Developing Research Managers and Leaders through Management Development Programme in National Agricultural Research and Education System in India

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ABSTRACT

To develop research managers and leaders in NARES, it is substantially important to enable existing and proposed managers to expand their understanding of the principles, techniques and approaches involved in management. To achieve this goal, ICAR-NAARM, offered a course "Management Development Programme on Leadership Development" for more than one decade. To assess and evaluate the performance of the participants in their respective institutions, the respondents and their reporting officers interviewed to determine whether programme has produced the desired effect. A total of 150 respondents and their reporting officers gave their views for this study. Based upon mean score and standard deviation, most of the respondents were average (62.67%), below average (19.33%) and above average (18%) before training, knowledge levels after training indicated, most of the respondents were average (66%), below average (17.33%) and above average (16.66%) whereas changes in knowledge levels indicated that, most of the respondents having average (63.33%), below average (18.66%) and above average (18%). For Behaviour, feedback received from the participants after 6 months and more period and the overall satisfaction level was around 3.89 out of 5.0, whereas overall results was around 3.42 out of 5.0.

INTRODUCTION

Human Resource Development (HRD) is a methodical way to improve and strengthen employee competencies through organisational development (Mittal, 2013). Since HRD has progressed so far, achieving the goal of improving job-related learning patterns, knowledge, and outcomes at the individual and hierarchical levels requires a significant investment in training and development activities (Marsick & Watkins, 1990). Regular assessment and training are necessary to keep employee competencies and development plans up-to-date (Noe, et al., 2011; Leonard & Wibawa, 2020; Garin et al., 2022; Sharma et al., 2021). Managers and leaders are frequently noticed in the context of the development of human resources (New, 1996; Hall & Moss, 1998; Feldman, 2002), it revealed that in the absence of organisational guidance they are expected to commence development.

Organizations can take several forms of leadership and management growth. A variety of formal interventions, including coaching, mentorship, formal programmes, and feedback programmes, may be used to organise it (Garavan et al., 2008). However, organisations are aware of the necessity to rely on, support, and encourage their leaders to develop self-directed leadership (Derue & Ashford, 2010). Developing leadership skills requires, formal leadership development programme which provides a more structured kind of experience (Day & Dragoni, 2015; Ponnusamy et al., 2014; Ruben et al., 2018; Zulfqar et al., 2021). Training helps to build leadership skills since it offers a set of systems experiences that helps gain new knowledge in leadership terms and opportunities for new talents and skills (Lacerenza et al., 2017). Participants in leadership training, typically exposed to new leadership principles, which helps leaders to perform their jobs more effectively (Lord & Hall, 2005; Baron et al., 2019). Leaders can grasp, amplify, and

anticipate settings, events, or reactions through experiential learning, which improves their ability to act and adapt to leadership roles (Daloz, 2005; Avolio et al., 2009; Rao et al., 2021). These assertions are supported by empirical research, which shows that those who receive leadership training reported that they having higher levels of leadership competence (Mumford et al., 2000a; Hirst et al., 2004; Christina et al., 2017).

Management Development Program is one of the most desired methods of developing leadership and managerial skills within an organization (Gareth & Sharon, 2005). Managers and Leaders in the creation of high-performance organisations considered a powerful group (Ronan & Thomas, 2012, Marcelo et al., 2009). The employees who attend the Management Development Programs (MDPs) are interested and active to participate in the programs (Nurita et al., 2015). The employee-training program is most important for an organization to increase profitability and productivity, decrease the cost of labour, improve quality, and adequately manage the workforce (Shahrooz, 2012; Omer, 2015). Management Development Programme (MDP) is a highly interactive program focused on the development of personal and group leadership skills and knowledge to expand managerial ability in an organization. To assess the effectiveness and relevance of training impacted, Kirkpatrick's four levels of appraisal models were employed for this study.

METHODOLOGY

This study is based on the data collected through qualitative (direct observation, discussion, interview) and quantitative (questionnaires) from research and academic professional engaged in the Indian Council of Agricultural Research and Agricultural university of India. The respondents of the study included the research and academic professionals working in different capacities viz. Principal Scientists/Professors, Heads of the division, Project Directors/Coordinators, Zonal Directors, Deans, and other similar Research Management Professionals attended the "Management Development Programme on Leadership Development" conducted by ICAR-NAARM on the learning and performance of participants in their professional career. The survey was carried out during 2016-2021 and the research tool utilised was a self-completion questionnaire that ensured respondents' confidentiality. To assess the effectiveness and relevance of training impacted, course contents provided, and teaching methods followed in the programme, the respondents and their reporting officers were interviewed for the purpose. A total of 150 respondents and their reporting officers were given their views for this study. The methodology used for this purpose was Kirkpatrick's Evaluation Model i.e. four levels of the training evaluation model. Kirkpatrick's four levels of appraisal models i.e. Reaction, Learning, Behaviour and Results are extensively employed in the appraisal of educational programs. Each level has an impact on the next level. These four main variables that were studied in this study were overall evaluation of training, perceived effectiveness of training, the perceived value of training, and perceived trainer performance. A five-point Likert scale was used to score each of the questionnaire items that were utilised to create the study's scales, which indicated whether the respondent agreed or disagreed (1 for strongly disagree to 5 strongly agree).

RESULTS AND DISCUSSION

Reaction

Reaction level measures, how the participant reacted and was trained in the program. Measuring how committed they were, how they reacted, and contributed to the training program helps to understand how well they received it. It also facilitates composing improvements to future training programs, by identifying the most important topics that have been missing. Trainee attitudes about the training represent the attitudinal component of efficacy. Under this study, feedback was received from the participants at the end of each training programme during 2016-21 and the Overall satisfaction level in the reaction component is around 4.39 out of 5.0. Different parameters of reaction like course content, coordinator's skill and support, relevance to needs of participants, overall learning from the course, expectations from the course mostly fulfilled, recommendation of this programme to others, additional knowledge was gained due to the programme, training methodologies used were interesting and relevant for the purpose, learned skills to be used and supporting and other services provides the ratings of 4.19, 4.73, 4.37, 4.43, 4.26, 4.57, 4.51, 4.35, 4.62 and 3.67 respectively out of 5.0 (Figure 1).

Patel (2010) indicated that 91 per cent of Institutional training assessments gathered reaction data, albeit this isn't always documented in the research as frequently as it is done in practice. Aside from its popularity, reaction data is an important evaluation approach, when assessing training success, it might be a pre criteria to other intended training results (Hughes et al., 2016; Sitzmann et al., 2008). Reactions may therefore play a major role in a training evaluation since they revealed how satisfied a trainee is with the instruction, show indications of the trainee's willingness to learn, and can lead to other outcomes. Given the prevalence and importance of trainee's responses, it is critical to ascertain, leadership training improves employee responses. Popular media has promoted the notion that employees despise training (e.g., Kelly, 2012), training references revealed that training frequently elicits favourable responses (Nain & Kumar, 2001; Brown, 2005; Nain et al., 2006), which viewing training as a kind of organisational support. The factor analysis of the items revealed three distinct factors for all of the items. Internal reliability was acceptable for the components, with coefficients alpha of 0.80, 0.76, and 0.72 for perceived trainer performance, perceived training usefulness and perceived training efficiency, respectively.

Learning

Training sessions have specified learning objectives, and it is helpful to measure before and after training. Before the training evaluation, trainees determine their levels of skills, attitudes, and knowledge, when the training is finished, evaluate the trainees a second time to measure what they have learned. According to Kraiger et al., (1993), the types of learning outcomes include affective, cognitive, and skill-based outcomes. Affective learning refers to the acquisition or modification of internal states. Cognitive learning is the result of a shift in intellectual or metal-based skills over time. The acquisition of technical or motor abilities is referred to as skill-based or psychomotor learning. Leadership development
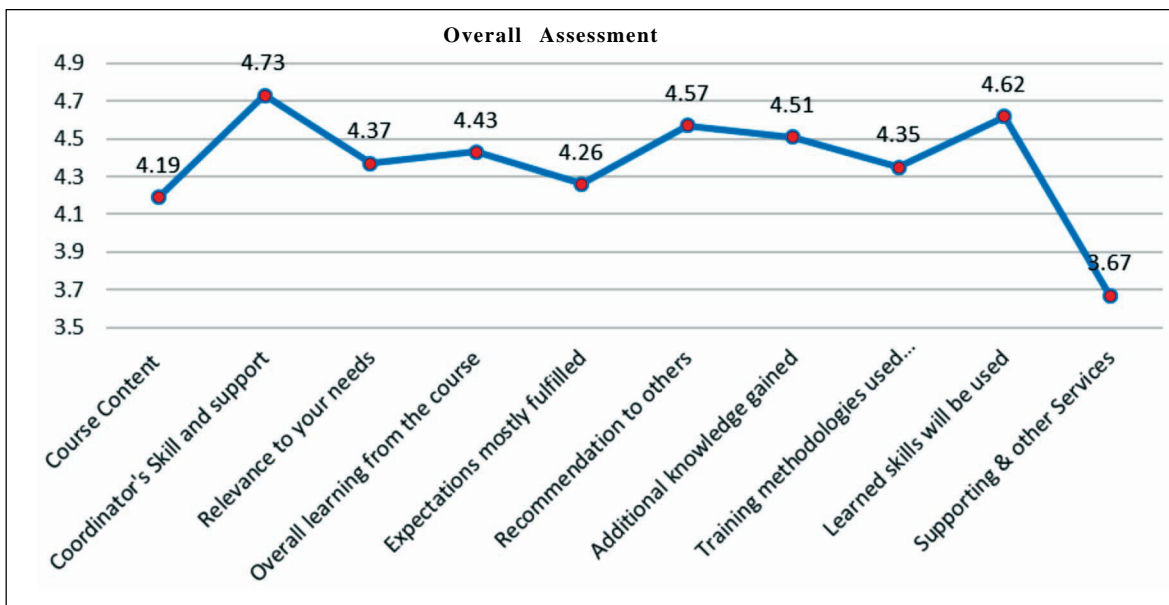
Figure 1. Reaction Assessment of MDP

programmes, by definition, are intended to improve trainees' abilities to involve in leadership roles and processes by providing additional information (Day, 2000). Knowledge acquisition and learning may occur during training, according to adult learning theory, since instruction modifies pre-existing schemas or mental representations of the world and challenges preconceptions (Mezirow & Taylor, 2009; Nain & Trikha, 2009; Chen, 2014; Patel et al., 2020). The respondents' knowledge level was divided into three categories based on their mean score and standard deviation: below-average, average, and above-average knowledge level (Table 1).

The respondents were classified, based upon mean score and standard deviation and it was indicated that most of the respondents before training were Average i.e. 11.05 to 20.51 (62.67%) category, whereas other respondents classified as below average i.e. <11.05 (19.33%) and Above average i.e. >20.51 (18%) similarly, the respondents were classified for post training and it was indicated that most of the respondents were under the category of Average i.e. 22.40 to 28.24 (66%), whereas other respondents classified as below average i.e. <22.40 (17.33%) and Above average i.e. >28.24 (16.66%). It was indicated that out of 150 respondents, most of the respondents changes in after and before training had an average of 4.01 to 15.09 (63.33%), whereas other respondents were

classified as below average i.e. <4.01 (18.66%) and Above average i.e. >15.09 (18%) knowledge level category working in NARES.

Behaviour

Behaviour describes, what the trainee does and the extent to which they utilise the knowledge and skills they gained during on-the-job training (Baldwin & Ford, 1988; Kirkpatrick, 1959). Behaviour can change when conditions are favourable and also inform where people might need help. One of the most obvious goals of leadership training is to help leaders make good behavioural changes at the place of working (Day, 2000). Transfer evaluation is therefore essential for measuring the effectiveness of leadership training. The failure of targeted behaviours to transfer to the workplace has been identified by some researchers as a "transfer problem" (Baldwin & Ford, 1988; Goldstein, 1986). Some research has shown that learning does not always translate into transfer (May & Kahnweiler, 2000). Based upon feedback received from the participants after six months and more, overall satisfaction level is around 3.89 out of 5.0. Different parameters of behaviour like the extent to which training address training needs, the extent the learning helps to job, the extent of application of learning to the job, the extent of improvement in job performance, and the

Table 1. Degree of knowledge (before training, after training and Changes in training)

Degree of Knowledge level	Knowledge Score	Frequency (N=150)	Percentage
Before Training (Mean= 15.78 and S.D.= 4.73)			
Below Average	≤11.05	29	19.33
Average	11.05 to 20.51	94	62.67
Above Average	≥20.51	27	18
After Training (Mean= 25.32 and S.D.= 2.92)			
Below Average	≤22.4	26	17.33
Average	22.4 to 28.24	99	66
Above Average	≥28.24	25	16.66
Changes in Training (Mean= 9.55 and S.D.= 5.54)			
Below Average	≤4.01	28	18.66
Average	4.01 to 15.09	95	63.33
Above Average	≥15.09	27	18

comparison of pre and post-training scenario in performance provides the ratings of 3.94, 4.05, 3.73, 4.16 and 3.57 respectively out of 5.0 as mentioned in Figure 2.
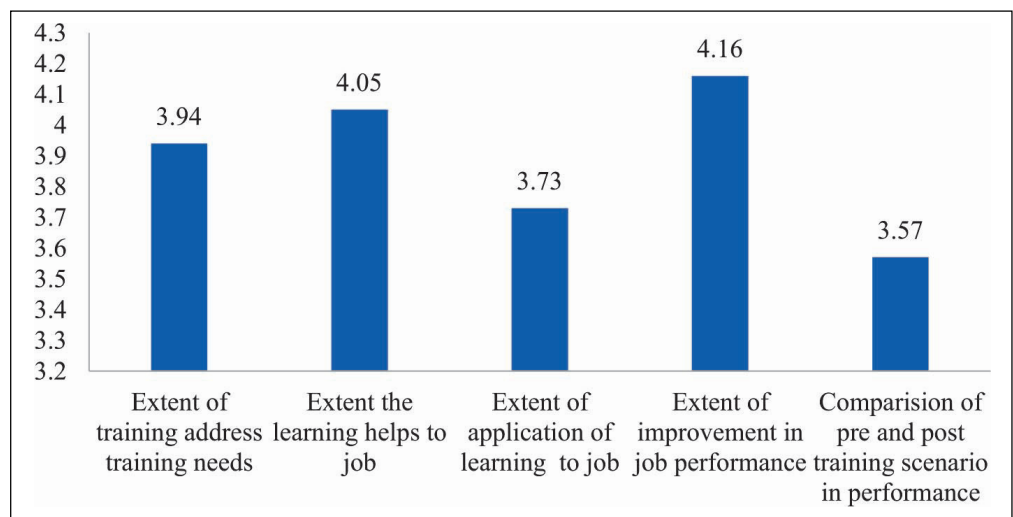
Results

Kirkpatrick (1959) defines results as evaluating methods that demonstrate the training program's effect on accomplishing organisational goals such as costs, profits, turnover, and performance. Results are typically defined in terms of the value of the training vs the expense of the programme. (e.g., ROI) (Arthur et al., 2003). DiPietro (2006) looked at the return on investment (ROI) of a leadership training programme, in terms of organisational outcome, and Kawakami, et al. (2006) looked at how supportive the work environment was after leadership programme, which is a subordinate result. Some research has observed no improvement in results criterion after receiving such programme. For example, Lee et al., (2010) discovered that following leadership training, subordinates' self-reported emotional tiredness

did not decrease. The majority of studies support the improvement of outcomes brought about by leadership development, however, this one is in the minority (Burke & Day, 1986). Theoretically, results caused advancements in learning and transfer (Kirkpatrick, 1959; Tharenou et al., 2007; Wright et al., 1999).

Based upon feedback received from the reporting officer of participants after 6 months and more of the training programme during 2016-21, the overall result satisfaction level was around 3.42 out of 5.0. Different parameter of results is like extent to which training address training needs, the extent the learning helps to job, the extent of application of learning to the job, the extent of improvement in job performance, and the comparison of pre and post-training scenario in performance provides the ratings of 3.43, 3.6, 3.28, 3.75 and 3.06 respectively out of 5.0 as mentioned in Figure 3. As a result, according to Kirkpatrick (1959), outcomes can be categorised when analysing training effectiveness, and the approach has been utilized in various leadership training meta-analyses (e.g., Burke & Day, 1986; Arthur et al., 2003), to evaluate training effectiveness.

Figure 2. Individual officers (self) ratings of MDP

Figure 3. Reporting officers ratings of MDP
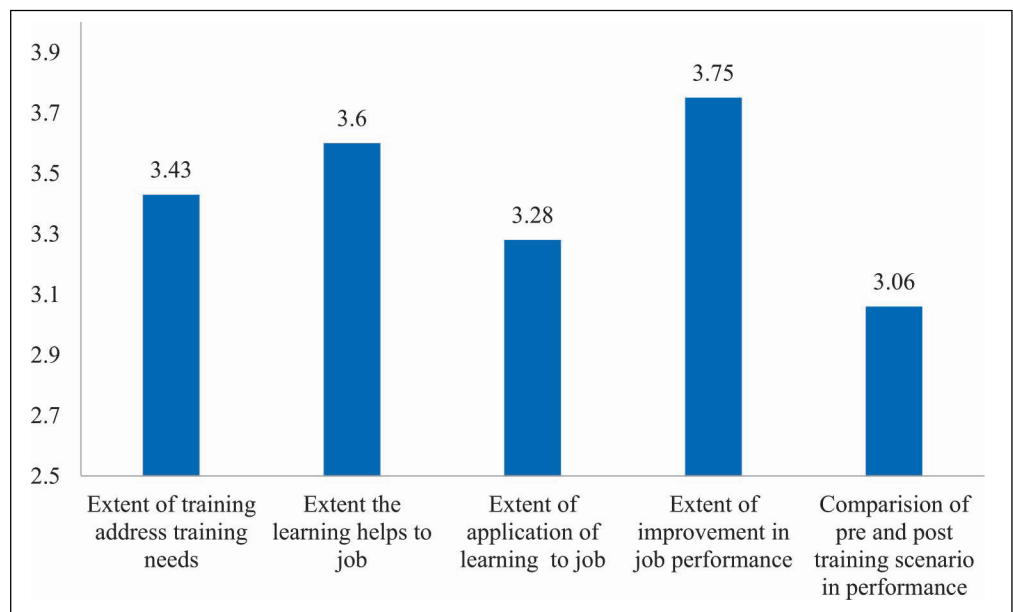
CONCLUSION

Based upon four criteria (reactions, learning, behaviour, and results) of Kirkpatrick model, the study concluded that the strength and quality vary upon design, delivery, and implementation characteristics. Feedback received from the participants after the training programme and the overall satisfaction level of reaction is around 4.39 out of 5.0. The study high lightened the knowledge level of participants and information on the sample composition of pre and post training evaluations based upon the knowledge level of the participants at the time of entry and completion of the course. For Behaviour, feedback received from the participants after 6 months and more periods of the training programme and the overall satisfaction level was around 3.89 out of 5.0(77.8%), whereas overall satisfaction level of results is around 3.42 out of 5.0(68.4%).

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