Characteristics Beyond In/Formality of Ways of Learning for Work: A Case of Knowledge-intense, Geographically-distributed Learning

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Abstract: Pharmaceutical-sales is a knowledge-intense, highly competitive and rapidly changing industry employing a geographically distributed workforce. The varied ways in which agents in this industry continue to learn for work are presented and examined. A framework is developed and employed for exploring and reporting fundamental characteristics of ways of learning beyond designation of in/formality. Findings include the importance of peer-learning for non-co-located peers, the identification of intentional incidental learning, and a non-traditional role for workplace learning in a knowledge-intense and competitive environment.

Purpose

This research examines continuing professional learning in the pharmaceutical sales industry.

Objectives

This study:

1. Develops a comprehensive list of ways pharmaceutical sales agents learn for work.
2. Reports the ways of learning perceived as most effective and most frequently employed.
3. Identifies attributes of formality and informality in the ways of learning reported as most effective and most frequently employed.
4. Documents other characteristics of perceived frequent and effective ways of learning.

The Pharmaceutical Sales Industry

In Canada, pharmaceutical manufacturers cannot market to the general public. Instead, prescription products are promoted to doctors, nurses, pharmacists and other health care professionals. This is done through advertisements in professional media (such as medical journals) but significant promotion is done by a professional sales force. University-educated sales agents are assigned to a geographic territory and visit health professionals in their workplaces in order to promote between one and three prescription products.

This industry is of particular interest in this time of increasingly popular reference to the *knowledge economy*. It is a rapidly changing, highly competitive, knowledge-based industry. As may be true in other rapidly changing knowledge-based industries, continuous learning is critical to the effectiveness of the workforce. Sales representatives have diverse backgrounds and many have no experience in science or medicine. Thus, the learning needs may be different in an industry where sales personnel have a better pre-employment understanding of the products and services represented.

When an agent is assigned to promote a drug, the company provides initial medical training concerning the drug, its competitors, and the disease state. Key clinical studies are examined and marketing material is reviewed. Agents learn through individual self-study of extensive company-prepared learning modules, on-line tests, and a week or more of classroom training at head office with other new agents. There may be supplemental workshops on selling skills or on how to use the company data-management software.

After initial training, few learning opportunities are arranged by the company. Agents work in geographically dispersed territories, primarily alone, so there is little opportunity to meet with colleagues who promote the same products, to learn from each other. National and regional meetings provide some opportunities for peer-learning or corporate training, but these meetings are held only one to four times a year and are densely scheduled with a variety of non-educational activities.

Although companies provide little formal professional development, the need for medical and industry upgrading by sales agents is continuous. The results of new clinical trials and new indications are often released for both the product promoted and competitors. Competing drugs are released to market, side-effects profiles are revised, medical guidelines are issued, and the rules of government and insurance companies change. Learning cannot be limited to initial training and sparse workshops at national meetings and still support a rapidly changing, competitive, knowledge-based industry.

(In)Formality in Workplace Learning

Over the last 25 years, much workplace learning research identifies learning as formal or informal. Several authors (Center for Workforce Development, Education Development Center, 1998; Hughes & Grant, 2007; Livingstone, 2000; Marsick & Watkins, 1990) have reported that most workplace learning is informal. However, definitions of informal learning are inconsistent in the literature (Colley, Hodkinson & Malcom, 2003). Furthermore, Billett (2002) suggested that differentiating between formal and informal learning "is not helpful" (p. 56). Instead, Colley et al. proposed reporting *attributes* of formality and informality. They presented 20 such attributes in four categories. Colley et al. did not assign each attribute to a category. Their attributes and the categories into which I assigned them for the purposes of this study are included in Table 1.

Colley et al. assessed workplace learning in a number of diverse situations concluding that aspects of both formality and informality exist in most, if not all, workplace learning situations. Gerber (2006) also claimed that differentiating between formal and informal workplace learning "does little to enlighten workplace educators" (p. 35) and suggested that we instead examine the ways in which people actually learn in the workplace. The current study applies the work of Colley et al. (2003) by reporting the aspects of (in)formality in the ways of learning perceived by pharmaceutical agents as effective and frequently employed. It also addresses Gerber's (2006) call for research into how people actually do learn by producing a comprehensive list of the ways in which pharmaceutical agents learn for work. It also extends the Colley et al. framework to create a framing guide which was used to report multiple characteristics of the perceived frequent and effective ways of learning beyond aspects of (in)formality.

Methods

Delphi Collaboration

Linstone and Turoff (2002) declined to define Delphi as a describable model since its purposes, philosophies and methods vary greatly: "There are many different views on what are the 'proper,' 'appropriate,' 'best,' and/or 'useful' procedures for accomplishing the various

Table 1: Assigning Colley, Hodkinson and Malcom's Attributes of Formality to Clusters

Process	Purpose	Setting	Content
Learner/teacher intentionality/activity Extent of planning or intentional structuring Whether outcomes are measured Whether learning is collective/collaborative or individual Pedagogical approaches The mediation of learning – by whom and how The locus of control	Education or non-education Nature and extent of assessment and accreditation Purposes and interests to meet needs of dominant or marginalized groups	Location (e.g. educational or community premises) Part of a course or not Teacher-learner relations Location within wider power relations The timeframes of learning	The extent to which learning is tacit or explicit The extent to which learning is context-specific or generalizable/transferable; external determination or not Whether learning is seen as embodied or just "head stuff" The status of the knowledge and learning The nature of knowledge

specific aspects of Delphi"(¶ 6). Delphi techniques, generally, structure group communication around a complex problem so that the group can come to decisions or create a product through mutual and anonymous feedback. The creation of a comprehensive list of ways agents learn for work is a complex task; many of the ways of learning may not be immediately and explicitly recognized by the participants. Rounds of inter-participant feedback, coupled with time for reflection and self-observation which are possible with Delphi techniques were intended to stimulate thought so that agents would be able to identify a great number of ways in which they learn for work.

Twenty agents across Canada, from 11 different companies, volunteered participation in a Delphi collaboration in response to an email invitation distributed by the Canadian Council for Continuing Pharmaceutical Education (CCPE) to its *virtual sounding board.* The virtual sounding board is a group of agents from various pharmaceutical companies across Canada who volunteer to act as informal consultants to the CCPE. This group may be comprised of agents whose interest in continuing education is greater than that of other representatives. However, this was not seen as a bias problem, because their task was to create a comprehensive list of the ways

in which they learn for work. It was expected that an educationally-engaged group would have a better chance of producing a more thorough list than a group with less engagement.

Participants were asked individually through email to submit a list or description of as many ways they could identify that they learn for work. They were given at least one week to self-observe and reflect. I collected, aggregated and summarized the submissions, used the organizational structures provided by the participants, and distributed a summary list to all participants. Each participant was asked to consider the list, reflect and self-observe for at least another week and then submit any additions, suggestions, alterations they thought appropriate. The feedback received was used to create a second list which was again distributed for further feedback. A third summary document was eventually unanimously approved by the group.

Individual In-depth Interviews

Five sales agents from 5 companies were convenience-sampled for in-depth individual interviews to identify the perceived most frequent and most effective ways of learning. One case was lost due to a recording error. Interview participants were not involved in the Delphi collaboration and were not obviously atypical of industry agents based on the researcher's seven years of experience with the industry.

Interviews were digitally recorded. I transcribed verbatim and open them. The Colley et al. (2003) attributes were interpreted and applied to data segments involving ways of learning perceived as most effective or most frequently used. Subsequently, the Colley et al. attributes were extended and reworked into a framing guide (see Hunter, 2010) to aid identification of as many fundamental characteristics as possible for each of these reported ways of learning.

Findings

Ways of Learning

The researcher received almost 100 emails from Delphi participants. These ranged from simple and short lists to long and complex narratives. The result was a 64-item list of ways of learning grouped into six overlapping categories. These lists are provided in Tables 2 through 7. Greater detail can be found in Hunter (2009).

Although the Delphi collaborators were not tasked with identifying the relative frequency or effectiveness of any of the ways of learning, the overwhelming number of ways of learning that are self-initiated and independent suggest that agents are highly autonomous and self-directed in their search for and execution of learning for work. Very few externally organized activities were cited, and the category representing activities organized by the companies is one of the smallest. This is consistent with the geographical distribution of the agents and the challenges to centralized training described above. Most of the company-organized activities focused on developing selling skills or other *soft* skills such as time-management, not on knowledge used in product promotion.

Table 2: Corporate Organized Ways of Learning	**Table 3: Web-Based Ways of Learning**
Trainer work-withs	Subscription to online industry/medical news groups/newsletters
Manager work-withs	Health agency (CDA, AHA, AMA, FDA etc) website searches
Mandatory "soft skills" programs (ex: social intelligence)	Email customers with questions
Voluntary "soft skills" programs	Active competitive online searches
Mandatory selling skills programs	

Voluntary selling skills programs Presentations at national/regional meetings Role playing Product training programs Product training manuals	Review patient directed health-care websites CHE from medical websites On-line courses

Table 4: Self-initiated and Independent Ways of Learning	
Review medical papers/journals Review medical guidelines Review popular health care news Review materials from patient health care groups such as CDA Popular media (TV, radio, newspaper) Reviewing speaker slides and kits Reflecting on customer needs and how agents are perceived "Thought experiments": imagining situations and analyzing for opportunity Summarizing/critiquing clinical trials Re-analyzing data from clinical trials Car audio-CDs	Reviewing CPS or product monographs Reading popular books on soft skills and sales skills Medical text books Reading patient-directed medical book Literature from business community Taking chances and making mistakes Expertise of family and friends Sales industry/ Pharmaceutical industry newsletters/journals Sales analysis Reviewing competition stock performance Using marketing ideas from outside of the industry (how do others sell?)

Table 5: Peer-Based Ways of Learning	Table 6: Externally Organized Ways of Learning
Peer work-with's and shared appointments Casual "hallway" conversations at regional/national meetings Best-practice sharing exercises Coffee/lunch with colleagues in territory Emailing colleagues regarding problems/cases/help/insights Brainstorming new ideas with colleagues	University courses College courses CCPE courses

Table 7: Ways of Learning on the Job	
Discussions with/questions for customers Luncheons/dinners/counter-calls/appointments with customers Watching/overhearing customers Watching/overhearing patients Preceptorships or job-shadowing Mentoring Parking-lot talk with other reps Attending CMEs	Attending conferences Watching/listening to competitor displays Preparing presentations Research to answer customer questions Teaching peers Conversations with customers at social/charity events Conversations with customers at CHE/conferences

	Attending rounds

Perceived Most Effective and Most Frequent Ways

The ways of learning perceived to be most effective and most frequently employed are summarized in Table 8. Agents differentiated between learning skills and learning knowledge and between initial learning and continuing professional development. Whether a new or experience agent, and whether acquiring skills or knowledge, and in spite of geographic isolation from many colleagues, the ways of learning reported as most effective or most frequent are often interactive. Both peers and customers emerged as interactive partners in learning. Greater detail is available from Hunter (2009, 2010).

Table 8: Perceived Most Effective and Most Frequently Employed Ways of Learning

<table>
<tr><th colspan="4">Continuing Learning</th></tr>
<tr><th colspan="2">Perceived Most Effective</th><th colspan="2">Perceived Most Frequent</th></tr>
<tr><th>Knowledge</th><th>Skills</th><th>Knowledge</th><th>Skills</th></tr>
<tr><td>Customer conversations
Remote peer-network sharing
Peer sharing at meetings
Hospital Rounds
Multimedia presentations
Self-directed review of medical periodicals</td><td>Trial and error during customer conversations
Peer sharing at meetings
Remote peer-network sharing</td><td>Customer conversations
Hospital Rounds
Self-directed review of medical periodicals</td><td>Trial and error in customer conversations</td></tr>
<tr><th colspan="4">Initial Learning</th></tr>
<tr><th colspan="4">Perceived Most Effective or Frequent</th></tr>
<tr><th colspan="2">Knowledge</th><th colspan="2">Skills</th></tr>
<tr><td colspan="2">Colleague work-with or shadowing
Discussions with colleagues
Product training manuals</td><td colspan="2">Manager or trainer work-withs</td></tr>
</table>

Attributes of (In)Formality in the Most Frequent and Most Effective Ways of Learning

Each reported frequent or effective way of learning was assessed against Colley et al.'s (2003) attributes of formality and is available at Hunter (2009). Analysis confirmed Colley et al.'s contention that most if not all learning involves aspects of formality and informality. Although various setting attributes of the analyzed ways of learning showed a high level of

informality, their process, purpose and content attributes all represented a more mixed degree of formality. Process attributes tended toward more informality and content attributes tended toward more formality.

Additional Characteristics of the Perceived Most Effective and Most Frequent Ways of Learning

Attributes of (in)formality represent a small portion of characteristics of ways of learning that might be of interest, extend our understanding, and inform our practice. By deconstructing characteristics of reported ways of learning, the researcher identified 100 characteristics for describing ways of acquiring knowledge. These characteristics include and extend Colley et al.'s (2003) attributes. Each reported effective or frequent way of learning was assessed against this list and is available at Hunter (2009). Although space precludes significant detail here, one major theme in the analysis was that agents exercise a large degree of autonomy, independence and self-direction in their ways of learning. Notwithstanding, agents also value interactive learning with customers, and even peers, in spite of their geographic isolation.

The list of characteristics was also used to create a framing guide to aid in identifying and reporting characteristics of ways of learning. The framing guide consists of 18 foci, each with sample questions which might guide exploration and reporting of characteristics of learning within that focus. Some of the foci are location, intentionality of learning, structuring, assessment and accreditation, role of other individuals, purposes, transferability, and power relations. The complete guide is available at Hunter (2009, 2010).

Additional Findings

Additional findings include:

1. Each of the interview participants expressed a belief that learning is a key to business success in this industry, and each indicated that they learn extensively every day.
2. Although much of what agents learn is directly related to their products, their competitors, or the disease states in which they work, agents also learn content that is unrelated to their product, to the disease or even to medicine. The purpose of this learning is to develop the agent as a resource and facilitate a relationship with the health care professional so that they might gain access to customers.
3. Two of the interview participants specifically referred to what I call *intentional-incidental learning.* Agents are intentionally placing themselves in situations where unexpected learning might occur incidental to other activities. The intention to learn is always there and agents remain ever-alert for unanticipated learning opportunities.

Implications

This industry faces challenges in providing learning opportunities for its agents (geography, rapidly changing needs, and minimal training personnel). And yet, agents believe that learning is critical for business success. The industry should be aware of the value of independent learning and seek ways of facilitating learning agents find effective. One way of doing this would be to acknowledge independent learning and provide forums to share learning strategies.

The pharmaceutical sales industry, and potentially similar geographically distributed work industries, should be aware of the value agents place on peer-learning in spite of geographical distribution and seek ways to facilitate peer-learning. Industry might encourage mentorships or remote learning groups and seek to maximize the potential of casual conversations during periodic sales meetings.

The industry should foster awareness of the role of intentional incidental learning. Such learning might be facilitated by discussions with and between agents about the ways in which they could remain alert for and optimally capitalize on unexpected learning.

This study has demonstrated that agents in this industry believe that learning that is not directly related to the promoted products, has a business value. It can facilitate relationships with customers so that access to customers might be improved. Industry should consider supporting a variety of learning opportunities for its sales representatives, with financial, time or other resources.

Future Research

The framing tool developed with this research would benefit from evaluation and extension. By reviewing, modifying and applying this tool to other industries, we might assess its value in aiding identification and reporting of characteristics of ways of learning. We might also begin to assess if such identification and reporting is useful in informing our practice and our theorizing about effective and frequent workplace learning.

Incidental learning in the workplace is usually regarded as unintentional. Having identified a component of intent to incidental learning, we should now explore the ways in which incidental learning is deliberate in various industries so that we might better understand and support new fertile ways of learning.

Explorations into learning in knowledge-intense industries are usually focused on the learning that is directly related to the knowledge required for the job itself. We should explore how learning outside of industry-knowledge is affected in various industry contexts and investigate its effects on business outcomes.

Learning from collocated peers is an important component of workplace learning in many environments. However, work arrangements are reorganizing to include more home-based and distributed configurations. Our current understanding of workplace learning with collocated coworkers does not necessarily translate to distributed work contexts. We need to understand how peer-learning is related to various distributed contexts. This study illustrates that in this distributed industry, peer-learning is still perceived as effective by the learners. We should investigate the role and diversity of peer-learning in other distributed work arrangements.

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