Revision and Validation of an Instrument Measuring Managerial Coaching Skills in Organizations

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With the increasing attention on managerial coaching as an effective leadership initiative in organizations, there have been increasing needs for reliable and valid tools to assess managers' coaching skills. This study reviewed and revised an existing instrument measuring coaching skills in organizations created by McLean, Yang, Kuo, Tolbert, and Larkin (2005). Through qualitative and quantitative efforts, this study identified five dimensions of managerial coaching skills and validated the revised instrument measuring coaching skills in organizations.

Keywords: Managerial Coaching Skills, Validation of an Instrument, Leadership Development

As new business environments demand new approaches to leadership, managerial coaching has gained considerable attention as a way of motivating, developing, and retaining employees in organizations (Evered & Selman, 1989; Orth, Wilkinson, & Benfari, 1987; Stowell, 1988). Even though managerial coaching has been popular, scholarly study on the topic has not kept up with practice (Ellinger, Ellinger, & Keller, 2003; Wenzel, 2000). As a result, what constitutes effective managerial coaching in organizations has not been well refined (Wenzel, 2000), and a reliable and valid assessment tool to measure effective coaching in organizations is limited (Ellinger et al., 2003).

With recognition of the need for better understanding of managerial coaching, McLean, Yang, Kuo, Tolbert, and Larkin (2005) developed and validated a measure of managerial coaching skills in organizations. Through a series of revisions and validation processes, they identified four dimensions of managerial coaching skills, each measured with five items, for a total of twenty items. The four dimensions were *Open Communication*, *Team Approach*, *Value People*, and *Accept Ambiguity*. The statistically rigorous approach supported the instrument as a valid and reliable tool to measure coaching skills in organizations.

However, there were still anticipated areas for improvement in the instrument. Peterson and Little (2005) claimed, though the authors disputed, that the items in the final version of the instrument did not include several factors repeatedly mentioned in the coaching literature, such as developing a partnership, effective listening skills, and providing feedback, as well as techniques for facilitating development. Second, some items would be difficult for employees to use in rating their managers, as the original instrument was developed for use by managers only in rating themselves about their own managerial coaching skills. To utilize the instrument for employees to rate their managers, some items needed to be revised to describe observable behaviors of managers to allow feedback from others, such as direct reports, which might be a more appropriate way to measure coaching effectiveness, though it may, in fact, simply be an additional way to do this. In addition, Peterson and Little pointed out that much of the literature in McLean et al. (2005) focused on sports coaching rather than on managerial coaching.

Therefore, there was a need to revise and validate the newly developed instrument. The purpose of this study was to revise the instrument and to validate the revised instrument for better reliability and validity based on these areas for improvement. Three research questions were identified for this study:

1. What are the underlying dimensions of effective coaching skill revealed in the literature? Do the four dimensions identified by McLean et al. (2005) reflect comprehensively effective coaching skills in organizations?
2. What is the reliability evidence for a revised coaching instrument?
3. What is the validity evidence for a revised coaching instrument?

Definitions of Managerial Coaching

There have been slightly different ideas of what constitutes managerial coaching. Fournies (1987) defined coaching as a process for improving performance by focusing on correcting work problems. Others have defined coaching as a process of empowering employees to exceed prior levels of performance (Burdett, 1998; Evered & Selman, 1989; Hargrove, 1995). Also, coaching has been seen as a day-to-day, hands-on process of helping employees recognize opportunities to improve their performance and capabilities (Orth et al., 1987; Popper & Lipshitz, 1992). Coaching has traditionally been viewed as a way to correct poor performance and to link individual effectiveness with organizational performance (Ellinger et al., 2003). Another view emphasizes coaching as a way to facilitate learning in order to encourage growth and development (Mink, Owen, & Mink, 1993; Ellinger et al., 2003; Redshaw, 2000). McLean et al. (2005) saw coaching as an OD strategy in a broad picture, taking into consideration everyday interaction with employees and the working environment. In this study, coaching is defined holistically as a process of helping employees develop themselves for improving performance. It maximizes employee potential, not merely correcting their poor performance. It is not just a one time event or just one technique. Coaching can be embedded within the organizational culture, so that managers utilize everyday opportunities for developing employees. Therefore, coaching in this study considers managers' everyday interactions with their employees not only in one-on-one situations, but also in team situations.

Content Areas of Coaching Skills

Extensive literature review was conducted to identify key factors embodying important coaching components. We looked for the factors identified and supported by literature related to coaching in business. Also, we considered the factors reflecting the situations of managers interacting with their employees in their organizations. As a result, five key dimensions were identified that constitute effective managerial coaching. Four dimensions from McLean et al. (2005) still remained. One dimension, to develop employees, was added. Specific skills under each dimension were added based on the literature review, along with Peterson and Little's (2005) critique.

Open Communication

Communication is one of the key factors leading to effective coaching in much of the literature (Bielous, 1994; Evered & Selman, 1989; Graham, Wedman, Garvin-Kester, 1993; Peterson & Hicks, 1996). McLean (personal communication, March 5, 2007) and Tolbert (personal communication, March 2, 2007) emphasized an open exchange of thoughts, feelings, and information as a way to develop the interpersonal rapport necessary to influence others. Open communication allows managers and employees to gain good understanding of each other and serves as the basis of developing a relationship. Evered and Selman (1989) emphasized the importance of communication in coaching effectiveness and suggested that research into coaching would benefit from exploring the qualities of speaking and listening between a manager as coach and an employee. Specific skills that aid in communication include managers' sharing information, opinions, and values. Additional skills are related to the direction from employees to managers in communication. Managers need to listen to their employees effectively (Good, 1993; Leibowitz, Kaye, & Farren, 1986; Peterson & Hicks, 1996; Tyson & Birnbrauer 1983) and gain clear understanding of what they say (Ellinger et al., 2003; Graham et al., 1993).

Team Approach

In working with others, managers should see their employees as their partners and work together. When managers treat their employees as partners rather than control them, employees become more empowered. This applies not only for one-on-one situations, but also in team situations. Rather than acting as a commander and controller, managers need to be a facilitator of teamwork, respecting employees' ideas and making better decisions through discussion. McLean et al. (2005) called this a "Team Approach." However, the term brought confusion as to meaning. For example, Peterson and Little (2005) mentioned that a team orientation is not commonly found in the coaching literature in their critique of McLean et al.'s coaching instrument. At the same time, they identified developing a partnership as one of the missing components in McLean et al. However, this dimension actually means working together and building a partnership. McLean (personal communication, March 5, 2007) and Tolbert (personal communication, March 2, 2007) provided the definition of this dimension as preference for working with others when making decisions and achieving results. They emphasized coaching as a collaborative effort; thus, coaches need the skills to encourage collaborative behaviors. Similar concepts include building a partnership (Evered & Selman, 1989; Stowell, 1988), collaboration (Stowell, 1988), building teamwork (Zemke, 1996), and empowerment in leading self-directed teams (Fisher, 1993; Garber, 1993; Geber, 1992).

Value People over Task

In their approach to work, managers need to consider both people's needs and tasks. McLean (personal communication, March 5, 2007) and Tolbert (personal communication, March 2, 2007) explained that good coaching needs both the acknowledgement of individuals' needs and their application to tasks. However, the business world has tended to focus on task accomplishment rather than on people's needs. There needs to be a shift from this situation (McLean, personal communication, March 22, 2007). This dimension is also related to concern about employee needs (Stowell, 1998) and a person-oriented approach (Evered & Selman, 1989).

Accept Ambiguity

Managers need to be open to new ideas and explore multiple solutions when working with their employees. This is characterized by a willingness to draw ideas from others and a desire to consider multiple perspectives in decision-making. The concept of accepting ambiguity is aligned with adaptability and cognitive flexibility that Peterson and Hicks (1996) suggested. In dealing with the complex and fast-changing business environment, exploring feasible answers rather than being stuck on one answer will not only help managers to deal with problems, but also encourage employees to embrace opportunities offered by uncertainty. McLean (personal communication, March 5, 2007) and Tolbert (personal communication, March 2, 2007) asserted that good coaching practices simultaneously clarify what can be clarified to reduce the discomfort of uncertainty and encourage their employees to embrace the opportunities offered by uncertainty. Embracing the possibility of multiple interpretations replaces discomfort with the anticipation of novel solutions.

Facilitate Employees' Development

Another effective coaching skill involves using various ways to facilitate employees' development. For effective coaching, managers need to be equipped with specific techniques to facilitate their employees' development. This dimension of managerial coaching was not in McLean et al.'s original four components (Peterson & Little, 2005). Hamlin, Ellinger, and Beattie (2006) emphasized this aspect of coaching. They defined coaching as facilitating learning based on their previous research (Beattie, 2002; Ellinger, 1997; Ellinger & Bostrom; 1999; Hamlin, 2004). Their focus was determining how effective coaches facilitate their employees' learning and then comparing what they found with their previous studies. The examples of the specific behaviors included providing resources, giving feedback, setting goals, and utilizing examples, scenarios, role playing, and questioning for employees to think through. Others also identified specific techniques to facilitate employees' development. They include questioning (Ellinger et al., 2003; Leibowitz et al., 1986), providing feedback and suggestions (Ellinger et al., 2003; Good, 1993; Graham et al., 1994; Orth et al., 1987), encouraging willingness to go beyond what has already been achieved (Evered & Selman, 1989), broadening employees' perspectives (Ellinger et al., 2003), and being a resource (Ellinger et al., 2003).

A Theoretical Framework of Managerial Coaching

The original framework of McLean et al. (2005) had four dimensions, including open communication, team approach, value people over task, and accept ambiguity. They defined effective coaching as the interaction of these four components, with the purpose of developing employees' expertise and eventually improving performance (McLean et al., 2005). The new framework added one more component to McLean et al.'s framework: facilitating employees' development. For effective coaching, managers need to grasp opportunities to utilize techniques to facilitate employees' development. The revised framework has five components. Effective coaching is based on 1) Open Communication. In approaching work, coaches take a 2) Team Approach. Working with people, they need to be equipped with and utilize various ways to 3) Facilitate Employees' Development. They need to 4) Value People over Task. In approaching the environment, they should 5) Accept Ambiguity. Effective coaching can be ensured through the interrelation of these five components. The goal of coaching is to develop employees' expertise and improve performance.

Methods of Instrument Revision and Validation

This study took the four essential steps for developing and validating an instrument suggested by Benson and Clark (1982): planning for instrument development, constructing the instrument, quantitatively conducting item analysis and evaluating the reliability of the instrument, and examining the validity of the instrument. There were four objectives for the revision process: (1) checking content through an extensive review of literature on coaching in business; (2) revising the items for wording, clarity, and behavioral observation; (3) allowing for both managers and employees to complete the instrument; and (4) gaining quantitative evidence of reliability and validity of the instrument. Based on the literature review, one dimension directly addressing techniques and tools to facilitate employees' learning and development was added to the four dimensions in McLean et al. (2005). Special efforts

were made to revise existing measurement items and to generate new items so as to cover content areas missing in the previous instrument. The revision and addition of items were mainly from two sources: some adopted from existing studies (i.e., Ellinger et al., 2003) and others written by the authors based on the literature review and in response to the critique by Peterson and Little (2005). For example, items related to the themes of developing a partnership, effective listening skills, and providing feedback were strengthened through this process. For content validity, experts' reviews with three researchers and two practitioners in the coaching/HRD field and qualitative evaluation with ten doctoral students in HRD were conducted.

A pilot study with 30 participants from various workplaces revealed that the revised coaching instrument was reliable. Cronbach's alphas of all factors increased compared with the original version: overall coefficient of .96, compared with .84 in the original; .89 in *Open communication*, compared with .76; .90 in *Team Approach*, compared with .71; .86 in *Value People*, compared with .75; .76 in *Accept Ambiguity*, compared with .69; and .90 in *Facilitate Development*.

As the next step, a survey was launched with 41 items generated through the revision process. The target population was a technology organization headquartered in the United States. This organization was one of the top global organizations in the field. It had 36,000 employees world-wide. For this study, only employees in the United States were considered as the population. Among 22,600 employees in the United States, 500 employees were randomly selected by the HR department in the company. Through the company's internal systems, the HR department sent an invitation email to the identified employees asking for their voluntary participation in the study. The email included a description of the study, the contact information, a URL linked to the web survey using an online survey tool. Of 500 employees randomly selected for the study, 187 respondents finished the entire survey for a response rate of 37.4%. Among the respondents, 120 (64.2%) were male and 67 (35.8%) were female. The majority of the respondents, 165 (88.2%), were Caucasian.

To analyze the data, a confirmatory factor analysis (CFA) was used. CFA uses a multivariate technique to test whether a pre-specified relationship exists between the observed and latent variable (Hair, Anderson, Tatham, & Black, 1995). CFA is utilized to test the viability of a priori structures based on well-developed underlying theory (Maruyama, 1997). As the theoretical examination generated five subconstructs of managerial coaching skills, CFA was properly chosen in this study to examine if the data would fit the five factor structure of managerial coaching skills. For providing reliability evidence of the instrument, Cronbach's alpha coefficients were calculated.

Results and Discussions

First, the 41 items in the five factor model were entered for CFA. Various goodness-of-fit indices were utilized to examine the fit of the proposed model. The fit indices were: $\chi^2(769) = 2242.42$ (p<.01), Comparative Fit Index (CFI) was .92, and Standardized Root-Mean-Square Residual (SRMSR) was .088. This analysis represented a reasonable fit to the data with factor loadings from .20 to .86. To determine whether a shorter instrument could produce equally strong results, four items with the highest coefficients for each factor were selected. The 20 items in the five factor model revealed $\chi^2(160) = 427.19$ (p<.01), CFI = .96, and SRMSR = .063, with factor loadings between .52 and .90. As shown in Table 1, most fit indices were higher than .90, which indicated good fit. However, the fit indices in the shorter five-factor structure were all improved, while the 20 items still contained the theoretical meaning of each construct. Thus, the shorter five-factor structure with 20 items was more appropriate as a measurement model of coaching skill in organizations.
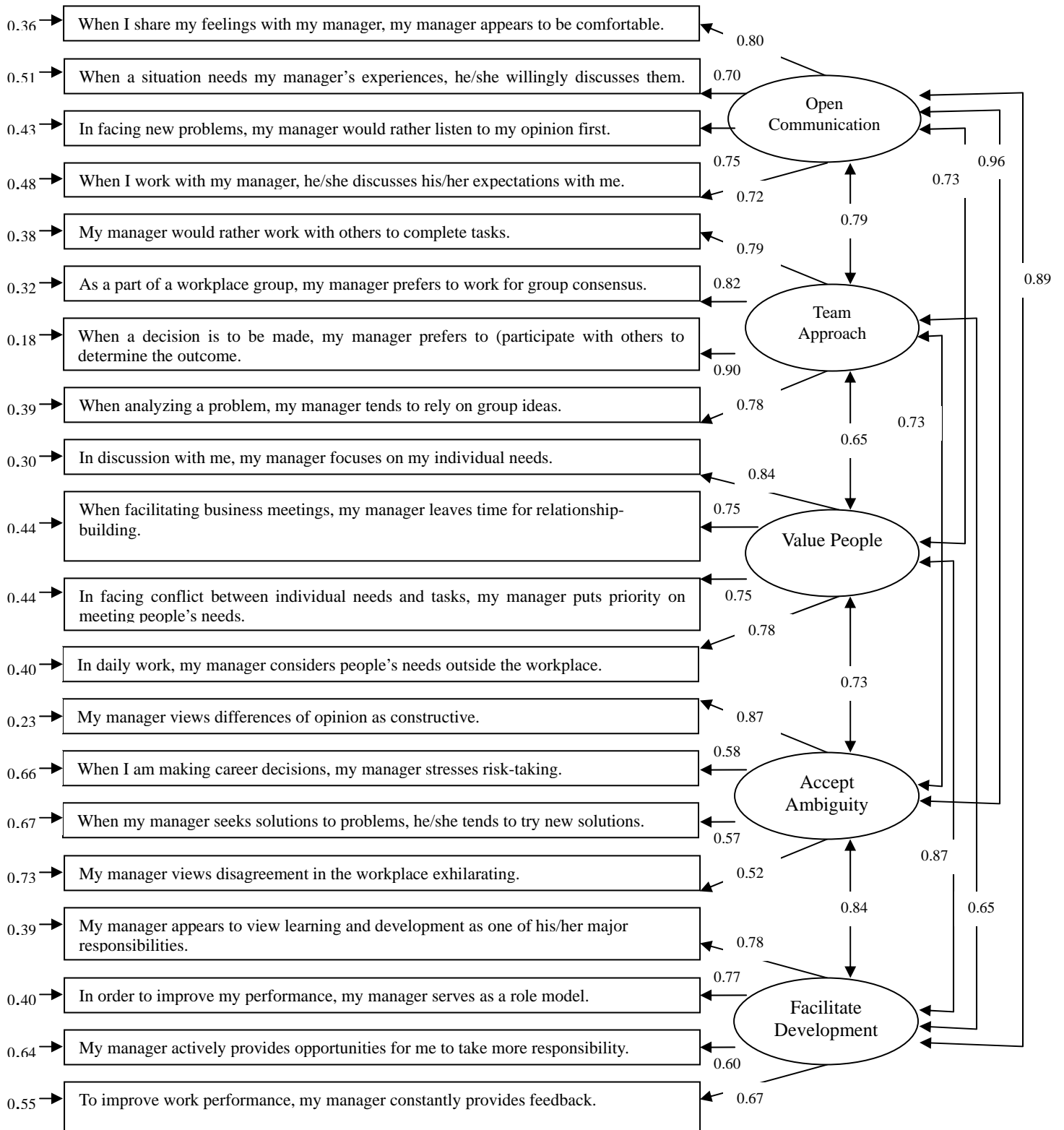
Table 1. *The Fit Indices of Two Measurement Models*

Model	*df*	χ^2	CFI	SRMR	NNFI	IFI	GFI
Measurement 1 with 41 items	769	2242.42**	.92	.088	.92	.92	.63
Measurement 2 with 20 items 2	160	427.19**	.96	.063	.96	.96	.81

Note. **p<.01

Figure 1 shows the final measurement model of coaching skill in organizations.

Figure 1. Measurement model of coaching skills in organizations.

In order to assess the reliability of the revised measurement of coaching, Cronbach's coefficient alpha was used. Table 2 shows the coefficient alphas for the original version (McLean et al., 2005) and the revised versions. The overall coaching scale and all of its subscales in the revised measurements had high reliability estimates. Further, the overall coaching scale and all of its subscales in the revised instrument, except for the new dimension, *Facilitate Development*, had improved alphas compared with the original version. The first revised version in this study had 41 items and reliability coefficients were improved, compared with the coefficients in the original instrument. The short version with 20 items selected from 41 items still had high reliability coefficients. One dimension, *Accept Ambiguity*, had a marginal reliability estimate in the original version (McLean et al., 2005) and had improved reliability estimates in the revised versions.

Table 2. *Reliability Estimates for the Measures of Coaching Skills*

Scale	McLean et al. (2005) Coefficient Alpha with 20 items	Revised Measurement 1 Coefficient Alpha with 41 items	Revised Measurement 2 Coefficient Alpha with 20 items
Open Communication	.76	.87	.81
Team Approach	.71	.89	.88
Value People	.75	.84	.83
Accept Ambiguity	.69	.72	.73
Develop People	-	.85	.78
Overall	.84	.95	.93

Confirmatory factor analysis and reliability tests for managerial coaching provided statistical support for a reliable and valid measure, confirming the five dimensions of managerial coaching. *Open communication* is one of the key factors leading to effective coaching in much of the literature (Bielous, 1994; Evered & Selman, 1989; Graham et al., 1993; Peterson & Hicks, 1996). Managers' openness to information, values, and feelings of their employees can cultivate a culture of open exchange and help to develop interpersonal rapport with employees. In addition, managers need to listen to their employees and clearly understand and accept what they hear from their employees. The next dimension is *Team Approach*. Managers need to see their employees as their partners and work together with them rather than work by themselves or in a directive or controlling manner. When managers ask for and respect employees' ideas and make decisions together, their employees will be empowered and are likely to learn more. Coaching needs the skills of collaboration to be real partners with each other. *Accepting Ambiguity* is the dimension related to the extent to which managers can accept ambiguity. Managers need to be open to new ideas and explore multiple solutions when working with their employees. In dealing with the complex and fast-changing business environment, exploring feasible answers rather than being stuck on one answer will not only help managers to deal with problems, but also encourage employees to embrace opportunities offered by uncertainty. *Facilitating Development* is the dimension added for this study, referring to managers' skills and technique in facilitating employees' development. This dimension was tested, confirming its reliability and its presence as a factor in managerial coaching. Previous literature supports this aspect of coaching as a way to increase employees' learning and development (i.e., Beattie, 2002; Ellinger, 1997; Ellinger & Bostrom; 1999; Hamlin, 2004; Hamlin et al., 2006).

Conclusions and Implications for HRD

This study revised McLean et al.'s (2005) instrument to measure managerial coaching skills and provided additional validity evidence. First, an extensive literature review was conducted to examine the theoretical foundations of coaching. Specifically, this study identified five dimensions. They included four dimensions in McLean et al. (2005)--open communication, team approach, valuing people over task, and ambiguous nature of the working environment. The fifth dimension was added to measure the extent to which managers utilize techniques to facilitate employees' learning and development. A series of discussions with experts and a pilot study followed. After revision and administration, a CFA was conducted that confirmed the five-factor structure of managerial coaching skills. The final five factors were Open Communication, Team Approach, Valuing People, Accepting Ambiguity, and Facilitating Development. The factor structure of the instrument was explored and confirmed, ensuring the reliability and validity of the measure.

Managerial coaching is one of the areas in which research has not kept up with its practice. Particularly, there have been few studies on what constitutes effective coaching, causing a great deal of confusion (Wenzel, 2000). The

five dimensions of managerial coaching skills, theoretically supported and quantitatively valid, based on this research, will reduce the confusion around managerial coaching and bring clearer understanding of what constitutes effective coaching in organizations. When organizations devote themselves to developing their managers as effective coaches, they can use the five dimensions framework as an adequate competency model in developing managerial skills.

The instrument revised from McLean et al. (2005) through this study will have several implications. First, it provides a valid tool for future research on managerial coaching. So far, there have not been many measures of managerial coaching. Researchers in HRD can use this instrument for their future research to add more knowledge on managerial coaching.

Practically, the instrument can be used as an assessment tool. Organizations can administer the instrument to examine their managers' leadership as a coach, assess the current state of the organization's leadership, and identify the areas for improvement. It can also be used as an evaluation tool of training programs on managerial coaching skills. It will be more effective if it is administered as pre-test and post-test and is compared to see if the training programs improve the managers' coaching skills.

Recommendations for Future Research

Further research is needed to extend the current studies on managerial coaching. First, the approach of this study was construct-based to ensure its reliability and validity. Future studies can employ different approaches to validate the measurement. For example, Peterson and Little (2005) suggested a validation study comparing more effective and less effective managers using this instrument. This approach will reinforce the instrument as measuring effective coaching skills.

This study asked employees' perceptions of their managers' coaching skills. This may have been appropriate and even more desirable in that employees may be in a better position to evaluate their managers than the managers to evaluate themselves. This is also the approach recommended by Peterson and Little (2005) and Wenzel (2000). The study also examined how managerial coaching affected employees' attitudes and behaviors. Therefore, employees' perceptions of their managers' coaching skills were more valued in the association with their perceptions of their learning, commitment, and turnover intentions. However, it validated only the employees' version of the coaching instrument. Future research is needed to validate the managers' version. Also, asking both managers and their employees regarding the managers' coaching will provide the information of how the two views are different from or similar to each other. Such a study is also needed.

The population of this study was employees in one organization. Even though the sample was from different areas in the organization, the extension of the population to different types of organizations will expand the generalizability of the study results. Also, more studies are needed to examine the discriminant validity of the measure. The current data showed very high correlations among several dimensions of coaching skills, and this fact was probably due to the nature of a homogenous sample. Therefore, future studies need to include diverse participants from different organizations.

The sample size can also be increased in future research. Kline (2005) provided some rough guidelines for SEM analysis–between 100 and 200 subjects is a medium sample size, and sample sizes that exceed 200 cases is considered large. This study had 187 cases, which would be considered medium. Others have offered guidelines related to the sample-to-parameters ratio for SEM. Bentler and Chou (1987) suggested between 5:1 and 10:1, while Jackson (2003) advised 10:1 or, even better, 20:1. However, the number of initial items for conducting CFA for managerial coaching skills was 41. In this case, the sample-to-parameters ratio was slightly lower than 5:1, which would be a little lower than the minimum. Even though the sample size in the study was at an acceptable level, a larger response based on the sample size used in this study would be powerful, especially for a highly comprehensive statistical analysis such as SEM (Kline, 2005).

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