

Examining the Moderating Role of Trainers Expertise on Training Reaction, Learning, Behaviour, Results, and its Factors of Pradhan Mantri Kaushal Vikas Yojana (PMKVY) in Sikkim

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Abstract

Training effectiveness (TE) examines the individual, training, and organizational aspects that influence the training process prior to, throughout, and following its implementation. Effective training is regarded as a significant factor in determining the productivity of an organization whose success is reliant on the competence of its employees. Pradhan Mantri Kaushal Vikas Yojana (PMKVY) is the Skill Certification Scheme that encourages youth to pursue industry-relevant training and develop skills. The program aims to secure training trainees' livelihoods. The key objective of this study is to investigate how levels of trainers from PMKVY institutes moderates the relationship between different levels and factors of Training Effectiveness as defined by the Kirkpatrick Model. Using Kirkpatrick's Four – Level Training Evaluation Model (1959), This following study is based on first-hand information that was gathered from 357 PMKVY trainees from Sikkim and uses Exploratory Factor analysis [EFA] to extracted the following nine (09) training effectiveness (TE) factors and furtherly organize into four (04) different levels of training effectiveness such as, Reaction [f1] Training Satisfaction (TS) and [f2] Training Utility (TU). Similarly, three factors have been identified under the level of Learning [f3] Skill Based Learning (SBL), [f4] Learning Attitude (LAT), [f5] Training Efficiency (CA). Whereas, in the case of Behaviour [f6] Behavioural Self- Efficacy (BSE) and [f7] Behavioural Adaptability (BAD). Finally, under the level of Results [f8] Training Efficiency (TE) and [f9] Training Outcome (TO). based their responses. A simple linear regression was performed to predict dependent variable level of training effectiveness based on the independent variable factors of training effectiveness. The results shows that the Level of TE are significant predictors of the Factors of TE. There exist certain relationships in which the moderating effect of trainers' level of expertise is not evident.

Keywords: Training Effectiveness, PMKVY Trainers' Level of Expertise, Kirkpatrick's (1959) Model

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Introduction

Theoretical background

Skill development involves evaluating deficiencies in one's abilities and correspondingly enhancing them. (Grover & Kapoor, 2020) focused on to know the skill development and various government initiatives taken by GOI. Additionally, it attempts to analyse the idea of skill development among our nation's citizens. According to the research, underemployment and unemployment are issues in India. The number of job openings for skilled individuals has decreased. (Saini, 2015) studied the scenario of need and challenges faced by skill development system and to provide some suggestions. The study found out that the skill capacity in terms of vocational training and education is quite low. (Pandey & Nema, 2017) concluded that most educated Indian youngsters encounter significant unemployment issues and a deficiency in competencies and technical expertise in the present context. Due to the existing situation of education, skill development, and employment for Indian young, India's skill development system has obstacles in training them.

In a world that is constantly evolving, it is imperative to acquire new skills and adapt to new situations to achieve personal and professional objectives. One's productivity and employability can be enhanced through the enhancement of their abilities. It fosters adaptation, thereby establishing the foundation for continuous learning and growth throughout one's lifetime. By acquiring new skills, one can achieve greater professional success and job stability in the workplace. Despite challenges, it is necessary to adopt a continual learning mindset. It is imperative that governments and educational institutions prioritize the development of skills and offer high-quality training.

PMKVY is one of these programs that concentrates on the, skilling, upskilling and reskilling of the youth in the country. Evaluating the efficacy of a scheme of this magnitude will demonstrate its success in accomplishing the objectives. (S.Gupta, 2018) designed a conceptual model for the better functioning and efficient outcomes of PMKVY training campaign. The model that has been designed, focuses on the factors effecting motivation to learn and training effectiveness. The author found out that training reputation is positively related to pre- training motivation. (Sharma & Khandelwal, 2020) studied & analysed the concept, components & the sector wise performance of PMKVY scheme. It focused to unlock the potential of PMKVY. (S., Kavya, & P., 2018) found out that there are few issues related to insufficient job roles. There is also an insufficient time to learn the job roles. New courses should be implemented for more employment generation. (Joshi & Pandey, 2020) attempted to investigate the

effectiveness of the PMKVY program to determine the scheme's impact on young people. PMKVY has three major causes. The elements include Resources & Support, Training Quality,

and Infrastructure Facility (aligned by importance). Industrialists must train beneficiaries with better equipment and tools.

The primary focus during training is on the systematic improvement of an individual's attitudes, behaviours, competencies, and abilities that are necessary for them to successfully complete a task. In accordance with the findings of Goldstein and Ford (2002), it is an activity that makes it easier for employees to improve their capabilities and carry out their obligations in an effective manner. Instruction that is both intentional and rigorous is what makes it feasible for trainees to acquire knowledge in a timely manner, as stated by Armstrong (2013). Bates and Coyne (2005) examined the Learning Transfer Systems Inventory (LTSI) as an evaluative instrument for assessing learning and allocation of knowledge. Devi and Shaik (2012), described effectiveness as the successful completion of predetermined objective. Homklin [2013] defines training effectiveness as the degree to which the training goals or objectives are met. Borate (2014) stated that the term "training effectiveness" is composed of two core concepts: training and the impact that trainees experience because of their participation in training. The effectiveness of training provides a clear visual representation of the topics that were taught as well as those that were not addressed during the training session Manyika (2014). Kirkpatrick training evaluation model has been widely accepted and used for over more than sixty years. As this model is very simple, clear, and easy to understand, the industry experts use this model for evaluating of training programs. The model developed by Kirkpatrick (1959) developed a framework to evaluate training's effectiveness and streamline its four-stage development (i.e., Reaction, Learning, Behaviour, and Results). The "four-level method of training evaluation" was first proposed by Kirkpatrick (1976). (Level-1 Reaction) measures the emotional and mental reactions of the trainees are evaluated. It measures how trainees feel about a course. (Second-tier criterion is learning) The effectiveness of which is measured by how much its trainees learn and grow because of the training. It demonstrates the impact that a training course has on its trainees. After completing a training programme, trainees are evaluated on how well they used what they learned to modify their conduct and/or performance (Level 3 criterion: Behaviour). After a training course has been implemented, its effectiveness in boosting departmental or organizational effectiveness is assessed at (Level 4: Results).

Literature Review

Training is an organized procedure that equips trainees with job-related knowledge and abilities, and fosters their willingness to utilize them. Training is different from teaching or

coaching since the trainer spends less time with pupils and emphasizes skills over knowledge. Good trainers make trainees feel like they received what they wanted. A skilled trainer would make sure the training was effective and the trainees are confident and able to use their new skills and knowledge in appropriate situations. A successful trainer must understand the training process. Each element of the training session is important, and trainees will have role expectations. Great trainers can manage these expectations and obtain results. (Kunche, Puli, Guniganti, & Puli, 2011) provided information to evaluate and improve the training effectiveness and mentioned the key elements for the effectiveness of training program; such as Training environment, Training Utility and Development, Training Delivery, Training Implementation, Training Evaluation. (Black & Mendenhall, 1990) suggests that cross-cultural training improves skill development, adaptability, and work success. (Mohanty, Dash, Dash, & Das, 2019) focused on finding out how successful the training programme was for the people who took part (learners) by judging how valuable their experience was. Eight factors—training need analysis, training goal-setting, program design, faculty or resource person, the method, visual aids, instructional setting, and learning outcomes—were selected to determine the effectiveness of training.

It turns out that "faculty" is the most important thing for the success of a training programme, while "training methodology" is the fifth most important thing. The least important one is setting exercise goals. (Waseem, Aaltio, Agha, & Khan, 2015) implies that student reaction is an inadequate indicator of training programme effectiveness and that training programmes should be reviewed more deeply. (Khan, Ahmad, & Jamshed, 2019) identified that PMKVY is producing an excellent and positive effect by providing training and knowledge to persons who are currently employed and individuals who are currently unemployed. Because of this endeavour, India's workforce is becoming increasingly qualified across practically the entire country. The author argues that there is a pressing requirement to broaden the skill set trainings by including the participation of industries. (Hoff & P.H.) studied behavioural targets set at programme start can be the criterion. Learning skills and behaviour adjustments is more important than knowledge. Quality training for supervisors, trainers, and administrative staff was mentioned. (Boendermaker, Conradi, & Schuling, 2003) He evaluates a competent general Practitioner-trainer is skilled at delivering feedback and is crucial to the success of the learner and the learning process. He/she communicates well with the trainee, and respects the trainee. (Beavers, 2009) offers straightforward teacher professional development for adult learner characteristics, self-directed learning, transformative education, and critical thinking. Besides

adult learners' general features, good teachers have traits that characterise them, how they handle obstacles, and how they learn. (Robin, 2020) meets trainees' formal workplace learning in multiple ways. Instructors can shape trainees' content, presentation, and relational learning. (R.P, 1995) established that trainers can implement policies and assist the community through council activities. The trainer can innovate. Creative and inquisitive innovators may risk huge changes.

(Arghode & Wang, 2016) Training tactics were presented to engage learners and attain learning goals in this study. Professional and novice trainers can assess their practises against the seven study settings. (Kim, Prak, & O'Rourke) that an online simulation training course improved teachers' understanding, attitudes, and plans to use simulation in their classes. To figure out what the best practises will be in the future, it is important to find out how teachers feel about simulation and how they plan to use it, no matter how they were trained. (Ghosh, Satyawadi, Joshi, Ranjan, & Singh, 2012) identifies the things that can be used to predict how well training will work, with a focus on teacher traits. Interpersonal skills are also important to the success of training; trainers need to work with their trainees to get them more invested in the plan.

(Leduchowicz & Bennett, 1983) uncovered a wide variety of variables that could affect the trainer's efficiency. The efficiency of a trainer is susceptible to numerous factors. They are trainer job orientation and how they see it; the skills and credibility of the trainer; the way the trainer does their job and how it affects others; the results of their work; and the organizational factors. The study also gave us a way to think about the job orientation of the trainers. (Jackson, 2005) stated that a great trainer must master every aspect of a training session. A good trainer values oneself, the trainees, and knowledge transfer. A skilled trainer will have years of expertise handling training factors, but a rookie trainer can benefit from understanding their relationships. (Towler & Dipboye, 2001) looked at how training results might be affected by trainer expressiveness, lecture arrangement, and trainee goal orientation. The results of the study showed that trainees showed the best recollection following a presentation with an emotional and well-organized framework.

(Tai, 2006) investigates how supervisor-provided training framing impacts on trainee self-efficacy, motivation, and overall training effectiveness. Importance of supervisor training framing predicts trainee self-efficacy and motivation, impacting reactions and learning and transfer motivation. (Harris, Chung, Frye, & Chiaburu, 2014) examines how instructor competency views and trainee motivational orientations (autonomy orientation) affect trainee

satisfaction. Instructor competency perceptions predict course satisfaction, surpassing trainee motivation. Instructor competence and trainee attitudes interact to affect trainee satisfaction, with instructor competence being more significant for high autonomy trainees. (Nikandrou, Brinia, & Bereri, 2009) presents an empirical study for training transfer based on a trainee-oriented systemic model. The study looks at the traits of the trainees that influence their entering behaviour as well as their drive to learn and transfer. The findings highlight the significance of trainee attributes in the process of training transfer and offer helpful guidance for developing and overseeing training initiatives. (Akther & Rahman, 2022) They looked at pre- and post-training factors influencing digital era banking employee training efficacy. The findings of the research indicate that the effectiveness of the bank's staff training in the digital era is influenced by pre-training (training environment, trainer quality) and post-training (trainee motivation, self-efficacy, and authentic leadership practices) criteria. The table (See Table 1) shows trainers attributes.

Table 1: Past Researches on Trainer's Characteristics

Table	Past Research on Attributes/Characteristics of Trainers	
Serial No.	Attributes/Characteristics	Author(s)
1.	Communication skills	Olson (1994); Towler and Dipboye (2001), Lawson (2006); Towler and Dipboye (2001)
2	Appearance of trainer (e.g physical appearance, teaching ability)	Lawson (2006); Buckley and Caple (2009)
3	Positive Behaviours	Morris (1984); Chatzoglou (2012)
4	Content knowledge, capacity to use training aids and facilities, learning environment control, and listening and questioning.	Towler and Dipboye (2001)
5	Listening Skills	Ghosh (2012)
6	Proactive Thinker	Buckley and Caple (2009)
7	Evaluation	R.P. Dawson (1995)
8	Providing feedback	Heinzman et al. (1980); Jacobs (1987); Wlodkowski (1993); Olson (1994)

Source: Compiled by author

Research Gap

According to the report provided in the official website of PMKVY, 10,298 people have been certified and 14,009 people have enrolled in the training programme in Sikkim. As a result, gauging the scheme's Training Effectiveness is crucial. Delivery, content, and instructor all contribute to a training program's success. Every training programme requires the services of

a trainer. In this context, it is vital to investigate and identify the factors of Training Effectiveness levels, such as Reaction, Learning, Behaviour, and Results, according to Kirkpatrick's (1959) model. The study also investigates the moderating effect of Trainers' expertise level on the levels outlined in the Kirkpatrick (1959) Model. There are very few studies that discuss about the factors of different levels in Kirkpatrick's model of measuring training effectiveness.

Study's Objective

The present study explores to find out the factors of Training Effectiveness based on Kirkpatrick (1959) Model levels [Reaction, Learning, Behaviors and Results] and explores the moderating role of expertise level of Trainers' (i.e., Proficient, Expert and Master) on the factors identified via Exploratory Factor Analysis (EFA).

Research Design

The study largely uses data from a primary sample survey of 357 PMKVY trainees from four districts in Sikkim. From 2017 to 2022, it depicts twenty-one (21) beneficiaries from each of the seventeen (17) job roles specifically offered by the PMKVY scheme in Sikkim. To collect the relevant data, the researcher considers employing a standardized structured pre-tested questionnaire as a sample survey instrument. In addition, basic institutional / demographic data about the training centers and respondents are required, primarily a total of ten (10) qualitative statements to capture each level of training effectiveness such as Reaction, Learning, Behaviour, and Results, and fifteen (15) qualitative statements to capture the level of expertise of the trainers in the PMKVY training centers using a 5-point Likert scale (viz. Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree). To maintain content reliability, the researcher employed both positive and negative statements to capture the qualitative variable's attributes.

The data is entered into an electronic spreadsheet for the purpose of doing fundamental data cleansing, codification, and data assessment. Moreover, the utilization of Exploratory Factor Analysis (EFA) is employed as a means of data reduction to condense the significance of each statement across various levels of training effectiveness. This process facilitates the generation of factor scores for each level of training effectiveness [i.e., Reaction, Learning, Behaviour, and Results]. The factor scores obtained do not exhibit a normal distribution, therefore, it is necessary to transform the scores into normal scores for the purpose of the study (See table 2). The main objective of EFA is to identify and elucidate the significance of a factor in a study's scope (Hair et al., 1995).

Table 2: Test for Normality of Data

Factors & Levels	Factor Scores					Normalized Scores				
	Mean	SD	Skewness	Kurtosis	Normality Test Stat.	Mean	SD	Skewness	Kurtosis	Normality Test Stat.
Training Satisfaction	0.00	1.00	-0.50	-0.16	0.076***	-0.00	0.98	-0.01	-0.17	0.011 ^{NS}
Training Utility	-0.00	0.99	-0.53	-0.01	0.089***	0.00	0.98	-0.01	-0.14	0.009 ^{NS}
Skill Based Learning	0.00	1.00	-0.96	0.80	0.096***	-0.00	0.99	0.00	-0.16	0.007 ^{NS}
Attitude Cognitive Ability	0.00	1.00	-1.07	2.07	0.094***	0.00	0.98	0.00	-0.12	0.009 ^{NS}
Behavioural Self Efficacy	0.00	1.00	-1.08	2.48	0.111***	0.00	0.97	0.05	-0.23	0.011 ^{NS}
Behavioural Adaptability	0.00	1.00	-1.13	1.16	0.113***	-0.00	0.98	-0.00	-0.14	0.006 ^{NS}
Training Efficiency	-0.00	1.00	-0.64	0.01	0.080***	0.00	0.98	-0.01	-0.15	0.009 ^{NS}
Training Outcome	0.00	0.99	-0.71	-0.00	0.096***	-0.00	0.97	-0.01	-0.24	0.010 ^{NS}
Reaction	0.00	1.00	-0.59	1.20	0.061***	0.00	0.99	0.00	-0.17	0.007 ^{NS}
Learning	36.73	5.68	-1.26	1.75	0.118***	36.67	5.55	-0.02	-0.19	0.053 ^{NS}
Behaviour	38.41	5.04	-0.91	0.24	0.164***	38.36	4.94	-0.00	-0.17	0.065 ^{NS}
Results	37.49	5.12	-0.84	0.40	0.129***	37.43	5.00	-0.00	-0.18	0.062 ^{NS}
	36.92	5.35	-0.89	0.61	0.138***	36.91	5.25	-0.01	-0.19	0.056 ^{NS}

Note: n > 50 therefore Kolmogorov-Smirnov Test used for checking the normality assumption

The (1970) Kaiser-Meyer-Olkin (KMO) examines the sample adequacy (that determines if the responses provided with the sample are appropriate or not). KMO range between zero to one and nearer to 1 is deemed suitable for the factor analysis. Kaiser & Rice (1974) recommends the appropriate limit of KMO is .06. The KMO value indicated in this study for Reaction is (0.847), Learning (0.756), Behaviour (0.774) and Results (0.813), which is higher than the threshold limit and hence the sample is adequate for factor analysis.

The test of sphericity that was developed by Bartlett in 1951 is yet another indication of the strength of the link that exists between the variables. It is utilized for the purpose of comparing the identity matrix with the correlation matrix of the variable. Significance value less than ($p < .05$). The Bartlett's (1951) test of sphericity value of test statistics indicated that, Reaction is (826.128***), Learning (807.634***), Behaviour (663.941***), and Results (841.765***), which is lower than significance level of 5%. Therefore, different levels of training effectiveness are not orthogonal, i.e. Its correlated enough to where the correlation matrix diverges statistically significant from the identity matrix. In this backdrop, the following data set is suitable for a data reduction technique. The data is suitable for further data reduction by factor analysis, according to both the KMO and Bartlett's tests of values.

The results are obtained from the Factor analysis; it extracted the following nine (09) sphericity training effectiveness factors under the four (04) different levels such as, Reaction [f1] Training Satisfaction (TS) and [f2] Training Utility (TU). Similarly, three factors have been identified under the level of Learning [f3] Skill Based Learning (SBL), [f4] Learning Attitude (LAT), [f5] Training Efficiency (CA). Whereas, in the case of Behaviour [f6] Behavioural Self-Efficacy (BSE) and [f7] Behavioural Adaptability (BAD). Finally, under the level of Results [f8] Training Efficiency (TE) and [f9] Training Outcome (TO). The previous studies discussed one dimension of Kirkpatrick's model and its factors. This study tries to explore all the factors at different levels of the model. The table (See Table 3) shows the past studies on dimensions identified on Kirkpatrick model.

Table 3: Dimensions wise list of past researches on Kirkpatrick levels

Authors/Years	Levels of Kirkpatrick model	Dimensions discussed
Lin (2011); Giangreco (2010); Iqbal (2011); Kirkpatrick, (1994); Ghosh (2011). Morgan and Casper (2000) Alliger and Janak (1989) Noe (1986); Bhatti & Kaur (2010);	Reaction	• Satisfaction with testing, materials, course structure, instructor • Enjoyment • Utility & Affective • Overall Training Satisfaction
Kraiger et al., (1993) [first 3 dimesons]; Alliger et al. (1997) [last three dimensions]	Learning	• Cognitive, • Skill-based • Affective learning outcomes • Immediate knowledge • Knowledge retention • Behaviour/skill demonstration.
Arthur et al., (2003); Olagunju, 2014	Behaviour	• Improvement in job performance • Knowledge transfer •
Kirkpatrick and Kirkpatrick, (2006); Arthur et al (2003); Topno, 2012	Results	• Long term benefits • Effect on Business due to training

Source: Compiled by author

To determine PMKVY trainer expertise, a summative score of 15 statements was used. The summative scores were divided into three levels: Proficient ($< \text{Mean} - 1\text{SD}$), Expert ($< \text{Mean} - 1\text{SD}$ to $> \text{Mean} + 1\text{SD}$), and Master ($> \text{Mean} + 1\text{SD}$) using IBM SPSS's visual binning function. A simple linear regression analysis has been conducted to show the linear relationship between training effectiveness, levels, and factors. In addition, Jamovi 2.3.13, a Free Open-Source Software (FOSS) data analytics tool, is used to examine the moderation effect of PMKVY trainers' expertise on factors of Training Effectiveness.

Conditions for Moderation Analysis

(Laundau & Everitt, 2003; Richardson, P., & Machan, L. 2021) must meet five assumptions for testing moderation analysis. To accurately measure both the dependent and independent

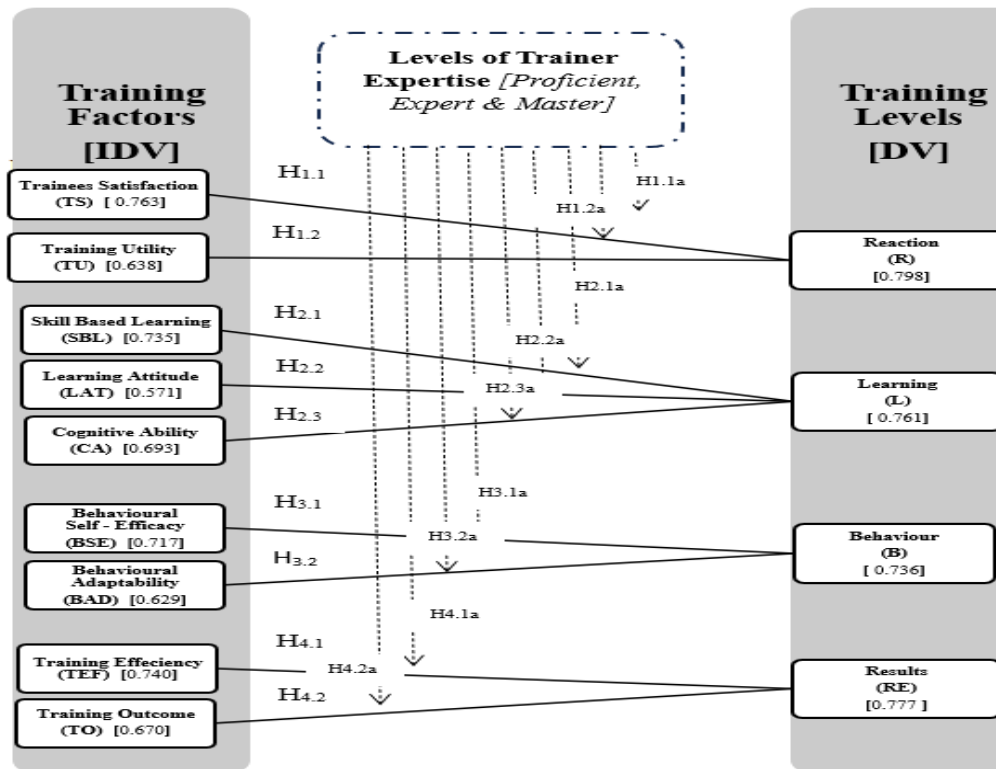
variables, a continuous scale should be utilized. The moderator variable must be a nominal variable comprising a minimum of two groups. The linear relationship between the variables of concern (the DV, IV and moderator variables) can be verified using a scatterplot. The data employed should not exhibit the characteristics of multicollinearity. When it comes to the distribution of the variables, there should be no noticeable outliers, and the data should be distributed normally. When these conditions are met, moderation analysis can be employed.

To determine the extent to which the trainers' level of expertise affects the training effectiveness aspects of the PMKVY skill training program, a moderation analysis was carried out. (Qasem et, al 2022) for the moderation to be supported, two conditions must be met. First, the causal predictor variables; Training Satisfaction (TS), Training Utility (TU), Skill Based Learning (SBL), Learning Attitude (LAT), Training Efficiency (CA), Behavioural Self-Efficacy (BSE), Behavioural Adaptability (BAD), Training Efficiency (TE), Training Outcome (TO) must significantly predict Reaction, Learning, Behaviour and Results in the simple effect model. Secondly, the interaction model and moderation model must explain significantly more variance of Reaction, Learning, Behaviour and Results than the non-interaction model. If either of these conditions fail, moderation is not supported. In our case all the conditions have been satisfied and moderation analysis was conducted. The following hypothesis were developed: H_{1.1a}. Trainer moderates the relationship between Training Satisfaction and Reaction. H_{1.2a} Trainer moderates the relationship between Training Utility and Reaction. H_{2.1a} Trainer moderates the relationship between Skill based Learning and Learning. H_{2.2a} Trainer moderates the relationship between Learning Attitude and Learning. H_{2.3a} Trainer moderates the relationship between Cognitive Ability and Learning. H_{3.1a} Trainer moderates the relationship between Behavioural self-efficacy and Behaviour. H_{3.2a} Trainer moderates the relationship between Behavioural Adaptability and Behaviour. H_{4.1a} Trainer moderates the relationship between Training Efficiency and Results. H_{4.2a} Trainer moderates the relationship between Training Outcome and Results.

Results and Discussion

There is an evaluation of the reliability of the questionnaire items using Cronbach's internal consistency test. The examination evaluates the consistency of responses across all the assessment items. The components and degrees of TE that were studied are included in the conceptual model version 1.0. In addition, the model incorporates the results of reliability tests.

Figure 1: Conceptual model computed by the author



Source: Compiled by author

Regression Analysis Results

The regression results are show in Table No. 4. The result explains the following.

Table 4: Regression Analysis Results

Hypothesis	Predictor	Path	β	t	R	R ²	F	p	Decision
H _{1.1}	Training Satisfaction [TS] [^]	TD → R	0.709	18.865	0.709	0.502	355.880	<.001	Supported
H _{1.2}	Training Utility [TU] [^]	TS → R	0.581	13.401	0.581	0.337	179.599	<.001	Supported
H _{2.1}	Skill Based Learning [SBL] [§]	LAP → L	0.588	13.672	0.588	0.346	186.916	<.001	Supported
H _{2.2}	Learning Attitude [LAT] [§]	LAA → L	0.567	12.919	0.567	0.321	166.903	<.001	Supported
H _{2.3}	Cognitive Ability [CA] [§]	LAQ → L	0.406	8.352	0.406	0.165	69.755	<.001	Supported
H _{3.1}	Behavioural self-efficacy [BSE] [*]	BSE → B	0.675	17.181	0.675	0.455	295.170	<.001	Supported
H _{3.2}	Behavioural Adaptability [BAD] [*]	BAD → B	0.639	15.615	0.639	0.409	243.820	<.001	Supported
H _{4.1}	Training Efficiency [TEF] [@]	CA → RE	0.648	15.966	0.648	0.419	254.917	<.001	Supported
H _{4.2}	Training Outcome [TO] [@]	TO → RE	0.678	17.337	0.678	0.460	300.588	<.001	Supported

[^]Dependent Variable (DV): Reaction; [§]Dependent Variable (DV): Learning; ^{*}Dependent Variable (DV):

Behaviour; [@]Dependent Variable (DV): Results

The R-square value is 0.337, which implies that Training Satisfaction, induces 33.7% change in the DV, Reaction. The ANOVA findings shows that they have a significant association. Beta

value is (0.581) indicates one unit of change in Training Satisfaction leads to change in Reaction by 0.581 units. R-square value is 0.502, which implies that our Training Utility, induces 50.2% change in Reaction. The ANOVA findings shows that Training Utility and Reaction have a significant association. Beta value (0.709) indicates one unit of change in Training Utility leads to change in Reaction by 0.709 units. The beta value is positive showing a favourable link between Training Utility and Reaction.

The R-square value is 0.346, which indicates that Skill Based Learning generates 34.6% change in Learning. The ANOVA findings reveal notable correlation between Skill Based Learning and Learning. Beta value (0.588) indicates one unit change in Skill Based Learning will lead to change in Learning by 0.588 units. The beta value is positive showing a favourable link between skill-based learning and learning. The R-square value is 0.321 implying Learning Attitude, induces 32.1% change in Learning. Learning Attitude and Learning is said to have a significant link shown by the ANOVA results. Beta value (0.567) indicates one unit change in learning attitude would result in 0.567 units of change in Learning. The R-square value is 0.165 which implies that Cognitive Ability, results in 16.5% change in Learning. The ANOVA findings reveal that Cognitive Ability and Learning have a significant relationship. Beta value (0.406) indicates one unit change in Cognitive Ability will result in the one unit change in Learning. The beta value is positive, suggesting a favourable link between cognitive ability and learning.

The R-square value is 0.455 indicating that Behavioural Self-Efficacy, generates 45.5% change in Behaviour. The ANOVA findings reveal that Behavioural Self-Efficacy and Behaviour are significantly correlated. Beta value (0.675) implies change in behavioural self-efficacy by one unit will result in change in behaviour by 0.675 units. The beta value is positive, which suggests the favourable link between behaviour and behavioural self-efficacy. The R-square value is 0.409 indicating behavioural adaptability causes 40.9% change in the behaviour. The ANOVA findings reveal that there is a positive correlation between behaviour and adaptation. Beta value is (0.639), implies one unit of change in behavioural adaptability will result in the change in behaviour by 0.639 units. The beta value is positive, which demonstrates the favourable link between behaviour and behavioural adaptation.

The R-square value is 0.419 indicating that Training Efficiency, induces 41.9% change in the Results. The ANOVA findings reveal that Training Efficiency and Results have a significant association. The beta value is 0.648, implying the change in Training Efficiency by one unit

will produce a change in the Results by 0.648 units. The beta value is positive, which demonstrates the favourable link between Training Efficiency and Results.

The R-square value is 0.460, implies that training outcome causes 46.0% change in the Results. The ANOVA findings reveal that there is a significant association between Training Outcome and Results. Beta value (0.678), implying the change in Training Outcome by one unit will produce the change in Results by 0.678 units. Moreover, the beta value is positive, which demonstrates the favourable link between Training Outcome and Results.

Moderation Analysis

Nine (09) moderation analyses (See table 5) were performed for Trainer of the PMKVY training institute as moderators taking Reaction as dependent variable and Training Utility and Training Satisfaction as independent variable, the interaction effect of level of expertise of trainer of PMKVY institute between them was found to be statistically significant ($\beta = 0.321$, $t = 5.12$, $p < .001$; $\beta = 0.424$, $t = 6.47$, $p < .001$) supporting H_{1.1a} and H_{1.2a}.

Now taking Learning as dependent variable and Skill Based Learning, Learning Attitude and Cognitive Ability as independent variable, the interaction effect of level of expertise of trainer of PMKVY institute between them was found to be statistically insignificant ($\beta = 0.173$, $t = 1.92$, $p = 0.055$; $\beta = 0.179$, $t = 1.94$, $p = 0.053$; $\beta = 0.0442$, $t = 0.492$, $p = 0.623$) not supporting H_{2.1a}, H_{2.2a} and H_{2.3a}.

Taking Behaviour as dependent variable and Behavioural self-efficacy and Behavioural Adaptability as independent variable, the interaction effect of level of expertise of trainer of PMKVY institute between them was found to be statistically insignificant for Behavioural self-efficacy and Behavioural Adaptability ($\beta = 0.127$, $t = 1.72$, $p = 0.085$; $\beta = 0.0592$, $t = 0.884$, $p = 0.377$) not supporting H_{3.1a} and H_{3.2a}.

Now, for Results as dependent variable and Training Efficiency and Training Outcome as independent variable, the interaction effect of level of expertise of trainer of PMKVY institute between them was found to be statistically significant ($\beta = 0.271$, $t = 3.63$, $p < .001$; $\beta = 0.206$, $t = 3.24$, $p < .001$) supporting H_{4.1a} and H_{4.1a}. At average, low, and high moderations, the conditional effect was all effective ($p < 0.001$).

Table 5: for Moderation Analysis using Trainer as moderators

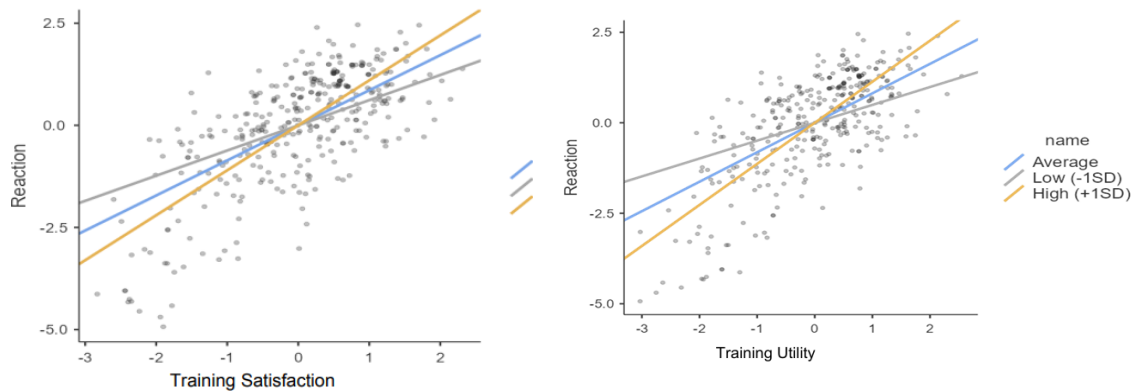
Moderation	Estimates	SE	Z	p	Slope	Estimates	SE	Z	p
Training Satisfaction [TS] * Trainer									
Training Satisfaction	0.859	0.0483	17.76***	<.001	Proficient	0.616	0.0764	8.07***	<.001
Trainer	-0.483	0.0623	-7.75***	<.001	Expert	0.859	0.0500	17.17***	<.001
TS *	0.321	0.0627	5.12***	<.001	Master	1.101	0.0617	17.83***	<.001
Training Utility [TU] * Trainer									
Training Utility	0.814	0.0497	16.38***	<.001	Proficient	0.494	0.0804	6.14***	<.001
Trainer	-0.398	0.0640	-6.21***	<.001	Expert	0.814	0.0525	15.50***	<.001
TU *	0.424	0.0656	6.47***	<.001	Master	1.134	0.0651	17.43***	<.001
Skill Based Learning [SBL] * Trainer									
LAP	0.798	0.0780	10.24***	<.001	Proficient	0.675	0.1310	5.16***	<.001
Trainer	-0.652	0.0931	-7.01***	<.001	Expert	0.798	0.0782	10.20***	<.001
SBL *	0.163	0.1014	1.60 ^{NS}	0.109	Master	0.921	0.0829	11.11***	<.001
Learning Attitude [LAT] * Trainer									
LAT	0.827	0.0726	11.39***	<.001	Proficient	0.692	0.1152	6.01***	<.001
Trainer	-0.708	0.0916	-7.72***	<.001	Expert	0.827	0.0730	11.33***	<.001
LAT *	0.179	0.0925	1.94 ^{NS}	0.053	Master	0.962	0.0848	11.35***	<.001
Cognitive Ability [CA] * Trainer									
LAQ	0.8778	0.0705	12.454** *	<.001	Proficient	0.844	0.1079	7.82***	<.001
Trainer	-0.7528	0.0910	-8.276***	<.001	Expert	0.878	0.0705	12.45***	<.001
CA *	0.0442	0.0899	0.492 ^{NS}	0.623	Master	0.911	0.0866	10.52***	<.001
Behavioural Self-Efficacy [BSE] * Trainer									
BSE	0.863	0.0565	15.27***	<.001	Proficient	1.02	0.0812	12.5***	<.001
Trainer	-0.329	0.0680	-4.83***	<.001	Expert	1.17	0.0534	21.9***	<.001
BSE *	0.127	0.0737	1.72 ^{NS}	0.085	Master	1.32	0.0701	18.9***	<.001
Behavioural Adaptability [BAD] * Trainer									
BAD	0.9086	0.0499	18.199** *	<.001	Proficient	0.864	0.0791	10.9***	<.001
Trainer	-0.5362	0.0641	-8.363***	<.001	Expert	0.909	0.0500	18.2***	<.001
BAD *	0.0592	0.0670	0.884 ^{NS}	0.377	Master	0.953	0.0621	15.4***	<.001
Training Efficiency [TEF] * Trainer									
Training Efficiency	0.765	0.0546	14.01***	<.001	Proficient	0.560	0.0960	5.84***	<.001
Trainer	-0.528	0.0639	-8.27***	<.001	Expert	0.765	0.0557	13.74***	<.001
TEF *	0.271	0.0747	3.63***	<.001	Master	0.970	0.0588	16.49***	<.001
Training Outcome [TO] * Trainer									
Training Outcome	0.830	0.0490	16.94***	<.001	Proficient	0.675	0.0751	8.98***	<.001
Trainer	-0.543	0.0638	-8.50***	<.001	Expert	0.830	0.0497	16.70***	<.001
TO *	0.206	0.0636	3.24***	<.001	Master	0.986	0.0631	15.62***	<.001

Source: Compiled by author

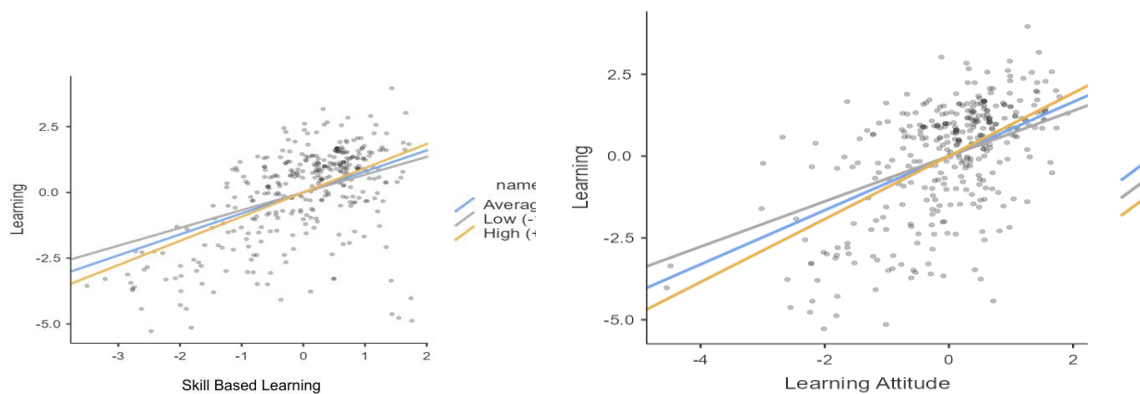
Discussion on the basis of Simple Slope Analysis

The simple slope plots show the moderated relationships between the factors and levels of Kirkpatrick model. The results shows that level of expertise of trainer of the PMKVY training

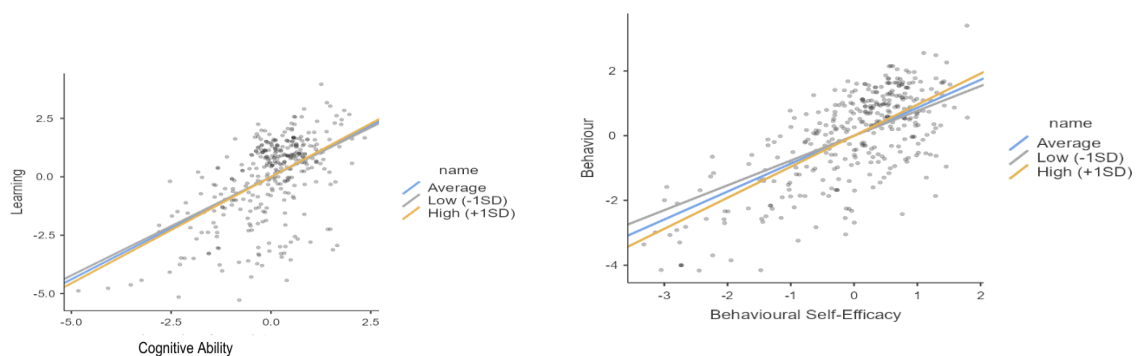
2.Moderation relationship direction for Trainer, 3.Moderation relationship direction for Trainer, Reaction and TS



4.Moderation relationship direction for Trainer, Learning and SBL 5.Moderation relationship direction for Trainer, Learning and LAT

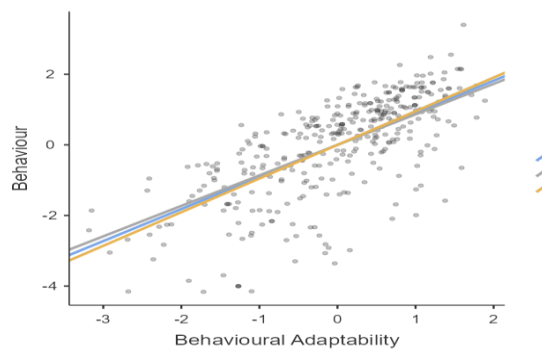


6.Moderation relationship direction for Trainer, Learning, CA 7.Moderation relationship direction for Trainer, Behaviour and BSE

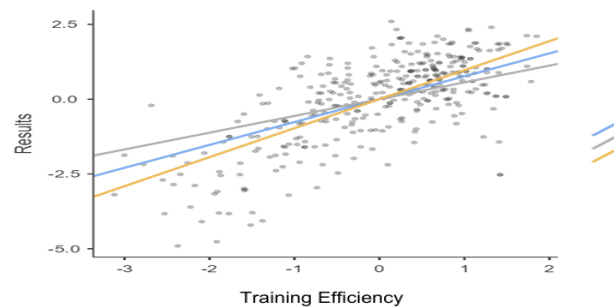


Source: Compiled by author

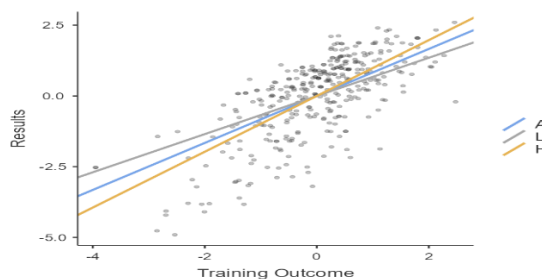
8. Moderation relationship direction for Trainer, Behaviour and BAD



9. Moderation relationship direction for Trainer, Results and TEF



10. Moderation relationship direction for Trainer, Results and TO



centres moderated the relationship between Training Utility and Reaction, Training Satisfaction, and Reaction, Training Efficiency and Results, Training Outcome and Results. The simple slope analysis is conducted for better understanding of the nature of the moderating effect which are shown in figures 2-10.

As seen in Figures 2 and 3 the line is steeper at Master level expertise for Trainer of the PMKVY training Institute, indicating that the impact of Training Utility and Training Satisfaction on Reaction is substantially stronger at Master level expertise of Trainer of the PMKVY training Institute. This implies that master level expertise of trainers at PMKVY training institutions can provide better instruction than trainers with proficient (low) levels of knowledge who train PMKVY learners as to trainers with expert (average) levels of expertise. The amount of the effect on Training Utility and Training Satisfaction increases as the Trainer's level of ability increases. The slope for the proficient level of trainer shows low knowledge of expertise in Training Utility and the master level expertise of trainers creates an impactful Training Utility in the PMKVY training institute. Similarly, proficient level expertise of trainer shows low proficiency in Training Satisfaction and the master level expertise of trainer delivers quality in Training Satisfaction in the PMKVY training Institute.

The results confirmed that the positive relationships between Skill Based Learning and Learning, Learning Attitude and Learning, Cognitive Ability and Learning are not moderated by Trainer of the PMKVY institutions, the hypothesis for Trainer has an insignificant moderating effect on the positive relationship between Skill Based Learning and Learning, Learning Attitude and Learning, Cognitive Ability and Learning. Therefore, the research hypothesis is rejected as shown in Figures 4, 5 and 6.

The results confirmed that the positive relationships between Behavioural self-efficacy and Behaviour, Behavioural Adaptability and Behaviour are not moderated by the level of expertise Trainer of the PMKVY institutions, the hypothesis for Trainer has an insignificant moderating effect on the positive relationship between Behavioural self-efficacy and Behaviour, Behavioural Adaptability and Behaviour. Therefore, the research hypothesis is rejected as shown in Figures 7 and 8.

As shown in Figure 9 and 10 the line is steeper at Master level expertise for Trainer of the PMKVY training Institute, indicating that the impact of Training Outcome and Training Efficiency on Results is substantially stronger at Master level expertise of Trainer of the PMKVY training Institute. This implies that master level trainers at PMKVY training institutions can provide better training Results than trainers with proficient (low) levels of knowledge who train PMKVY learners as to trainers with expert (average) levels of expertise. The amount of the effect on Training Outcome and Training Efficiency increases as the Trainer's level of ability increases. The slope for the proficient level of expertise of trainer shows low level of expertise in affecting the Training Efficiency of PMKVY trainees whereas the impact on Training Efficiency is high while the training is conducted by the master level expertise of trainers. The master level expertise of trainer delivers better Training Outcome from the PMKVY training Institutes than the proficient level expertise of trainers

Conclusion and Discussion

This study explores the factors of Kirkpatrick model at its different levels. It also shows the effect and importance of levels of expertise of the trainers' in delivering the quality training in any training programs to make it effective. Any training program's effectiveness depends on trainers' quality being raised. Highly competent and successful trainers can motivate their students, increase involvement, and guarantee that the knowledge they are imparting is both current and valuable. All staff members of training organizations, including administrators and trainers, are essential to the success of training initiatives, claims Herschbach (1997). Past literatures trace the importance of trainers in providing the training. The findings of the study

in respect of trainers have positive relationship with different levels are like Indira (2008), Basarab & Root (1992), Iqbal (2011), Ghosh (2012). The study shows that trainers influence Training Utility and Training Satisfaction of the PMKVY scheme. PMKVY trainers did not show influence in Skill Based Learning, Learning Attitude and Cognitive Ability, this shows that the trainers could not create any effect on the Skill Based Learning, attitude, and Cognitive ability on the PMKVY trainees. This may be due to lack of attention from the trainees (lack of engagement in training, no active involvement/participation, no collaboration, and effort from learners to learn new skill) or the trainers were unable to infuse knowledge, content, skills, attitude to the PMKVY trainees. PMKVY trainers were unable to influence the trainees learning. The training failed to impart knowledge and skills to the learners. The learning procedure had no effect on their attitude, skill-based knowledge, or cognitive acquisition of knowledge.

PMKVY scheme trainers could not create any such effect on the Behavioural self-efficacy and Behavioural Adaptability. It is likely that the explanation is due to a lack of learning attitude on the part of learners or that trainers were unable to give quality instruction because they were unable to create precise performance attainments. The trainers were not being able to instil a greater degree of confidence among trainees on the learnings gained during PMKVY training. Trainers could not improve the capacity to deduce general concepts and principles from observations of the trainees. The trainers' lack of adaptation to new tools or areas of teaching results in the trainees' incapacity to learn. This indicates that the PMKVY trainers did not have a significant effect on the learner's familiarity or knowledge. The trainers were unable and as a result, the training process was unable to affect the trainees' views in their own abilities. The government should create a more systematic certification or accreditation system for trainers so they satisfy criteria of knowledge and pedagogy. Trainer's training programs should be implemented to promote the acquisition of important soft skills including communication, empathy, flexibility, and emotional intelligence. Reviewing trainers often using learner comments, peer evaluations, and self-evaluations for successful organisation of the training programs.

Contribution of the study to existing Body of Knowledge

There is a scarcity of research on the most extensive certification program, namely PMKVY. Policy makers must possess knowledge on the training efficiency of PMKVY, namely how

successfully it achieved its purpose of imparting expertise to its trainees. Firstly, the dimensions of the levels of Kirkpatrick model have been identified and explored. This study specifically examines one of the crucial components of the service mix, which is people. The term "people" here refers specifically to the trainers and staff members involved in the PMKVY training programs. This study imparts knowledge on the effect of the levels of trainee's expertise on the factors of TE. It explores the different levels of expertise of trainers and the quality of the training each level of expertise provides to the trainees. It shows for training to be effective; trainers must possess the ability to give high-quality training. The levels of expertise of PMKVY trainers have been utilized as a moderator to assess their impact on the various levels of Training Effectiveness. The results indicate that trainers at all levels were not able to have effect on trainees. This shows that at certain levels the trainers could not have an impact on the learners showing that the training was not so effective.

Limitation of Study

The research is limited to the training effectiveness of PMKVY as a whole and it has not assessed the sector specific training program. The study is purely based on the self-reported responses from the participants of PMKVY 2.0 & 3.0 and similar study can be done for PMKVY 4.0 which was launched recently. The similar type of study can also be done on the verticals of the training programs such DDUGKY, training of ITI institutes, livelihood schools etc and in addition to the different geographical regions of the country.

Table 6: Summary of Hypothesis Tests

HYPOTHESIS	RESULTS
MAIN EFFECTS	
H _{1.1} . Training Satisfaction → Reaction	Supported
H _{1.2} . Training Utility → Reaction	Supported
H _{2.1} . Skill Based Learning → Learning	Supported
H _{2.2} . Learning Attitude → Learning	Supported
H _{2.3} . Cognitive Ability → Learning	Supported
H _{3.1} . Behavioural self-efficacy → Behaviour	Supported
H _{3.2} . Behavioural Adaptability → Behaviour	Supported
H _{4.1} . Training Efficiency → Results	Supported
H _{4.2} . Training Outcome → Results	Supported
MODERATING EFFECTS	
H _{1.1a} . Training Satisfaction * Trainer → Reaction	Supported
H _{1.2a} . Training Utility * Trainer → Reaction	Supported
H _{2.1a} . Skill Based Learning * Trainer → Learning	Not Supported
H _{2.2a} . Learning Attitude * Trainer → Learning	Not Supported
H _{2.3a} . Cognitive Ability * Trainer → Learning	Not Supported
H _{3.1a} . Behavioural self-efficacy * Trainer → Behaviour	Not Supported
H _{3.2a} . Behavioural Adaptability * Trainer → Behaviour	Not Supported
H _{4.1a} . Training Efficiency * Trainer → Results	Supported
H _{4.2a} . Training Outcome * Trainer → Results	Supported

Source: Compiled by author

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