Toward A Theory of HRD Learning Participation

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> This article fills a gap by identifying an under-studied area for learning participation (LP) in HRD theory building. A literature review is presented to identify gaps in adult education and HRD literature. An HRD LP framework is then proposed, from cross-sectional/time-series perspectives, to describe the pattern, factors, structure, and the interrelationships in LP with model constructs. The conceptual framework is operationalized to demonstrate its applicability. The implications for future HRD research are elaborated.

Keywords: LP, HRD theory building, dropout/completion, HRD evaluation

Employee participation of learning is an important issue for business practice and theory building in human resource development (HRD). To achieve business outcomes, HRD learning interventions depend on employees' full participation and engagement. However, unlike its counterpart in adult education research (AER), employee participation of HRD interventions has received limited attention except a few empirical studies in HRD related literature (e.g., Hicks & Klimoski, 1987; Maurer & Tarulli, 1994; Noe & Wilk, 1993). As a widespread concern throughout HRD community, an urgent need arises from the low participation in, and high dropout of e-learning. A recent report cited only 69% of employees participating in mandatory e-learning programs, whereas voluntary participation in e-learning was merely 32% (ASTD/Masie, 2001). This challenge calls for HRD researchers for enhanced theory building efforts.

Significance and Purpose

HRD learning interventions are investment from organizations (Wang, Dou, & Li, 2002). Participation and completion is a pre-condition for any such investment to be productive and fruitful. Identifying the influencing factors and the relationships may provide us important insights into human capital investment. Secondly, knowing the patterns of, and factors determining learning participation (LP), organizations will be able to develop policies and strategies to effectively encourage and motivate employees' active participation. Furthermore, a well-developed learning participation theory (LPT) may enhance and strengthen measurement and evaluation (M&E) theories and practice in HRD. For M&E of HRD interventions, four-level taxonomy and other models are based on an assumption of LP being not an issue. It is logical that M&E of HRD interventions should consider all those who participate in and complete the interventions, those who are targeted audiences but do not participate, and those who participate but do not complete. All three groups are relevant regarding the investment and potential business outcome of HRD interventions.

Building upon previous research on LP in adult learning and HRD related fields, this article attempts to develop an LPT for HRD interventions by examining the characteristics of employee participation and decision making process. This theory is to be applicable for both traditional HRD interventions and technology-driven platforms. In what follows, a literature review is presented first. A conceptual framework of LP in HRD is constructed, which is then operationalized through quantitative and qualitative approaches describing the factors and their relationships. This is followed by a discussion on the applicability in HRD reality. The implications for future HRD research are also discussed.

Review of Literature

Research on Adult Learning Participation

LPTs are linked with learning motivation theories because no participation and completion should be expected if participants have no motivation to learn. The inquiry of motivation theory in adult education (AE) was first initiated by Houle (1961). Through an interview-based study of adult learners, Houle identified three categories of learning motivation: goal-oriented, activity-oriented, and learning-oriented. This learning motivation typology was further refined by several other researchers (Burgess, 1971; Morstein & Smart, 1974; Sheffield, 1964). Collectively and progressively, Houle's adult learning motivation typology was expanded into six motivators to explain LP in

AE, including: social relationships, external expectations, social welfare, professional advancement, escape, stimulation, and cognitive interest.

Along with the research development in motivational factors of AE, a number of LPTs and models emerged, exploring and describing adult participation in learning activities. Taking an individual's motivational perspective, Boshier (1973) proposed a congruence model to explain dropout from AE institutions. The congruence model explored the roles played by social and psychological and personal motivation variables in learning persistence and dropout. Further, he used data from continuing education students to test the hypothesis by defining the incongruence scores as a measure (Boshier, 1973). In the meantime, an expectancy-valence model was proposed (Rubenson, 1977) to address both socialization and structural dimensions of adult learners. Expectancy was defined as individuals' anticipation of being successful in an educational situation, and valence was related to the value a person puts on being successful. In the expectancy-valence model, the decision to participate was affected by a combination of negative and positive forces within the individual and in the socioeconomic environment.

Certain limitations exist regarding their applicability in LP in HRD. These models were developed for a purpose of assisting public policy makers for national, local, or community-based AE programs and policies (Merriam & Caffarella, 1999), whereas HRD interventions are organization-based and driven by business goals. Therefore, variables that determine LP in AE, such as social structure and socioeconomic status, may not be applicable to LP in HRD. In addition, technological advance and prevailing Internet in the workplace have changed the landscape of learning dramatically. Participation and completion may be related to and influenced by factors different from those identified earlier in the conventional setting for AE.

LP between AE and HRD are fundamentally different. First, the decision to participate has different origins. In AE settings, the decision to participate is usually made by the individuals. Such decisions are often associated with certain personal preferences and life/career related changes (Miller, 1967). In fact, early AE researchers used *voluntary learning* and adult learning interchangeably (Johnstone & Rivera, 1965). As for HRD, learning programs are instigated by organizations to enhance job performance. Consequently, employees are often required or expected to participate as part of job performance. Secondly, the motivation factors that affect the decision of participation may also differ in AE and HRD. For traditional adult learners, motivators may be improving one's socioeconomic status, or simply a desire for self-enrichment (e.g., Miller, 1967), while in HRD, it may center around management expectations. Thirdly, the investment sources of learning are different, which is another key element affecting the decision on participation. AE programs are often funded through public sources, e.g., federal or local government, or paid for by the learners. HRD learning interventions are usually sponsored by organizations. In the former cases, participation becomes more of a personal decision, whereas in HRD, the decision is more likely to be made by the management.

HRD-Related Research on Learning Participation

Unlike adult education research that has seen a number of theories developed, research on LP in HRD is sparse despite limited circumstantial empirical investigations. In fact, this issue did not draw any attention in HRD-related literature until the late 1980s. The first relevant empirical study was conducted by Hicks and Klimoski (1987). Through a field experiment, they examined the relationship between employees' degree of choices in the form of receiving information or previews (i.e., the marketing materials of training) in selecting a learning program and the learning outcome. Those who perceived a high degree of freedom to participate in training reported more favorable post-training reactions than those who perceived little freedom in choices. With a similar experimental design, Baldwin, Magjuka, and Loher, (1991) investigated the effects of trainee choice of training on subsequent motivation and learning. Based on a model of trainees' choice of participation in the training process, the study emphasized the role of providing choice of participation as a motivator in training contexts. Noe and Wilk (1993) explored factors influencing employees' participation in learning programs. Such factors include self-efficacy and work environment perceptions on development activities, mediated by learning attitudes and perceptions of development needs. They observed that motivation to learn was an important attitudinal variable with a significant and positive influence on different outcomes related to learning activities. Recently, Maurer and Tarulli (1994), through a training evaluation, examined the relationship between interest and participation in voluntary learning activities and three groups of constructs among non-management employees. The three groups of construct included perceived environment, perceived incentive and outcome, and person variables. Wang (1997) touched the subject from a different angle. Using a national database and integrating HRD practice with institutional economics, Wang made an empirical estimate on the determinants of participation in HRD training in the US.

Research on LP in HRD has not drawn much attention from HRD researchers. An exception is Maurer (2002) who conceptualized previous empirical studies in LP and proposed an employee learning and development orientation (ELDO) model. As the first theoretical synthesis of LP research, Maurer posited that ELDO is a motivational state that depends on the degree to which learning and development are relevant to the self. The self is

referred to as "self-schemas or knowledge structure about oneself" (p. 16). Unfortunately, the ELDO model did not touch a key component of LP, learning process. Instead, it assumed "learning is a product of the motivation" (p.14).

Two implications can be drawn from previous studies on LP in HRD. First, most studies offered evidence on the relationships between participation and learning evaluation. This suggests that in-depth research in LP may offer an important lens to examine and identify ways to overcome current barriers in HRD M&E research and practice. Second, studies on LP have identified much of similar patterns and characteristics of factors influencing the participation behaviors of employees across different organizations, in different industries, of different job functions, and on different learning programs. For instance, there are studies covering not-for-profit organizations and for-profit organizations. Studied industries include banking, healthcare, and engineering. Employee job functions encompassed clerical, technical, sales, and managerial. Results from these broad-ranged studies provide rich information that may be used as bricks for building a holistic theory on LP in HRD interventions.

It must be noted that none of the prior studies, adult learning or HRD participation, has considered factors that influence dropout. We believe that the issue of dropout represents the other side of the coin and is equally important. Therefore, LP research should deal with both issues. Such research should also examine factors that have been overlooked previously, such as variables related to learning process.

A Conceptual Framework

For any HRD intervention, two levels of decisions must be made: whether to participate and by whom? And whether to complete/dropout? The first-level decision is usually made by both management and the individuals on a sequential basis. Even for programs appearing to be *voluntary*, they are actually a result of decisions made by organizations in the first place. Once an employee is engaged in HRD learning intervention, he or she may carry out the learning to its completion, or, interrupt the learning and drop out of the program. This is the second-level decision, which is likely to be made by the individual participants. E-learning dropout cases are usually the results of such decision. The second-level decision involves rather a complex process that may be affected by multidimensional factors at individual and organizational levels.

Figure 1. A conceptual framework for LP and Dropout of HRD interventions

Based on previous empirical studies, LP in HRD is conceptualized as a multi-dimensional construct (Baldwin et al., 1991) that can take a variety of forms and occur at different points during the learning process. As illustrated in Figure 1, three clusters surround and influence employees' participation in or completion/dropout of, HRD learning: individual, learning process, and organization clusters. These three clusters are mediated by environmental factors.

Constructs for Individual Cluster

Drawing from previous studies, we identify six factors for the individual cluster: motivation, self-efficacy, organization membership, personal characteristics, technology orientation, and individual cultural orientation.

Motivation is the psychological feature that arouses an individual to behave in a certain manner for accomplishing certain pre-defined goals. Previous empirical studies show that employees' motivation is a key determinant of interest and rate of participation in learning programs (Allen, 1999; Maurer, 1994; Noe & Wilk, 1993). LP related motivation can be further defined as motivation to learn, career insight, and job involvement. Motivation to learn refers to the desire, attention, and effort required to complete a learning task (Machin & Fogarty, 1997). It is found to be positively related to employees' LP (Noe & Wilk, 1993). Career insight is the degree to which a person possesses knowledge regarding his /her career-related strengths and weaknesses, and career goals and plans (London, 1983; Maurer, 2002;). There have been observations that link career insight with LP (Noe & Wilk, 1991). Job involvement was defined by Maurer and Tarulli (1994) as the degree to which an employee considers work a central life concern.

Self-efficacy refers to employees' belief and confidence in performing a task or addressing a challenge in learning (Bandura, 1977). Studies have identified self-efficacy as an important facilitator of participation in learning activities (Maurer, 2002; Noe & Wilk, 1993). An employee will be more likely to participate in and complete a learning program if he or she is confident about the learning outcome.

Organization membership consists of job title, job tenure, and organizational tenure. It has been found to have a significant relation with participation (Kozlowski & Farr, 1988). In the case of unionized organizations, union
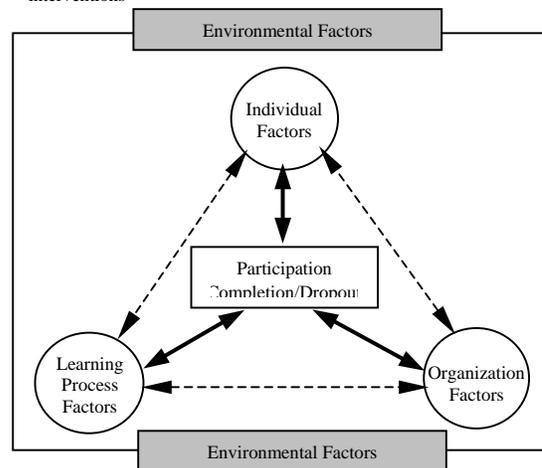
membership has also been found to be a critical factor determining LP (Wang, 1997). These variables affect LP because there is an internal training market under an internal labor market in organizations (Wang & Holton, 2005).

Personal characteristics such as age, gender, education background, ethnic group, in some cases even marital status, are identified as significant variables affecting LP (Wang, 1997). Many e-learning programs initiated often take up employees' personal time for participation. In this case, those who are married and have children may be more likely to drop out than those who are single or have no children. Also, in today's global economy, multinational organizations offer various e-learning programs across borders to employees located in different countries. Cultural differences may influence LP and completion or dropout.

Learning style is a composite of characteristic cognitive, affective, and physiological factors that serve as relatively stable indicators of how a learner perceives and interacts with the learning environment (Keefe, 1979). It also refers to cognitive style, which is intrinsic information-processing patterns that represent a person's typical mode of thinking, remembering, and problem solving. Learning styles may not directly influence the initial decision of participation, but it is crucial in determining if a learner completes a program in the learning process.

Perceived learning needs are described by Noe & Wilk (1993) as awareness of learning needs, and the extent of agreement with the organization's assessment of learning needs. Learners who perceive that the organization's assessment of their learning needs is accurate are more likely to participate in and complete learning interventions.

Perceived benefits, as identified by Nordhaug (1989), include aspects that increase participation and completion of a program. They are development of learning motivation, career development, and psychosocial development. *Learning technology orientation* refers to individuals' attitude or aptitude toward learning technology. It includes one's inclination to technology, level of technical competencies, such as Internet navigation skills. This variable is recognized as a factor influencing the rate of completion/dropout of e-learning programs (Wang, Wang, Fang, & Tuzlocova, 2004).

Individual cultural orientation addresses the influence of culture on individuals' behavior in terms of LP and completion/dropout. Hofstede (1986) reported that individual cultural orientation affects learning outcome through learning interactions. DiMaggio (1997) noted that culture influenced individual cognitive process. Wang et al. (2004) further identified differences in e-LP/dropout in three different countries.

Constructs for Learning Process Cluster

Previous studies on LP have not considered variables related to the learning process and its potential impact. Factors identified in this cluster have been found critical in determining learners' persistence and motivation during the learning process, according to studies by Wang et al. (2004) in the US and international arena. Therefore, a holistic LPT cannot be established without considering the constructs in the learning process.

Once an employee engages in an HRD learning program, the learning process kicks off and becomes critical for the participant to determine his or her completion/dropout, and influence on the subsequent learning outcomes. Although some of the factors in the Individual Cluster may still be in effect, there would be additional learning-related variables involved. These variables will largely impact on second-level decisions: whether to drop out and when. Evidently, factors in the learning process not only determine learning persistence, but also affect learning outcomes, behavior change, and ultimately business impact, as classified by the four-level taxonomy. The variables in the Learning Process Cluster consist of the following: needs assessment, instructional design, delivery platform, technology-based learning environment, and instructor/facilitator.

Needs assessment is the first step in developing HRD learning interventions (Rothwell & Sredl, 1992) and all subsequent learning interventions and events stem from it. If learning needs are misidentified, the learners are likely to drop out no matter how motivated they might be. The quality of *instructional design* (ID) is also an important factor. ID links science with practice and learning theory with learning content (Reigeluth, 1983) as it prescribes instructional actions to optimize desired learning outcomes.

Interactivity is a feature in ID that should be considered. It is defined as the ability to provide control, direct attention, and coordinate the communication among learners, instructor, and content (Driscoll, 2002). Interactivity is important in facilitating learning for both traditional and e-learning interventions, but it is more critical in determining learner dropout for e-learning due to lack of face-to-face interactions. Research has shown that inappropriately designed interactions lead to boredom, overload, and frustration (Berge, 1999).

Learning *delivery platform,* classroom, e-learning, or any combinations of the two, is an important factor in determining participation and completion. In recent years, a popular view supported by empirical studies is that there is "no significant difference" (Russull, 1999) between classroom and e-learning. However, the studies compiled by Russull were based on samples of participants who completed learning programs, without considering those who dropped out before completion. Given the cost and consequences associated with dropout, the differences could be indeed significant.

Instructors play a vital role in delivering and facilitating structured learning and retaining existing learners (Siebert, 2000). Facilitating learning appears to be more critical in e-learning (Salmon, 2000). The attributes of effective instructors have been summarized as responsiveness, flexibility, accessibility, subject matter knowledge, questioning skills, courage, and openness, among other things (Rothwell & Sredl, 1992). Instructors lacking of such attributes are less likely to motivate and retain learners through the completion of the planned learning for both traditional and technology-based learning interventions. *The technology-based learning environment* is a factor specific to HRD e-learning interventions. Different from classroom learning, technology-based environment is often a stand-alone system as technology interface independent of instructional design or facilitators' skills. Usually, technology-based learning is designed to allow learners to register and learn while interacting with an online instructor (Barclay, Gordon, Hollahan, & Lai, 2003). Attributes that may affect a learner's participation and completion include perceived learning interface design, usability, speed, connectivity, and online page size.

Constructs for Organizational Cluster

Organizational cluster is a key differentiator on LP between general AE and HRD learning interventions. Based on previous studies, the following factors are included in this cluster: organization context, organization policies and regulations, and work content.

Organization context consists of three variables: organization philosophy, learning culture, and organizational social support. Organization philosophy, as relevant to LP, refers to the extent to which employees are viewed as resources and human capital, and continuing learning and development is emphasized (Maurer, 2002). Learning culture refers to a set of perceptions, attitudes, values, and practices that support and encourage a continuous process of learning (Conner & Clawson, 2002). Organizational social support reflects a combination of influences from management, supervisors, and peers, which has been found influencing LP (Maurer & Taurulli, 1994; Noe & Wilk, 1991). *Organization policies and regulations* also play a significant role in encouraging or discouraging employee LP. For instance, Motorola's previous policy required employees to attend a minimum of 40-hour learning programs annually, and the completion was reviewed at annual performance appraisals with managers. Such policies will certainly encourage employees to seek learning opportunities for participation. *The work content* includes such variables as job rotations, task-related characteristics, obstacles, and technical updating. These job variables affect participation by influencing employees' attitude/ self-efficacy regarding their mastery and performance competencies, and consequently, their motivation toward LP (Maurer, 2002).

Constructs for Environmental Factors

Generally, the impact of environment on HRD LP is not as great as that on general AE. However, there are two factors, economic conditions and uncontrollable disasters sometimes may affect the participation/completion of learning. Wang (1997) observed that LP in the US was negatively related to the unemployment rate. Uncontrollable disasters can also lead to unexpected results in participation. An interesting example is that e-learning completion reached the highest level in China, during the SARS outbreak in 2003 (Wang et al., 2004). Home-based work schedules combined with restricted public facilities access created an e-learning climate throughout major cities.

The dotted lines in Figure 1 represent relationships among the three clusters of factors affecting employees' LP and completion. For example, the individual cluster may interact with learning process factors in the following way. If a person recognizes that the learning content fits well to his/her background or personal learning needs, he/she would be more likely to participate in the learning, consequently, complete the planned program. Likewise, if a learning program is designed in such a way that follows sound learning theories and instructional design principles, a learner may find it encouraging or stimulating to participate and complete even if he/she has no prior background knowledge of the subject.

In addition to the established conceptual framework and the constructs of LP, it is also necessary to further analyze and model HRD participation and completion process in terms of decision-making.

Decision Making Process: Participation and Completion or Dropout

The decision to participate arises when a decision on HRD interventions is made. Another decision, largely ignored by previous studies, is an organization's decision on whether to make the learning intervention mandatory (point (2) in Figure 2). HRD literature thus far only concerns voluntary participation (Baldwin et al., 1991; Maurer 2002) with an assumption that mandatory learning programs have no participation concerns. This assumption becomes unrealistic with the increased provision of e-learning.

With the constructs discussed earlier, we are to embrace all factors that influence participation and completion for both mandatory and voluntary interventions. Certain variables in the constructs may become more predominant than others for a mandatory program, and vice versa. After point 2 in Figure 2, the decision on participation and dropout should follow a similar path. In HRD reality, points 1 and 2 may occur simultaneously, and the sequence may be undistinguishable. However, the decision on whether to participate at point 3 will always occur after the first two points have taken place. Once an employee is engaged in the intervention (point 4 in Figure 2), the next decision

is whether to complete the intervention or drop out (point 5). In fact, after point 4 and through the program completion, there is no fixed point for 5 to take place. Here, the combined interactions of the three clusters play a crucial role. A single variable or a combination of variables may trigger a dropout between points 4 and 6.

It is not difficult to justify that HRD E&M ought to be considered as a component of the process (point 7). Existing E&M literature does not include the evaluation of the dropout phenomenon, which, in our opinion, is incomplete. We believe that M&E theories should cover the entire picture, as illustrated in Figure 2 because dropout could be related to inadequate or improper results of needs assessment. Wang, Foucar-Szocki, Griffin, O'Connor, and Sceifert (2003) found that one of the reasons for e-learning dropout is that some employees perceived that they had learned sufficient information for the required tasks without completing the learning. In this case, the HRD evaluation should consider measuring the outcomes of the dropouts.

Figure 2. Relationship between LP Decision Process and Model Constructs
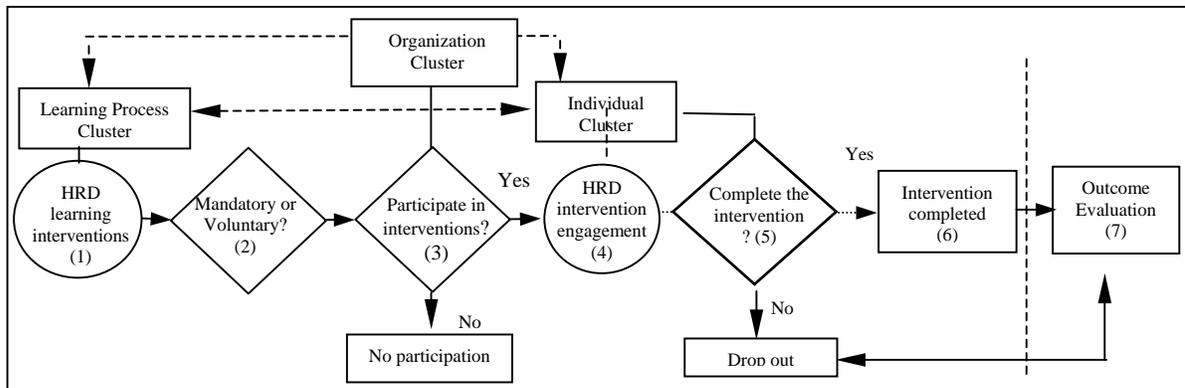
In short, if we consider the framework in Figure 1 a cross-sectional conceptualization of the HRD participation theory, the decision-making process in Figure 2 should be deemed as a time-series representation of the decision and subsequent participation and completion sequence. The combination of the two allows us to explore participation decisions and behaviors to a full extent.

Operationalization and Applicability

The conceptual model we have developed along with the constructs provides a holistic framework to explore participation decision regarding any type of HRD programs. A mathematical model is created to operationalize the conceptual framework and elucidate its potential applications in HRD research. However, due to the restrictions in length of manuscript submission, we have to omit all of the mathematical discussions in this section to cope with the page limit. Interested reader may refer to Wang and Wang (2005) for a completion discussion.

The model may be used for both cross-sectional and time-series studies of LP. Generally speaking, cross-sectional studies at the organizational level require relatively less effort on data collection, e.g., variables in the environmental cluster may be assumed to be constant and omitted from the model. And the results obtained may assist practitioners in focusing improvement efforts on identified major determinants of participation/dropout. For instance, if variables in the learning process cluster are identified as significant determinants of LP or completion, practitioners can take advantage of their expertise and directly address the issue to improve participation and completion. On the other hand, time-series (or longitudinal) studies based on Figure 2 may be conducted not only at the organizational level, but also at industry, occupational, regional, or even national levels to examine the participation issues for a longer period of time and identify trends in participation/completion due to changes in technology or economic conditions. Such studies may provide valuable information for policy makers in devising relevant strategies and measures at corresponding levels. Over time, multiple cross-sectional studies at different points of time may be integrated into meta-analyses of time-series or longitudinal studies for more in-depth exploration of the nature, patterns, and behaviors of LP and completion of HRD interventions.

The proposed conceptual framework can also guide empirical qualitative inquiry. HRD qualitative researchers may use the constructs and processes in Figures 1 and 2 to guide the overall research design, and facilitate the development of interview questions or observational protocols. On the other hand, the theory can also benefit from the distinctive characteristics of qualitative research, such as naturalistic inquiry, researcher as the instrument, purposeful sampling, and inductive analytical approach (Lincoln & Guba, 1985; Merriam, 2001; Patton, 2002). The preordinately constructed variables may be validated, reinforced, and supplemented with emergent qualitative data.

Implications for HRD Research

The LPT for HRD interventions proposed in this article is consistent with existing empirical work. Extending the scope to include the learning process and linking it with outcome M&E, the theory has important implications for future HRD research and theory building. First, the theory provides a framework for exploring a long-overlooked area by HRD researchers. The cross-sectional constructs and time-series processes offer a new insight into LP. It also presents an example of theory building based on existing evidence. The structure and the induction of the theory may provoke new thinking regarding other HRD practices and further enhance HRD theory-building efforts. Second, the proposed theory connects participation/completion with M&E beyond the four-level taxonomy. This may trigger additional research in the relationship between participation and M&E. The theory also raises questions regarding return on investment (ROI) analysis: Should we consider dropouts as part of program cost, and how should we approach ROI to encompass the cost of dropouts? How should we measure program ROI while considering those who drop out of the program because sufficient skills have been learned? Should there be different approaches to measuring dropout costs for mandatory and voluntary HRD learning programs?

Last, but not the least, the theory provides an analytical tool for HRD researchers to understand e-LP/dropout, as much as those for traditional HRD learning interventions. To date, we have little knowledge regarding the nature, pattern, and behavior of mandatory and voluntary participation of traditional HRD learning interventions to its full scale. We know even less about the reasons and factors affecting e-LP/dropout beside those reported by popular press and industry surveys. The LPT proposed may provide a tool as a stimulator for HRD professionals to study and understand participation and completion of both traditional and e-learning HRD programs.

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(Authors' note: The present version of the manuscript was based on an earlier version with 10,000 words and has been significantly reduced due to the restriction of the proceedings submission guidelines. Specifically, the discussion in the operationalization of the theory in mathematical terms has been omitted. Detailed construct/ variable specification, including a detailed table with relevant discussions, is also omitted. In addition, a significant portion of references was removed for the same reason. Interested readers may refer to Wang & Wang (in press) for a complete discussion.)