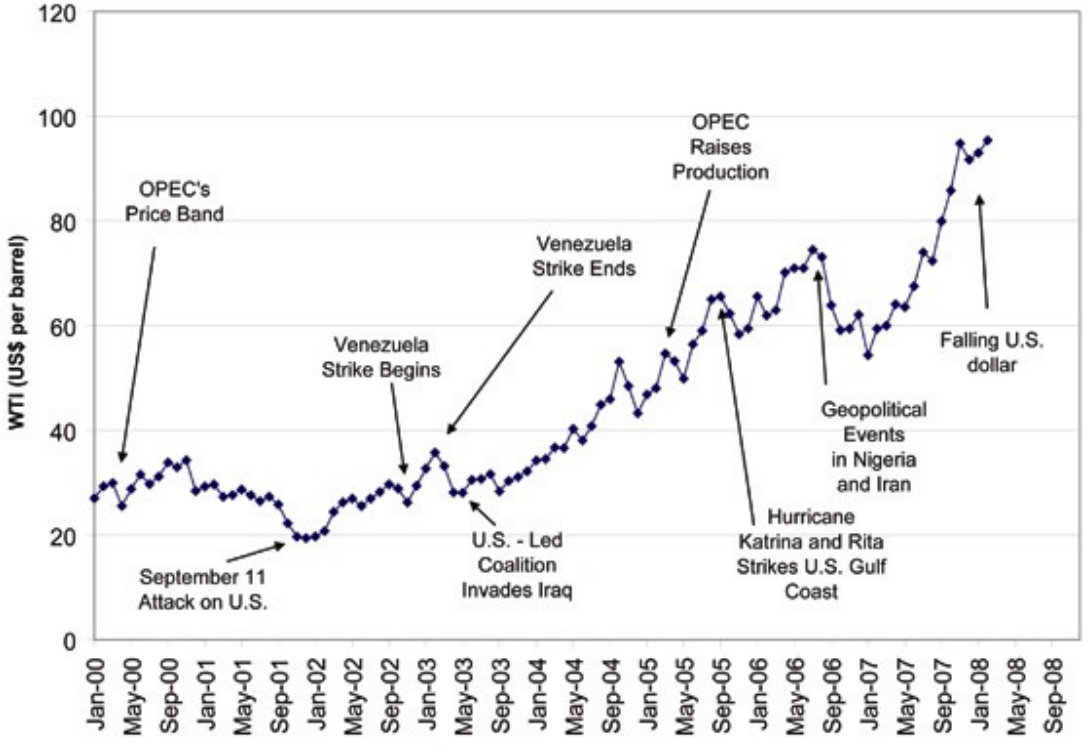

Figure 12. West Texas Intermediate Crude Oil Price (January 2000 – May 2008).

On February 13, 1947, Vern Hunter (nicknamed "Dry Hole" Hunter), was drilling a last chance well when he hit oil—commercial quantities at Leduc, Alberta (Canadian Petroleum Discovery Centre, 2006). Overnight Canada went from oil-poor to oil-rich as the Western Canadian sedimentary basin was developed. Canada's known petroleum resources are concentrated mostly in Alberta, Saskatchewan, north-eastern BC, parts of northern Canada and off the Atlantic coast (Canadian Association of Petroleum Producers, 2006).

The official statistical agencies of Canada and the United States have developed the North American Industry Classification System (NAICS) which describes the upstream oil and gas industry as operators of "oil and gas field properties. Companies may explore for crude petroleum and/or natural gas; drill, complete wells and operate separators and field gathering lines up to the point of shipment from the producing property" (Statistics Canada,

2004). There were more than 1000 companies in Canada engaged in exploration and production of oil and gas in 2004 (Calgary Economic Development, 2006a).

This industry is a major participant in the Canadian economy. The Canadian Association of Petroleum Producers (2006) reported Canada's upstream oil and natural gas industry was:

- The largest single private sector investor in Canada.
- A payer to governments of nearly $8.5 billion per year in the period from 1995 to 2005.
- A contributor of 57 per cent of Canada's merchandise trade balance in 2003 through a crude oil and natural gas trade surplus.
- A producer of more than 20% of North America's crude oil and natural gas.
- The third-largest producer of natural gas and the ninth-largest producer of crude oil in the world.

In this sector, the total compensation per hour worked in 2006 (most recent available data from Statistics Canada) was the highest of any industry in Canada (Statistics Canada, 2008a; Statistics Canada, 2008b). The average actual worked hours in the Canadian upstream sector were 39.6 hours/week versus 31.2 hours/week for Canadian industry overall in 2007 (Statistics Canada, 2008c).

The development of the Alberta oil sands and the resulting growth in industry production, revenue and employment were particularly salient features of the Canadian oil and gas industry with respect to this research, which are now discussed.

Alberta's Oil Sands

The Alberta oil sands reserves are second only to those found in Saudi Arabia (Government of Alberta, 2007). Hydrocarbon recovery in the Alberta oil sands currently relies on open pit mining at two of the companies that were potential locations for this

research: (a) Suncor Energy Inc., and (b) Syncrude Canada Ltd. The alternative production method is to inject steam into wells to reduce the viscosity of the oil so that it can flow through the formation to production wells. Steam technology is used by the other companies extracting hydrocarbons from the Alberta oil sands.

Table 62 shows that only two of the potential case study company locations were not active in the Alberta oil sands (BP and Talisman).

Table 62. *Companies Active in the Alberta Oil Sands (2008).*

Company	Operating	Under Construction	Proposed
Canadian Natural Resources Ltd		●	
EnCana Corporation	●		
Husky Energy			●
Imperial Oil/ExxonMobil			●
Opti Canada/Nexen Canada Joint Venture	●	●	
Petro-Canada	●		●
Petro-Canada/UTS			●
Suncor Energy Inc.	●	●	
Syncrude Canada Ltd.	●	●	
Whitesands In-situ Ltd.	●		

Source: (Fort McMurray Chamber of Commerce, 2008)

While not listed in the above table, Shell Canada Ltd. also had operations in the Alberta oil sands (Shell Canada Limited, 2008b). After the interviews for this research were completed, BP's Canadian affiliate, which left the oil sands in 1999, moved back into the oil sands in a deal with Husky Energy Inc. (Cattaneo, 2007). Therefore, the only company of the twelve potential case locations, without an interest in the Canadian oil sands, was Talisman Energy Inc.

Canadian Oil and Gas Industry

Canadian oil and gas industry data compiled by the Canadian Association of Petroleum Producers is summarized in Table 63 (Canadian Association of Petroleum Producers, 2006).

A number of important facts can be derived from these data. First, capital spending more than doubled between 2000 and 2006 (to 39 billion dollars in 2006) with capital

Table 63. *Canadian Oil and Gas Industry Data (2000-2006).*

Canadian Oil and Gas Industry							
	2000	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*
Capital Spending ($ billions)							
Conventional	19	22	18	24	27	35	39
Oil Sands	4	6	7	5	6	10	14
Total	23	28	25	29	33	45	53
Reserves at year-end (million barrels)	11,674	11,396	11,398	11,501	11,730	13,809	18,521
Production							
Crude Oil & Equivalents (thousands barrels/d)	2197	2215	2364	2481	2576	2529	2653
Natural Gas (billion cubic feet/d)	17	17	17	17	17	17	17
Prices							
Crude Oil - WTI @ Cushing on Nymex (US$/bbl)	30.20	25.90	26.08	31.04	41.40	56.56	66.22
Natural Gas - Nymex Henry Hub (US$/MMBtu)	4.25	4.08	3.34	5.48	6.19	8.96	7.03
Industry Revenues ($ billions)	65.1	64.3	57.4	77.5	87.3	110.2	106.5
Payments to governments ($ billions)	15.0	15.6	11.0	16.0	18.0	27.0	27.0
Employment (Direct & Indirect)	242,200	*	*	365,000	365,000	365,000	365,000
Exports							
Crude Oil - (thousands barrels/d)	1377	1340	1426	1516	1585	1578	1772
Natural Gas (billion cubic feet/d)	9.7	10.6	10.5	9.8	10.0	10.2	9.9
Imports of Crude Oil (thousand barrels/d)	912	923	890	912	963	927	850
Share of Primary Energy Consumption (%)							
Crude Oil	40	36	37	37	38	*	*
Natural Gas	28	29	30	30	30	*	*
Consumption:							
Crude Oil & Products (thousand barrels/d)	1,622	1,617	1,615	1,670	1,756	1,720	1,702
Natural Gas (billion cubic feet/d)	7.0	6.5	6.8	7.1	7.0	6.8	6.7
Note: All currencies are in CDN$ unless stated otherwise							
Note: * references those numbers not yet available							

Note. The data are from "Industry Facts and Information – Canada", by Canadian Association of Petroleum Producers, 2006, Calgary, AB: Author. Copyright 2006 by Canadian Association of Petroleum Producers. Adapted with permission.

spending for oil sands development nearly quadrupling (to 14 billion dollars in 2006). Natural gas production was flat, but crude oil producers were able to expand production 21 per cent in a time period when the price for West Texas Intermediate (WTI) crude oil doubled.

Oil and gas companies experienced an increase in the price of West Texas Intermediate crude oil of 17% in 2006 alone (Calgary Economic Development, 2008b). By February 2008 the price had risen to over one hundred dollars a barrel for crude oil. Industry revenues correspondingly climbed 64 per cent in the 2000-2006 timeframe (to 106.5 billion dollars in 2006).

The resulting strong financial performance and enormous capital budgets of oil and gas companies had a predictably dramatic effect on employment in the industry and by 2006 direct and indirect employment had increased 50 per cent in the seven year period beginning in 2000 and ending in 2006.

The overall workforce was forecast to continue to expand at an average annual growth rate of 2.0% for the period 2006-2015 (Human Resources and Skills Development Canada (HRSDC), 2006). This meant that not only were the companies in the oil and gas industry faced with replacing retiring boomers in the next decade but they also had to add additional thousands of employees trained in natural and applied sciences and related occupations; particularly petroleum engineers, geologists and geophysicists. Boomer (the population cohort born between 1946 and 1964) retirements would become significant around 2011 and continue until approximately 2026. “The exodus of this generation from the workforce is estimated to eliminate nearly 30% of the current workforce over the period of 15 years” (Calgary Economic Development, 2008a).

Post-secondary institutions would be stretched to provide the education the replacement workforce required:

> Campus Calgary, a partnership of Calgary's five public post-secondary institutions identified that 19,700 additional Fulltime Learning Equivalent spaces should be created over the next five years simply to meet increased demand. These numbers are congruent with industry indicators of the skills required to fill current and future labour shortages. (Karen Fingas Consulting, 2006)

Canadian Government

The government of Canada described the Canadian oil market:

> Canada is a participant in the global oil market in which buyers and sellers trade volumes, mostly on the basis of short-term contracts. It is this interaction that sets the world price of oil. Crude oil can be transported relatively easily by tanker, pipeline and truck to most major locations in the world. If prices rise in Asia, for example, sellers will divert crude oil from North America to the Asian market. As this happens, the supply available in North America would fall and prices would tend to rise. Although Canada is the eighth largest producer in the world, it produces only three percent of total daily production, according to 2006 statistics, so it does not influence the world price of oil. (National Energy Board, 2008a)

The National Energy Board (NEB) is a federal agency which regulates international and inter-provincial aspects of the Canadian oil and gas industries. "The purpose of the NEB is to promote safety, environmental protection and economic efficiency in the Canadian public interest within the mandate set by Parliament in the regulation of pipelines, energy development and trade" (National Energy Board, 2008b).

Province of Alberta

Alberta, proclaimed a province in 1905, has an estimated population of 3.5 million people, a 3% increase for the 12 months ending April 2008 (Government of Alberta, 2008).

The provincial government reported that “there are not enough skilled workers to meet the needs of Alberta’s growing oil, mining, manufacturing and construction industries" (p. 8). Social and demographic trends that are impacting Alberta's workplace included the following ones, summarized from a provincial report (Alberta Human Resources and Employment, 2004) in Table 64.

Table 64. *Social and Demographic Trends in Alberta (2004).*

Albertans who are obtaining a higher education are entering the workforce later. …**Economic Implications:** Because of their higher education and training, large student loans, and increased living expenses, youth have high expectations upon entering the workforce. They are looking for high salaries, good benefits and flexible work arrangements.... Increased job opportunities and labour shortages in some trades allow employees to be selective and demanding in their jobs. Young workers do not feel obligated to be loyal to one employer (pp.’s 8-9).
Alberta’s population is aging. With the front wave of baby boomers now entering their sixties, many will be close to the traditional retirement age around 2010 (p. 9)
Migration into Alberta continues. Alberta’s strong economy continues to draw people from other provinces and countries (p. 9). **Alberta has a growing Aboriginal population....**The Aboriginal population is becoming a primary labour source, especially for skilled jobs in the northern regions of the province (p. 10).
Globalization and Competition …Increased global market pressures are forcing companies to ... find ways to attract and retain the best talent while remaining competitive in the marketplace (p. 16). **A Dynamic Workforce** ... Attracting and keeping employees is becoming a more crucial factor impacting all industries (p. 16)
Information and Communications Technology … A drawback of being able to work practically anywhere, anytime, is that social interactions are reduced. Indeed, there is a waning interest in the home-based businesses that gained popularity in the late 1990s. People miss the social aspect of work (p. 17)
Employer and Employee Expectations …Increased competition and the rapid pace of change places a higher demand on both employee and employer productivity and adaptability (p. 17).

In a 10 year strategy document, the Alberta government described the tight labour market in the province as follows:

> **2.2 Continued Economic Growth** Alberta is experiencing strong economic growth. Several factors, including the current and expected future high commodity prices and the resulting unprecedented expansion of the oilsands industry, are leading to forecasts of continued vigorous growth over the medium term. [Footnote: Alberta's economy is projected to increase by 4.8% in 2006 followed by an annual average rate of 3.5% per year over the medium term, higher than both Canada and the United States. (Alberta government budget 2006)] …
>
> - The percentage of employers indicating a hiring difficulty in one or more occupational groups increased from 51.5 per cent in 2003 and 56.3 per cent in 2005.
> - Alberta's tight labour market is leading to increased competition among industries and employers for workers across a range of skill levels. (Alberta Human Resources and Employment, 2006, p. 5)

City of Calgary.

Calgary is the major urban centre of Southern Alberta and is located at the intersection of the Trans-Canada Highway and the Canamex Corridor, which runs from Canada to Mexico (Calgary Economic Development, 2006c). In 2006, Calgary's population reached one million with a growth rate that year which exceeded any ever seen before in Canada—20% of the jobs created in Canada in 2006 were located in Calgary (The City of Calgary-Office of the Mayor, 2006).

Immigration and migration from other parts of Canada, a traditional source of labour for Calgary (Karen Fingas Consulting, 2006), was expected to be constrained by "a smaller proportion of workers elsewhere at an age where relocation for economic advantages will be attractive" and the fact that "relocation will be less of an imperative when local or in-country employment is available" (p. x).

The city is the head office capital of Canada (on a per capita basis) with a 60.3% growth in major head offices between 2002 and 2006 (head office employment increased nearly 25% in the same time period and head office employment in Calgary was the per capita highest concentration in Canada) (Calgary Economic Development, 2006b). Calgary Economic Development reported the following data from the Statistics Canada, Labour Force Survey (Calgary Economic Development, 2006c):

- Employment grew at rate of 8% in Calgary in 2006 and at nearly 40% over the past decade (1997-2006) compared with approximately 25% in Toronto. Calgary's unemployment rate in 2006 was 3.4% versus 4% in Edmonton, 6.5% in Toronto and 8.6% in Montreal …
- The top 5 largest industry employment sectors in Calgary are: 1) Professional, Scientific and Technical Services (11.4% of industry employment), 2) Retail Trade (10.7%), 3) Health Care and Social Assistance (9.0%), 4) Construction (8.9%) and 5) Mining and Oil & Gas Extraction (7.6%)

Calgary Economic Development (2007c) reported that Calgary's economy ranked first among Canadian cities, with an estimated Real GDP growth rate of 6.9 per cent in 2006 and 4.2 per cent in 2007.

Housing starts increased 25 per cent in 2006 from 2005 and Calgary's GDP increased at 7.7 per cent (Calgary Economic Development, 2008b). Employment increased most "in sectors of the Calgary economy which are related to energy, in particular in the professional services sector" (Calgary Economic Development, 2008b p. 1).

Wages and salaries in Calgary were the highest in Canada ($50,724 in 2006 versus $43,293 in Toronto, $37,103 in Vancouver and $36,746 in Montreal) and had grown at the fastest rate in the country from 1997-2006 (4.9 per cent) (Calgary Economic Development, 2007b).

The importance of the city in the oil and gas sector was evidenced by the fact that both the National Energy Board and the Alberta Energy and Utilities Board were located in Calgary.

Municipality of Wood Buffalo and the city of Fort McMurray.

The annual census data for the Municipality of Wood Buffalo (Regional Municipality of Wood Buffalo, 2007) shows the population growth in Fort McMurray and the surrounding municipality of Wood Buffalo, primarily attributable to oil sands development (Table 65).

Table 65. *Population Growth in Fort McMurray and the Wood Buffalo Municipality (1999-2007).*

Area	*1999*	*2000*	*2002*	*2004*	*2005*	*2006*	*2007*
Fort McMurray	36,452	42,156	47,240	56,111	60,983	61,366	65,400
Rest of Wood Buffalo	6,395	9,250	11,077	10,994	10,193	15,369	23,767
Total	42,847	51,406	58,317	67,105	71,176	76,735	89,167

The situation with respect to oil sands development in the Wood Buffalo municipality can be seen in the following information (Figure 13) from The Fort McMurray Chamber of Commerce (2008) where 81 billion dollars of capital investment had been allocated.

In a report prepared for Alberta Employment, Immigration and Industry, of the twelve surveyed oil and gas companies with actual or planned oil sands operations, eight reported hiring difficulties (Applications Management Consulting Ltd., 2007, p. 10).

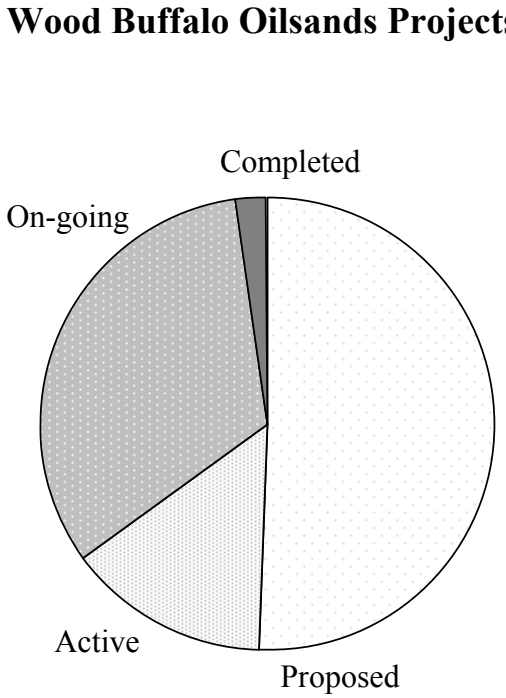

Figure 13. Wood Buffalo Oilsands Projects (2008 Status).

Environment Summary

This description of the environment external to the four case company locations reveals a number of factors relevant to the decisions of the onboarding decision makers:

1. The case company locations were participants in a global market which was booming when the onboarding decisions were made.
2. All of these companies had aggressive capital spending plans that involved spending hundreds of millions, if not billions, of dollars.
3. Successful execution of these capital projects, which were central to the companies' growth strategies, would require highly skilled workforces.
4. The companies needed to replace a sizeable portion of their existing workforces as mature workers retired and capital spending plans were implemented.

5. The Alberta, Calgary and Fort McMurray/Wood Buffalo economies were all very buoyant allowing workers to be selective and demanding of employers.

These combined factors made worker motivation, productivity and retention critical strategic business issues. Onboarding was therefore a strategic intervention, supported by senior management at each of the four case company locations.

Case Company Locations

Each of the four companies that was a case location for this research was a large oil and gas company with upstream operations in Canada. These organizations were significant contributors to the Canadian economy with both the need and the ability to implement effective onboarding programs for newcomers.

In order to fully protect the privacy of the participants and yet to provide context for the reader of this study, nine of the twelve potential company locations (i.e. companies that met the criteria described in the Data Sampling sub-section of the Methodology chapter of this study) are briefly described in terms of the organization's workforce and financial data.

Financial and operational data for the other three of the twelve companies, was not publicly available: BP p.l.c.'s Canadian affiliate, ExxonMobil Canada Ltd. and Syncrude Canada Ltd. The former two organizations are affiliates of their global parent companies while the latter is a joint venture undertaking of seven investor companies (Petro-Canada, Nexen Oil Sands, Imperial Oil Resources, Murphy Oil Company Ltd., Mocal Energy Limited, Conoco-Phillips Oil Sand Partnership II and Canadian Oil Sands Limited). The similarities among the nine companies which will be described in this study, and likely therefore among all twelve potential case locations, will be readily apparent to the reader.

Twelve Potential Case Location Company Descriptions

Financial and operational data was publicly available for nine of the twelve potential company locations: (a) Canadian Natural Resources Limited (CNRL), (b) EnCana Corporation (Encana), (c) Husky Energy Inc. (Husky), (d) Imperial Oil Limited (IOL), (e) Nexen Inc. (Nexen), (f) Petro-Canada (Petro-Can), (g) Shell Canada Limited (Shell), (h) Suncor Energy Inc. (Suncor), and (i) Talisman Energy Inc. (Talisman) (Tables 66 and 67).

Table 66. *Company 2007 Operational and Financial Data.*

Metric	CNRL	EnCana	Husky	IOL	Nexen
Revenue (000s)	11,152,000	23,033,004	15,518,000	25,069,000	6,604,000
FP Rank-Sales	35	16	27	8	72
Assets	36,114,000	46,551,234	21,697,000	16,287,000	18,075,000
FP Rank-Assets	20	17	39	48	44
Net Income	2,608,000	4,251,966	3,214,000	3,188,000	3,687
FP Rank-Net Income	14	1	11	9	59
Employees (000's)	3,700	7,250 (2007)	4,100	4,900	3,687
Cash Flow	6,165,000	9,078,522	6,375,000	3,828,000	3,485,000

FP = Financial Post

Source: http://www.fpinfomart.ca supplemented with data from the Shell annual report (Shell Canada Limited, 2007).

Table 67. *Company 2007 Operational and Financial Data Continued.*

Metric	Petro-Can	Shell	Suncor	Talisman
Revenue (000s)	21,710,000	14,806,000	17,212,000	7,898,000
FP Rank-Sales	14	20	21	45
Assets	23,852,000	17,556,000	24,167,000	21,443,000
FP Rank-Assets	28	42	36	32
Net Income	2,733,000	1,738,000	2,832,000	2,078,000
FP Rank-Net Income	23	25	10	20
Employees (000's)	5,603	4,793	6,465	2,639
Cash Flow	3,762,000	2,497,000	3,805,000	4,225,000

FP = Financial Post

Source: http://www.fpinfomart.ca supplemented with data from the Shell annual report (Shell Canada Limited, 2007).

Twelve brief narrative company descriptions are listed alphabetically and include the nine companies in Tables 66 and 67, BP p.l.c. (parent company of BP Canada), Exxon Mobil Corporation (parent company of Exxon Mobil Canada) and Syncrude.

1. BP p.l.c.

BP p.l.c. is a global oil and gas exploration and production company, headquartered in London, England, actively exploring in Canada and 28 other countries. The company's primary business is the exploration, development and production of oil and natural gas; including the refining, marketing and transportation of crude and petroleum products to wholesale and retail customers (BP p.l.c., 2007).

2. Canadian Natural Resources Limited (CNRL)

Canadian Natural Resources Limited (CNRL) is an oil and gas exploration and production company that "acquires, explores for, develops, produces and markets petroleum and natural gas in North America, primarily western Canada, the United Kingdom sector of the North Sea and Offshore West Africa" (Financial Post DataGroup, 2008a). The company also operates three pipeline systems and maintains a 50 per cent interest in a cogeneration power plant (Financial Post DataGroup, 2008a).

3. EnCana Corporation (Encana)

EnCana Corporation is an oil and gas exploration and production company engaged in exploration, development, production and marketing of crude oil, natural gas liquids and natural gas. The company operates "in Canada, the United States, the Middle East and Europe, in addition to participating in exploration for and development and production of, bitumen in Canada using in-situ recovery methods. Other interests include refining and power generation operations" (Financial Post DataGroup, 2008b).

4. Exxon Mobil Corporation

Exxon Mobil Corporation is a global exploration, production and marketer of crude oil, natural gas and petroleum products. The corporation operates Esso, Mobil and

ExxonMobil companies on six continents and is headquartered in Irving, Texas (Exxon Mobil Corporation, 2007, 2008a, 2008b). Exxon Mobil Corporation is the majority owner of Imperial Oil Ltd. (Imperial Oil Ltd., 2006c) in addition to operating directly in Canada as ExxonMobil Canada Ltd., a wholly owned affiliate company (Exxon Mobil Corporation, 2008c).

5. Husky Energy Inc. (Husky)

Husky Energy Inc. is an integrated oil and gas company that was one of Alberta's 2007 "Top 25 Employers" (Husky Energy Inc., 2008b). The Canadian-based company is an integrated oil company with about 20 billion dollars worth of assets which produces more than 350,000 barrels of crude oil a day (Husky Energy Inc., 2008a). The company has upstream operations in Canada, (offshore) China, Indonesia, Greenland and downstream Canadian and American retail networks. Husky upgrades and refines crude oil and is a marketer of petroleum products (Husky Energy Inc., 2008a).

6. Imperial Oil Limited (IOL)

Imperial Oil Limited is an integrated oil and gas company engaged in exploration, production, refining and marketing of petroleum products. “Imperial Oil is one of Canada’s largest corporations and a leading member of the country’s petroleum industry. It is one of Cana’s largest producers of crude oil and natural gas, is the largest petroleum refiner, and has a leading market share in petroleum products” (Imperial Oil Ltd., 2008) which are sold through the company’s retail network.

7. Nexen Inc. (Nexen)

Nexen Inc. is a crude oil and natural gas exploration, development and production company that operates core assets in Canada, Colombia, the Gulf of Mexico, the North Sea,

Norway, West Africa and Yemen. The company also manufactures, markets and distributes industrial chemicals produced in Canada and Brazil (Financial Post DataGroup, 2008c). One of Canada's "50 Best Employers" in 2008 (Nexen Inc., 2008b), the company produced approximately 254 mboe/day in 2007 (Nexen Inc., 2008a).

8. Petro-Canada (Petro-Can)

Petro-Canada is an integrated oil and gas company engaged in exploration, development, production and marketing of crude oil, natural gas liquids and natural gas both in Canada and internationally. The company is a refiner, distributor and marketer of petroleum products, primarily in Canada (Financial Post DataGroup, 2008d).

9. Shell Canada Limited (Shell)

Shell Canada Limited engages in all phases of the petroleum business in Canada. In its upstream operations, this integrated petroleum company produces natural gas, natural gas liquids and bitumen. In its downstream operations Shell Canada is a leading manufacturer, refiner, distributor and marketer of petroleum products and the largest sulphur producer in Canada (Shell Canada Limited, 2007, 2008a).

10. Suncor Energy Inc. (Suncor)

Suncor Energy Inc. is an integrated oil and gas company that was one of Canada's "100 Top Employers" in 2008 (Suncor Energy Inc., 2008b). Suncor focuses on Alberta oil sands production and has undertaken a 20.6 billion dollar expansion. Upgrader capacity is expected to almost double over five years to 550 thousand barrels per day by 2012 (Suncor Energy Inc., 2008c) Suncor is also engaged in crude oil and natural gas exploration, development, production, refining and marketing in Ontario (Sunoco brand), Colorado (Phillips 66 brand) and Wyoming (Suncor Energy Inc., 2008a).

11. Syncrude Canada Ltd. (Syncrude)

Syncrude Canada Ltd. is the world's largest producer of crude oil from oil sands (Syncrude Canada Ltd., 2006b) and has approximately 4,700 employees (Syncrude Canada Ltd., 2006a). The owners plan to increase production to 500,000 barrels of crude oil per day post 2015 which will require an additional 500 skilled permanent employees (Syncrude Canada Ltd., 2006c).

12. Talisman Energy Inc. (Talisman)

Talisman Energy Inc. is an oil and gas company engaged in exploration, development, production and marketing of crude oil, natural gas and natural gas liquids in Australia, Colombia, North Africa, North America, the North Sea, Peru, Qatar, Southeast Asia, and Tobago and Trinidad (Talisman Energy Inc., 2008). "The Company focuses on larger opportunities, including deep gas in North America and multi-million boe [barrels of oil equivalent] international projects.... In 2008, Talisman plans to spend $4.4 billion on exploration and development" (Talisman Energy Inc., 2008, p. 6).

APPENDIX B: INTERVIEW GUIDE

Newcomer Orientation Interview Guide

Thank you very much for meeting with me. My dissertation research concerns decisions about orientation programs for newcomers. This interview is designed to gather anonymous information from you about the deliberations and decisions that led to the organization's orientation program being what it is today.

Name: _____ Date: ___/___ 2007 Time Started: _____ Time Ended: _____	☐ provide business card - you will probably think of something later

You were contacted because [state how this person was identified]. The information collected will be used to develop a conceptual framework for design decisions regarding orientation training.

I will read questions, and I'd like you to answer them. However, I'd also like to hear what you're thinking--how you arrived at your answers and how you're interpreting the questions. You will also be asked to do some sorting exercises which I will describe more fully shortly. Do you have any questions at this point?

In a moment I will provide you with a copy of a consent form required for any university related research involving people. Before we proceed, I will need you to read the consent form and sign a copy (*hand 2 copies of the form to the prospective participant)*.

Audio recording:

- allows me to concentrate on the interview
- avoids slowing down the conversation or missing what is said while taking detailed notes
- you may turn off the tape recorder at any point in the interview
- I will take notes that will serve as a guide to help locate taped information.

If the right to withdraw is exercised it is automatic. Interviews with other participants will continue. All the data that you contributed will be destroyed unless you expressly indicate some or all of the collected data may be retained and used in the analysis. If you choose to withdraw from the study but allow some or all of the collected data to be used you will have an opportunity to edit the data before it is analyzed.

Whether withdrawing or not the opportunity to edit will be waived by written agreement or forfeited if not exercised within 21 days after the transcript is delivered to the address below:

Address: _____

Organizations will be provided a dissertation summary and the opportunity of a presentation to review key findings.

□ Permission to audio record interviews.

_____ _____

Participant Signature Date

Again, thank you for meeting with me and agreeing to help me with my research. Please keep in mind that I really do want to hear all of your opinions and reactions. Don't hesitate to speak up whenever something seems unclear, is hard to answer, or doesn't seem to apply to you. We'll do this for no more than an hour and a half, and less if I run out of things to ask.

I will also ask you to do two sorting tasks—the first sort involves various possible topics for an orientation program. The second task will be to categorize various possible outcomes that might result from an orientation program. So, are you ready for this interview?

Turn on audio recorder

Basic Organizational & Demographic Information

Organizational Information (Designer context):

Please provide the following information about the organization.

- Size in employees: EMPT ○ [ ] Wage ○ [ ] Other ○ [ ] ○ = Orientation Eligible
- Locations (◇ Western Canada, ◇ Central, ◇ Eastern Canada, ◇ Arctic Canada , ◇ Oil Sands, ◇ Other)
- Years in Existence [ ]
- Advertise to the General Public? ◇ Y ◇ N
- Known to most people in the city ◇ Y ◇ N, province ◇ Y ◇ N, country ◇ Y ◇ N
- Operations: ☐ Onshore ☐ Oil Sands & Heavy Oil (Mining) ☐ Oil Sands & Heavy Oil (In-situ) ☐ Offshore

◇ ○ Engineers ◇ ○ Geosciences Professionals ◇ ○ Helpers, Labourers & Semi-skilled Workers

◇ ○ Operators ◇ ○ Business Services ◇ ○ Technicians
◇ ○ Technologists ◇ ○ Trades ◇ ○ Marine & Nautical Services

◇ ○ [1st ◇ = part of the organization ○ = orientation program eligible]

- The organization's mission or business objective; and the philosophy for people management
- Major historical, social, and physical features of the organization that effect the design of the orientation program [e.g. mergers/acquisition, geographical spread, etc.]

Please provide the following information about yourself.

- Title: __ Dept: __ [obtain business card]
- Service (current position/total organization):
- Industry Experience __
- Work Experience (Relevant to Responsibility for Orientation) ___
- Education: __. Would you please describe formal or informal involvement in other learning programs. (courses, degrees, experiences) ___
- Age < 30○, 30-40○, 41-50○, 51-60○, >60○
- Nature of involvement in the Orientation program ___
- Previous involvement in Orientation programs _____

What ought to be the knowledge and expertise of the designer(s) of the orientation program?

CARD SORT TASKS [Affinity Diagrams]

Decisions are discrete choices. Deliberations are a more continuous affair from which decisions occasionally emerge. Meetings can be a vital forum for a deliberation, but they are not the deliberation itself. Deliberations are reflective and communicative behaviors concerning a particular topic. They are patterns of exchange and communication in which people engage with themselves or others which sometimes result in a decision. Deliberations have three salient aspects: (1) topics, (2) forums of exchange, and (3) participants.

Optional Think-Aloud Practice Let's begin with a couple of practice questions. Remember to try to think aloud as you answer.
Practice question 1: How many windows are there in the house or apartment where you live?
[If necessary: How did you come up with that answer?]
Practice question 2: How difficult was it for you to get here to do the interview today: very difficult, somewhat difficult, a little difficult, or not at all difficult? [If necessary: Tell me more about that. Why do you say {Answer}?] OK, now let's turn to the topic of decisions and deliberations.

Step 1. Think about the deliberations and decisions that led to your organization's orientation program. Please describe the development of the program in terms of

deliberations and decisions that occurred. [e.g., if required: conversation about the need to create/revise the orientation program]

Step 2. Construct Timeline. Establish sequence and duration of each event. 1. Repeat back the incident. 2. Construct a timeline or diagram. 3. Record decision points, shifts in understanding, and major events. 4. Ask clarifying questions.

Ask: Do I have this right? Where on the timeline should I put this?
Listen For: Decision/deliberation points, shifts in understanding, places to probe, gaps in the story, gaps in the timeline, conceptual leaps, anomalies/surprises, errors, ambiguous cues, decisions on ADDIE framework.

Step 3. Develop Understand the Deliberations/Decisions (1) topics, (2) forums of exchange, and (3) participants

⇒ Ask questions to understand the Deliberations/Decisions. 2. Use the timeline or diagram for clarification. 3. Repeat back confusing points.

What was it about the situation that let you know what was going to happen?
What was it about the situation that let you know what to do?
What led up to this decision?
What were your overriding concerns at that point?
How would you summarize the situation at this point?
What were you noticing/seeing/hearing at that point?
What information did you use in making this decision/participating in this deliberation?
How did you get this information?
What knowledge was necessary or helpful in this situation or at this point?
What were your specific goals at this time?
What were you hoping/intending to accomplish at this point?

Listen For: Critical decisions, cues and their implications, ambiguous cues, strategies, anomalies/violated expectancies.

⇒ Use "what if" questions to tease out specific elements. 2. Ask what a less/more experienced person might have done. 3. Ask what mistakes might have been made earlier in the participant's career with respect to this decision/deliberation (if they do not consider themselves to be early in their career).

Ask: Did you consider other alternatives?

- How someone else in the same position would have done if differently?
- Could you have reasonably taken any other action?

- Would you have made the same decision at an earlier point in your career?
  (if they do not consider themselves to be early in their career)
- Would this incident have turned out differently if you, or someone with your level of skill/experience, had not been there?

Listen For: Other possible courses of action, other potential interpretations, expert-novice differences, potential errors.

What were the specific goals were at this time? What was hoped or intended to be accomplished at this point? How is it known that these goals have been achieved by the orientation program?
Ask: Did you consider other alternatives?

- Are any measures used? How? Why is the measurement information used as it is?
- Why were these measures selected?
- Whose views are (ought to be) underlying the design?

Listen For: Critical decisions/deliberations, cues and their implications, ambiguous cues, strategies, anomalies/violated expectancies, learning objectives and goals for the orientation program.

Designer key characteristics-Decision Making Process:

With respect to the various decisions and deliberations made with regard to your organization's orientation program, where would you classify yourself on this chart? Where would you classify others involved in the orientation program with respect to the various deliberations or decisions?

[Decision Areas: Content inclusion, scope and sequencing, media and timing for program duration and timing in relation to organizational entry—recycle these to Timeline as necessary]

Pre-novice	One who is totally ignorant of a domain other than that it exists. Lacks rudimentary perceptual skills blocking the road to expertise.
Novice	Literally, someone who is new. There has been some, but minimal, exposure to the domain. Performers learn explicit facts, features, and rules that can be readily verbalized. Performance at this stage is essentially based on algorithmic processing. The knowledge that is used is context-free in the sense that it is not yet sensitive to situated factors that may mediate performance.
Advanced Beginner	As performers gain more practical experience in concrete situations, they begin to take into account more contextual factors and thus develop more sophisticated rules for performing a task. New episodes are perceived as being similar to prior examples, thereby enabling rudimentary recognition processes.
	An experienced and reliable worker, or one who has achieved a level of

Proficient Performer	competence. Whereas previous stages involve deliberate, conscious choice, activity at this stage is the result of experience-based associations connecting context and current stimuli with plans that have proven to be successful. However, when unfamiliar and particularly important events are encountered, performers may still revert from this recognitional process to a more deliberate, analytical approach to decision making.
Expert 1. ☐	Performers use specific goals to prioritize facts according to their relevance. They adopt a hierarchical process by which a plan is developed to organize the situation, and then use that plan to examine only those factors that are most relevant to the current goal and plan. This process is more efficient than those observed in previous stages because it involves more selective information processing.
Expert 2. ☐	The distinguished or brilliant performer, highly regarded by peers, whose judgments are uncommonly accurate and reliable, whose performance shows consummate skill and economy of effort, and who can deal effectively with rare or "tough" cases. Also, an expert is one who has special skills or knowledge derived from extensive experience with sub-domains.
Master 1. ☐	Performers deal with task demands in an effortless and automatic fashion. They rely on learned, experience-based, context-sensitive associations that provide them with a deep understanding of the situation, and that allows them to engage in fluid, intuitive actions. Rather than following rules, experts exploit both their experience base and the information in the environment to guide action. Expert processes are largely perceptual and automatic.
Master 2. ☐	It is one thing to be able to deal with situations via automatic, holistic associative processes, but it is another to be able to explain the rationale behind your actions (should there be one) and thereby teach others to improve their competence. Traditionally, a master is also qualified to teach those at a lower level. Traditionally, a master is one of an elite group of experts whose judgments set the regulations, standards, or ideals. Also, a master can be that expert who is regarded by the other experts as being "the" expert, or the "real" expert, especially with regard to sub-domain knowledge.

Orientation Program Participants
Would you please share with me what is known about the Orientation Program Participants:

Orientation program participant key characteristics-Demographic:

- EMPT/Wage/Admin/Finite Term:
- *PHRCC information 2nd* ◇ in Company Demographics

- Depts.:
- Service:
- Education:
- Industry Experience:
- Work Experience:
- Previous Orientation programs
- Age < 30, 30-40, 41-50, 51-60, >60

Learner characteristics: Learning Styles, Prior Knowledge, General Abilities, Computer Skills, etc.
Learner Traits: Anxiety Level, Interest Level, Motivation Level, Self-Efficacy Level (their judgment of capability to achieve perceived learning outcomes), Independence/Conformity Level

Self-perceptions as a learner in relation to perceptions of different instructional environments. Preference Present? (completely - not at all), Importance of Preference (High - Low)

How do you know? [Personal tacit knowledge, Observation, Facilitator Report, Focus Group, Participants' Self Report, etc.]
Would you say that this information is reflected in the design of the orientation program? How so? Why would you say that the participant profile was developed, and is used as it is? Feelings about the Orientation Program, perception of it as a priority for the organization? For you? Evidence that it is perceived as important?

Which, if any, of the following supports or hinders effective deliberations:
1. Compensation programs 2. Promotions
3. Symbolic Recognition 4. Ground Rules (protocols for effective problem solving)
5. Structure of the organization 6. Personal development
7. Technology to Assist Discretionary Coalitions Engaged in Major Deliberations

Please rate the relevance (1 very low-7 very high) of the following principles to the organization's orientation program (with rationale):

- Learning is promoted when learners observe a demonstration.
- Learning is promoted when learners apply the new knowledge.
- Learning is promoted when learners engage in a task-centered instructional strategy.
- Learning is promoted when learners activate prior knowledge or experience.
- Learning is promoted when learners integrate their new knowledge into their everyday world.
- Learning is promoted when learners observe a demonstration of the skills to be learned that is consistent with the type of content being taught.

- Demonstrations are enhanced when learners receive guidance that relates instances to generalities.
- Demonstrations are enhanced when learners observe media that is relevant to the content.

Please describe any factors, variables, or events that you think were present and that helped to facilitate the company orientation program implementation process. [Of the variables, factors or events you described, which do you personally think were most significant and why?]

What were some of the factors, variables or events that you think were barriers to the implementation process? [Of the variables, factors or events you described, which do you personally think were most significant and why?] Can you think of any variables or factors that were not present during implementation that might have helped facilitate the implementation process if they had been present?

One author has identified eight conditions that are helpful conditions for implementing change. [Provide a copy of the Conditions for Implementing Change]. Are there any conditions on the list that facilitated or hindered implementation?

Conditions for Implementing Change

1. Dissatisfaction with the status quo – A belief on the part of the people within an organization that the current technologies and/or processes used by the organization are inadequate, outdated, or could be improved upon
2. Knowledge and Skills – The people who will use the innovation feel confident that they have, or can acquire, adequate skills and knowledge to use the innovation effectively
3. Adequate Resources – All of the supporting resources directly or indirectly related to the innovation and essential to the proper use of the innovation are in place or will be provided
4. Adequate Time – People who will use the innovation are provided enough time to learn about the innovation and how to use the innovation properly – people are not required to learn about the innovation in addition to their normal duties or on their own time
5. Rewards or Incentives – Incentives are provided to encourage use of a new technology or participation in a new process – rewards are provided for successful, novel, or timely use of the innovation. Related to this condition is the identification and elimination of "negative incentives".
6. Participation – Meaningful, active, ongoing participation by all stakeholder groups affected by the innovation. Participation should be present at all phases of the innovation process.
7. Commitment – Meaningful, active, ongoing, and tangible support for the innovation by senior management within and organization. Senior management must demonstrate that the innovation has their support – "lip service" or superficial support is inadequate
8. Leadership – Meaningful, active, ongoing, and tangible support for the innovation by those who directly supervise the workers who use the innovation on a day-to-day basis.

There are always environmental factors that need to be taken into account when making design choices for orientation programs. What are the salient features of the company's ISD-PETE© (organizational, industry, external to industry):
International – parent Company outside Canada and/or Affiliates (subsidiaries) outside Canada
Social – Influence Diagram
Demographics of the industry (other companies, employees)
Political – Legislative requirements and/or participation in public policy development forums
Economic – Cost/budget constraints/opportunities
Technology – Constraints/Opportunities (e.g. SAIT modules)
Environment – City/AB/Canada/International

CI SECTION

How is (ought to be) the improvement in the system measured?

Designers at times contend with (1) ill-structured problems; (2) uncertain, dynamic environments; (3) shifting, ill-defined, or competing goals; (4) action/feedback loops; (5) time stress; and (6) high stakes. Do any of these factors apply to the deliberations and decisions that have been identified? (If so, please describe)

Which of the following decision-making modes would best describe each of the deliberations and decisions?
Decision-Making Modes

Mode:	**Emphasis**
Pragmatic:	Sensing and seizing opportunities [quickly seizing opportunities]
Systems:	Modeling organizational effectiveness to enable intervention [systems thinking]
Empiricist:	Finding evidence-based solutions [use of data]
Value focused:	Articulating and pursuing common goals [objectives focus]
Structuralist:	Determining responsibility and ensuring procedural control [using the formal organization]
Multiparty:	Negotiating agreements [negotiating agreements]
Imaginative:	Fostering creativity [creativity]

Why did you select the modes you did?

Brief closing remarks - thank the participant for their responses and time. Schedule the next interview. Request suggestions for improving future interviews.

APPENDIX C: DELIBERATION/DECISION PROCESS DATA TABLE

Deliberation/Decision: Name and brief review of topic, mission, importance	R	A	S	C	I	Other
Now involved						
Could be involved						
For each entity in the above matrix ID:						
Info Inflows/Outflows (with Errors/Gaps)						
Orientation for this deliberation: **E.g.** Project mgr. **Orientation** - Maximize hardware and software change fit. - Curtail features that intrude on other business lines Coalitions: Divergent positions: Any tradeoffs necessary to manage divergence with other participants' values						
Forum(s): Structured: are regularly scheduled and entail orderly, exhaustive procedures. Semi-Structured: are less orderly than structured forums usually due to lack of scheduling (with semi-linear solution) or scheduled (non-linear solution). Unstructured: *forums* are unscheduled (often unforeseen) and entail non-exhaustive resolution. Frequently, the more important the issue, the more forums in which it gets deliberated; the more politically sensitive the issue, the more people tend to deliberate it in less structured forums.						
Mediums of Deliberation: (phone, email, memo, mtg, etc.) type, file, dispatch/receive mail, read, reflect, compose/draft, schedule, meet/travel, discuss, and phone. Strung together by forums in reference to topics, these activities become the medium of deliberations						
[**R**esponsible, **A**pprove, **S**upport, **C**onsult, **I**nform]	Examples include: the direction and frequency of communication between different actors, measures of nonverbal cooperative behavior, speech act analyses, and the form of communications (examples: orders, advice, instructions or neutral facts).					

APPENDIX D: O-ACIS OUTCOMES

The 66 organizational- assimilation, commitment, identification and socialization (O-ACIS) items used in the research are listed. Each item includes two scores for each of the four companies (A, B, C, and D). The first score is the designer's level of agreement, or disagreement, (1=completely disagree, 7=completely agree) that the present orientation/onboarding program should contribute to the outcome. The second score is the same as the first, except that the question is for an *ideal future* program instead of the present one.

Assimilation Items [9 items]	A	B	C	D	Sum
1. The participant feels involved in the company.	6-6	5-7	5-0	5-6	21-19
2. The participant helps to change the duties of his or her position.	1-2	0-4	2-0	5-6	8-12
3. The participant knows the values of the company.	7-7	7-7	7-0	6-6	27-20
4. The participant offers suggestions for how to improve productivity.	4-5	4-2	4-0	5-5	17-12
5. The participant talks about how much he or she enjoys their work.	6-6	5-7	6-0	5-6	22-19
6. The participant talks to coworkers about how much he or she likes it here.	6-6	4-6	5-0	6-6	21-18
7. The participant thinks he or she has a good idea about how the company operates.	7-6	5-6	3-0	5-6	20-18
8. The participant understands the standards of the company.	6-7	7-7	7-0	6-7	26-21
9. The participant volunteers for duties that benefit the company.	4-5	5-7	4-0	6-6	19-18
Commitment Items [14 items]	**A**	**B**	**C**	**D**	**Sum**
†10. It would take very little change in the participant's present circumstances to cause the participant to leave this company.	5-4	2-1	4-0	2-2	13-7
†11. Often, the participant finds it difficult to agree with this company's policies on important matters relating to its employees.	2-1	3-1	2-0	2-1	9-3

12. The participant agrees that this is the best of all possible companies for which to work.	5-6	5-7	6-0	6-6	22-19
†13. The participant agrees, 'There's not too much to be gained by sticking with this company indefinitely'.	1-2	1-1	7-0	1-2	10-5
†14. The participant feels he or she could just as well be working for a different company as long as the type of work was similar.	2-2	3-1	1-0	5-4	11-7
†15. The participant feels very little loyalty to this company.	1-1	5-1	4-0	2-1	12-3
16. The participant finds that his or her values and the company's values are very similar.	5-5	6-7	6-0	5-6	22-18
17. The participant is extremely glad to have chosen this company to work for over others being considering at the time he or she joined.	6-7	5-7	7-0	6-6	24-20
18. The participant is proud to tell others that he or she is part of this company.	7-7	5-7	6-0	6-7	24-21
19. The participant would be willing to put in a great deal of effort beyond that normally expected in order to help this company be successful.	6-6	5-7	6-0	6-6	23-19
20. The participant really cares about the fate of this company.	4-5	6-7	7-0	6-6	23-18
21. The participant talks up this company to friends as a great company to work for.	6-6	6-7	7-0	6-6	25-19
22. The participant would accept almost any type of job assignment in order to keep working for this company.	4-4	3-3	2-0	7-6	16-13
23. This company really inspires the very best in the participant in the way of job performance.	6-7	5-7	4-0	6-6	21-20
Identification Items [31 items]	A	B	C	D	Sum
24. If a story in the media criticized the company, the participant would feel embarrassed.	4-5	5-7	4-0	6-6	19-18
25. In general, the participant views the company's problems as his or her own.	4-5	5-6	4-0	5-6	18-17
26. The participant agrees that he or she has a lot in common with others employed by the company.	5-5	4-4	2-0	6-6	17-15
27. The participant agrees that in general, the people employed by the company are working toward the same goals.	6-6	6-7	3-0	6-6	21-19
28. The participant agrees that the association with the company is only a small part of who he or she is.	4-4	1-1	4-0	3-4	12-9
†29. The participant feels very little loyalty to this company.	2-2	2-1	2-0	2-2	8-5
†30. The participant finds it difficult to agree with the company's policies on important matters relating to him or herself.	1-1	2-1	1-0	1-1	5-3

31. The participant finds that his or her values and the values of the company are very similar.	5-5	6-7	5-0	6-6	22-18
32. The participant really cares about the fate of this company.	5-6	6-0	6-0	5-6	22-12
33. The participant talks up the company to friends as a great company to work for.	6-6	7-7	6-0	6-6	25-19
34. The participant agrees that the company's image in the community represents him or her as well.	6-6	6-7	6-0	6-7	24-20
35. The participant agrees that the company's image in the community represents him or her as well.	6-6	6-7	6-0	6-7	24-20
36. The participant agrees that the record of the company is an example of what dedicated people can achieve.	6-6	5-6	4-0	6-6	21-18
37. The participant agrees that we at the company are different from others in our field.	4-5	2-4	5-0	5-5	16-14
38. The participant becomes irritated when he or she hears others outside the company criticize the company.	6-4	5-7	6-0	5-6	22-17
39. The participant feels that the company cares about him or her.	6-7	6-7	7-0	6-6	25-20
40. The participant finds it easy to identify with the company.	6-6	4-7	6-0	6-6	22-19
41. The participant has warm feelings toward the company as a place to work.	6-6	6-7	7-0	6-6	25-19
42 The participant is glad he or she chose to work for the company rather than another company.	7-6	6-7	6-0	6-6	25-19
43. The participant is very interested in what others think about the company.	5-5	4-6	4-0	6-6	19-17
44. The participant is very proud to be an employee of the company.	6-6	6-7	7-0	6-7	25-20
45. The participant likes to tell others about projects that the company is working on.	4-5	5-7	4-0	6-6	19-18
46. The participant often describe him or herself to others by saying, 'I work for company name' or 'I am from company name.'	4-5	6-7	4-0	5-2	19-14
47. The participant tries to make on-the-job decisions by considering the consequences of his or her actions for the company.	6-7	5-5	4-0	5-5	20-17
48. The participant would agree with the statement, 'This company's successes are my successes'.	4-5	6-7	5-0	5-6	20-18
49. The participant would be quite willing to spend the rest of his or her career with the company.	4-4	4-5	7-0	5-6	20-15
50. The participant would describe the company as a large 'family' in which most members feel a sense of belonging.	5-6	5-7	2-0	2-4	14-17

51. The participant would probably continue working for the company even if he or she didn't need the money.	4-4	4-7	4-0	6-6	18-17
52. When someone criticizes (name of corporation), it feels like a personal insult to the participant.	3-4	6-7	4-0	6-5	19-16
53. When someone praises this company, it feels like a personal compliment to the participant.	5-5	5-7	4-0	5-6	19-18
54. When the participant talks about this company, he participant usually says 'we' rather than 'they'.	4-4	6-7	6-0	6-7	22-18
Socialization Items [12 items]	A	B	C	D	Sum
55. The participant knows the history of this company (e.g., when and who founded the company, original products/services, how the company survived tough times).	6-6	5-3	6-0	5-6	22-15
56. The participant knows the specific names of the products/services produced/provided by this company.	4-6	3-2	6-0	5-5	18-13
57. The participant knows the structure of the company (e.g., how the departments fit together).	6-6	5-5	7-0	5-6	23-17
58. The participant knows this company's overall policies and/or rules (e.g., compensation, dress code, smoking, travel expense limitations).	6-6	6-7	6-0	5-6	23-19
59. The participant understands how my job contributes to the larger company.	7-6	5-7	4-0	5-6	21-19
60. The participant understands how to act to fit in with what the company values and believes.	6-6	6-7	6-0	6-6	24-19
61. The participant understands how various departments, subsidiaries, and/or sites contribute to this company's goals.	6-6	5-5	3-0	5-6	19-17
62. The participant understands the general management style (e.g., top-down, participative) used in this company.	6-6	4-5	2-0	5-6	17-17
63. The participant understands the internal politics within this organization (e.g., chain of command, who is influential, what needs to be done to advance or maintain good standing).	5-6	3-1	2-0	5-6	15-13
64. The participant understands the operations of this company (e.g., who does what, how sites, subsidiaries and/or branches contribute).	7-6	3-5	5-0	5-6	20-17
65. The participant understands this company's objectives and goals.	6-6	5-7	7-0	5-6	23-19
66. The participant understands what is meant when members use language (e.g., acronyms, abbreviations, nicknames) particular to this organization.	4-5	3-7	4-0	5-6	16-18

† Reverse scored item

APPENDIX E: ACRONYMS

The following acronyms are used in this paper and were collected here for convenience.

Acronym	Compound Term
ACTA	Applied cognitive task analysis
ADDIE	Analyze, design, development, implement, evaluate
BP	British Petroleum
CDM	Critical decision method
CFREB	Conjoint faculties research ethics board
CHRP	Canadian human resources professional
CNRL	Canadian Natural Resources Limited
CTA	Cognitive task analysis
DOE	Department of Energy
HPT	Human performance technology
HR	Human resources
HRSDC	Human resources and skills development Canada
ID	Instructional design
IOL	Imperial Oil Limited
IPDM	Instructional project development and management model
IS	Information systems
ISD	Instructional systems design
IT	Information technology
LMS	Learning management system
NAICS	North American industry classification system
NEB	National energy board
NGL	Natural gas liquids
NSQ	Newcomer socialization questionnaire
O-ACIS	Organizational- assimilation, commitment, identification and socialization
OAI	Organizational assimilation index
OCQ	Organizational commitment questionnaire
OIQ	Organizational identification questionnaire
QWL	Quality of work life
RPD	Recognition primed decision model
WTI	West Texas intermediate