

The mediating role of Motivation to learn in the Training needs analysis and Training reaction relationship

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Abstract

Propose – Most of the training evaluations are based on trainees’ reaction but rare research has been done on training reaction as a training outcome. In addition, Insurance companies’ employees have also shared the similar anecdotes. Based on the evidence and phenomenology, the aim of this study is to examine the training reaction via. training needs analysis and motivation to learn.

Design/ Methodology/ Approach - The philosophical perspective of this study are single reality (ontology) and positivist epistemology. Descriptive research design was used to know the current status and casual research design was used for examining the impact among exogenous, intervening and endogenous constructs. In this study, reliability, exploratory and confirmatory factor analysis were checked by using 203 questionnaires and confirmed for acceptable reliability, validity and model fit of the constructs. For robust analysis, structural equation modeling was employed and to validate the finding, PROCESS macro and Sobel test were employed and found the similar results.

Finding - The study found positive relationship among training needs analysis and motivation to learn; motivation to learn and training reaction; and training needs analysis and training reaction. Moreover, the study confirmed that motivation to learn mediates the relationship between training needs analysis and training reaction which concludes that the positive training reaction and motivation to learn are the expected outcomes from well-designed training program.

Practical Implication – Practicle implication for insurance companies have been presented in this study, thereby the insurance companies could increase the performance and the motivation level of employees.

Original Value – This research paper validate the proposed training needs analysis, motivation to learn, and training reaction construct that provide the empirical evidence for building a strong theory.

Keywords: Training needs analysis, motivation to learn, training reaction, mediating analysis, Structural equation modeling.

Background

Training reaction is one of the outcome variables of training evaluation model (Kirkpatrick & Kirkpatrick, 2011) and Rossett (2009) mentioned that ninety four percent of training evaluation was based on trainees' reaction. This premise shows the practical significance of training reaction and it is defined as "to what degree participants react favorably to the learning event (Kirkpatrick & Kirkpatrick, 2011, p. 6). Trainees have different reaction, enjoyment, perceived usefulness and perceived difficulty (Warr, Allan, & Birdi, 1999), about the training. Positive training reaction, in turn, leads to training effectiveness. Training reaction is influenced by various factors like training motivation (Mathieu, Tannenbaum, & Salas, 1992), motivation to learn (Kodwani & Prashar, 2019), individual attributes and environmental situation (Tellis, 2004). Among various factors, Motivation to Learn (MTL) is one of the major factors. Researcher assumes that if employees are MTL, then this most probably leads to positive training reaction. In this study, MTL is defined as "a specific desire on the part of the trainee to learn the content of the training program" (R. A. Noe & Schmitt, 1986, p. 501). Better Career and job expectation, have direct impact on MTL (R. A. Noe & Schmitt, 1986), are the ultimate goal of employees. In this connection, MTL is affected by various factors, which are Training Needs Analysis (TNA) (Kodwani & Prashar, 2019), Organizational support (El-Said, Al Hajri, & Smith, 2020), and Supervisor support (Fecteau, Dobbins, Russell, Ladd, & Kudisch, 1995). In this study, TNA is considered as a predictor of MTL because TNA has given less priority in most of the organization. This has come out from the informal communication with the employees. In addition, prior research has shown that researchers have also given less priority for training assessment. For example, Arthur Jr, Bennett Jr, Edens, and Bell (2003) mentioned that only six percent of the data of training is related to TNA. In this connection, it can be said that significant number of TNA related research is required and the researcher assumes that TNA of the trainee(s) is the most important predictors for better training outcomes. Hence, positive training reaction and MTL are the expected outcomes from well-designed training program (R. A. Noe & Schmitt, 1986). Building upon this literature, it can be assumed that TNA is the major root cause for training outcomes.

Some researchers consider training reaction as a moderator (Holton III, 1996; Kodwani & Prashar, 2019; Mathieu et al., 1992) whereas, some researchers suggested for mediator (Alliger & Janak, 1989; Holton III, 1996) But, rare research has consider training reaction as the outcomes variables and the researcher assumes that positive training reaction and training effectiveness go hand in hand. Building upon the premises, the research objective of this study is to examine the mediating effect of MTL on the relationship between TNA and training reaction.

In Nepal, most of the insurance companies are giving various training to their employees, like agency training, general insurance training, marketing training, corporate governance, AML/CFT, leadership development and underwriting training, time and again and also insurance business has grown by 27 percent in the fiscal year 2077/78 (Investopaper, 2021, July 22) but rare research has been done in Nepal concerning insurance companies' training. Hence, this research could transparent the present condition of insurance companies' training in Nepali context.

Previous Studies

Training Needs Analysis and Training Reaction

Training Needs Analysis or Training assessment can be defined as whether training is necessary or not and if necessary, which assessment is required most (i.e. organizational, person, or tasks) (R. Noe, 2010).

As per researcher knowledge, this is the first study to investigate the effect of training needs analysis on training reaction. The researcher assumes that proper input, feedback, support, resources before the training (R. Noe, 2010) helps the trainees for positive training reaction. Building upon the premises, this study proposes that:

H1: There is a positive relationship between training needs analysis and training reaction.

Training Needs Analysis and Motivation to Learn

Kodwani and Prashar (2019) found that there is positive relationship between training needs analysis and MTL. Training needs analysis means assessment of organizational, job and individual before training. And, if the organization or the trainer identify the accurate needs of the individual, then the employees are motivated and interested for the training. Hence, from the above premises, it is hypothesized that:

H2: There is a positive relationship between training needs analysis and motivation to learn.

Motivation to Learn and Training Reaction

Training reaction is frequently evaluated after the training to identify the effectiveness of training (Tellis, 2004). Having said that, different authors incorporate training reaction as predictor, moderator, and mediator. For example, Some researchers found that training reaction moderates the relationship between MTL and training effectiveness (Kodwani & Prashar, 2019; Tellis, 2004). On the other hand, Tellis (2004) mentioned that training reaction play the role of mediation. Furthermore, Tellis (2004) also mentioned that training motivation leads to positive training reaction. Based on the above mentioned premises, the researcher assumes that MTL leads to training reaction and set the hypothesis as:

H3: There is a positive relationship between motivation to learn and training reaction.

Mediating Role of Motivation to Learn

MTL means desired to learn the training content (R. A. Noe & Schmitt, 1986) and it is grounded in the Vroom expectancy theory (Kodwani & Prashar, 2019; Vroom, 1964) which focus on effort leads to behavior and behavior leads to outcomes. In this study, training need analysis leads to MTL and MTL leads to training reaction. Moreover, prior research has also found that MTL plays the role of mediating in the relationship between antecedents (Training Needs Analysis) (Kodwani & Prashar, 2019) and training outcomes. Thus, to investigate, the proposed hypothesis is:

H4: The relationship between Training needs analysis and training reaction is mediated by motivation to learn.

Research Design

Descriptive and casual research design has been used in this study. Research strategy for this study is survey method. The study setting for this study was field study which is non-contrived in setting. The time horizon for this study was one shot study. Unit of analysis was individual.

Population and Sample

There are three types of insurance company in Nepal i.e. Life insurance, Non-Life insurance, and re-insurance. Population for this study comprised employees working in life and non-life insurance companies. Four hundred questionnaires were distributed randomly to the employees of insurance companies. Among them, 224 questionnaires were returned, out of which 203 questionnaires were used for further analysis. For structural equation modeling, 200 samples are required as suggested by Wiley,

Cooley, and Lohnes (1971) and Guilford (1954), hence, 203 samples are adequate to infer the results. In addition, only those employees were selected in this study who had taken at least one training from their organization. In this study, the first part of the questionnaires was related to demographic information (gender, age, year of experience, qualification, and organization type) which is shown in Table 1.

Table 1. Respondents Characteristics

Variables	No. of Respondents	Percentage
Gender		
Male	132	65.02
Female	71	34.98
Age		
Under 25	82	40.39
25 – 35	71	34.98
36 – 45	36	17.73
Above 45	14	6.90
Year of Experience		
Below 2	43	21.18
2 -5	118	58.13
6 – 10	30	14.78
Above 10	12	5.91
Qualification		
Below Bachelor	53	26.11
Masters 7	6	37.44
Organization Type		
	105	
Non-Life Insurance 9	8	48.28

Measures

The selected three variables were measured with 12 items. Training needs analysis (Kodwani & Prashar, 2019) and training reaction (Warr et al., 1999) have been measured with three items and motivation to learn (R. A. Noe & Schmitt, 1986) has been measured with 6 items. A five-point likert scale (1=strongly disagree to 5= strongly agree) was used to measure the perception of employees.

Preliminary Analysis

Initially normality, linearity and homogeneity have been checked and found acceptable results for further analysis. For normality, skewness and kurtosis have been checked. For linearity test, the researcher graphically draws scatter plot and found a linear pattern which met the assumption of linearity. Similarly, Independent sample t-test and ANOVA showed that all comparing groups have same variance, hence, fulfill the assumption of homogeneity of variance.

Exploratory Factory Analysis

In this study, eight items were dropped from the analysis due to the issue of reliability and validity

(discriminant and convergent). Table 2 shows that sampling is adequate (KMO=0.903; $\chi^2=1205.198$; $p<0.001$) which fulfill the condition for Exploratory Factor Analysis (EFA). In EFA absolute values below .50 were suppressed. As a result, 3 factors were emerged (Table 3) without convergent and discriminant validity issues.

Table 2. KMO and Bartlett's Test

Table 2. KMO and Bartlett's Test

KMO Measure of Sampling Adequacy	.903
Approx. Chi-Square	1205.198
df.	66
Sig.	.000

Table 3. Rotated Component Matrix

	Component		
	Training Needs Analysis	Motivation to Learn	Training Reaction
TNA_1	.636		
TNA_2	.813		
TNA_3	.820		
MTL_1		.826	
MTL_2		.820	
MTL_3		.740	
MTL_4		.810	
MTL_5		.532	
MTL_6		.608	
TR_1			.842
TR_2			.697
TR_3			.774

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization

Rotation converged in 5 iterations.

Reliability Analysis

Hair, Black, Babin, and Anderson (2014) and Nunnally (1978) suggested the cut-off value for reliability is 0.7. In this study, each construct has more than 0.7 Cronbach alpha (i.e. TNA= 0.794; MTL= 0.889; TR= 0.771). Therefore, there is no issue of reliability in this study. Moreover, MaxR(H) and Construct Reliability (CR) (Table 6) values also confirm for acceptable reliability.

Table 4. Values of Cronbach Alpha for Different Instruments

Instrument	No. of Items	No. of Item deleted	No. of items retained	Cronbach alpha after item deletion	MaxR (H)
Training Needs Analysis	4	1	3	.794	0.821
Motivation to Learn	9	3	6	.889	0.901
Training Reaction	3	-	3	.771	0.772

Table 5. Summary of Model Fit Indices

Measures	Observed Values of the Model	Acceptable Model Fit	Acceptable Baseline
χ^2	125.582		
P	0.000		
CMIN/df	2.462	Passed	<3.00
RMR	.039	Passed	<0.08
RMSEA	.087	Passed	<0.08
CFI	.936	Passed	≥ 0.90
GFI	.898	Passed	≥ 0.90
IFI	.937	Passed	≥ 0.90
TLI	.918	Passed	≥ 0.90

Note. χ^2 = Chi – Square; p= probability level; CMIN/df= Minimum Discrepancy per Degree of Freedom; RMR= Root Mean Square Residual; GFI= Goodness of Fit Index; CFI= Comparative Fit Index; RMSEA= Root Mean Square Error of Approximation Fit Index; IFI= Incremental Fit Index; TLI= Tucker-Lewis Coefficient.

Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) or Measurement Model is required to test the validity and reliability. CFA shows that standardized loading estimates of all the indicators are more than 0.50. Moreover, Construct reliability (CR) is greater than 0.7. Average Variance Extracted (AVE) is greater than 0.5. And, CR is greater than AVE. These confirm the convergent validity of the construct which is shown in Table 6. Further, model fit indices (Table 5) suggests that the model is good fit (Byrne, 2001). The square root of AVE is greater than inter-construct correlation in each construct. This confirms for discriminant validity (Hair, Black, Babin, Anderson, & Tatham, 2006). Moreover, Average Variance Extracted (AVE) was also greater than Maximum Shared Variance (MSV). Hence, this

Table 6. *Measurement model (CFA)*

Factor Loading	Standardized Factor Estimates	CR	AVE
Motivation to learn (R. A. Noe & Schmitt, 1986)		0.891	0.579
1. I think the training program helped me to improve my knowledge	0.848		
2. I was motivated to learn the knowledge emphasized in the training program	0.824		
3. I tried to learn as much as I can from the training program.	0.771		
4. I got more from the training program than most people.	0.743		
5. The knowledge I gained in the training program may help advance my career.	0.682		
6. I was desired to attend the training program as soon as I can.	0.682		
Training Needs Analysis (Kodwani & Prashar, 2019)		0.804	0.580
1. There is a formal mechanism to capture employees training needs in my organization	0.782		
2. Employees are nominated for attending the training program on the basis of carefully identified training needs.	0.831		
3. My immediate supervisor/senior discuss my training needs	0.662		
Training Reaction (Warr et al., 1999)		0.770	0.527
1. I really enjoyed this course	0.699		
2. This course was extremely interesting.	0.761		
3. This course was very relevant to my job.	0.717		
Training Reaction (Warr et al., 1999)	0.770	0.527	

also confirms that there is no issue of discriminant validity (as shown in Table 7).

Table 7. *Discriminant Validity*

	AVE	MSV	MTL	TNA	TR
MTL	0.579	0.563	0.761		
TNA	0.580	0.563	0.750	0.762	
TR	0.527	0.434	0.632	0.659	0.72

Structural Model: Hypothesis Testing

The structural equation modeling was used to test the hypotheses. Table 7 shows that all the direct relationship among TNA and TR; TNA and MTL; MTL and TR are significant. Hence H1, H2 and H3 are accepted. Moreover, AMOS output also shows that standardized indirect effect of training need analysis on training reaction is 0.235 ($p < 0.001$) which confirms that training needs analysis has indirect effect

on training reaction. The hypotheses results have been again confirmed by employing PROCESS macro in Table 7. In addition, the result of the sobel test also shows that there is a significant indirect effect of training needs analysis ($t = 4.37$, $SE = 0.047$, $p < 0.001$) on training reaction, mediated by motivation to learn. In conclusion, three methods, AMOS, PPROCESS macro and sobel test shows the similar finding.

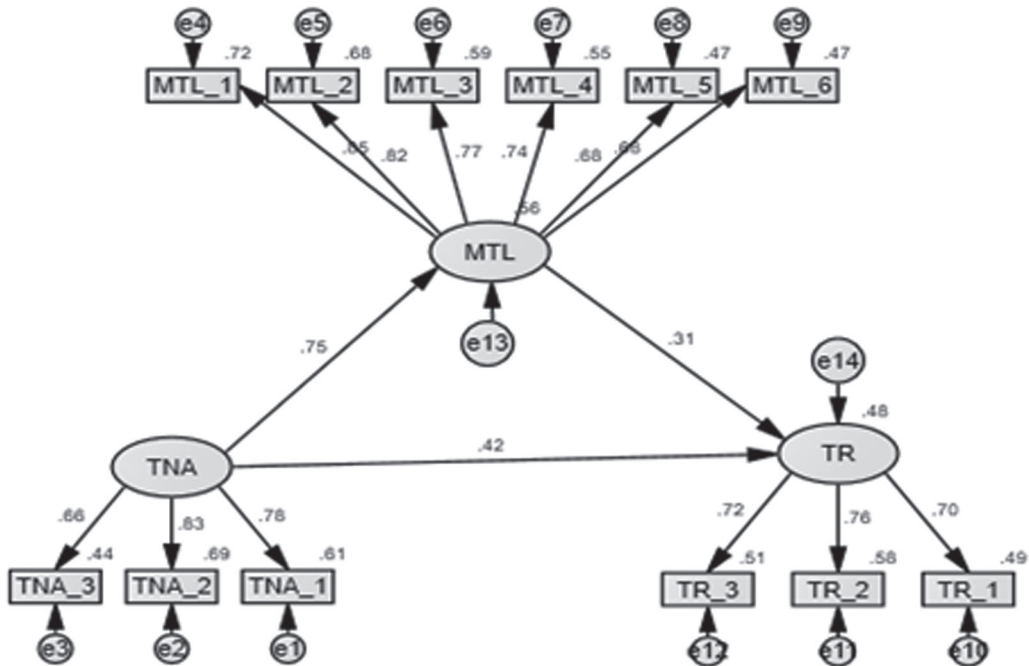


Figure 1. Structural Model

Table 7. Direct- Indirect Testing Results via. PROCESS macro and Sobel Test

Direct Effect	B	P -value	LLCI	ULCI	Results
TNA -> TR	.246	.000	.114	.378	Significant
TNA ->MTL	.625	.000	.519	.731	Significant
MTL ->TR	.327	.000	.191	.462	Significant
Indirect Effect	Effect	BootSE	BootLLCI	BootULCI	
TNA -> MTL -> TR	.204	.062	.104	.342	Significant
Indirect Effect	T	SE	P		
Sobel Test	4.37	0.047	0.000		Significant

Note. N=194. Bootstrap sample size = 5000. LL = lower limit; CI= confidence interval; UL= upper limit. TNA= Training Needs Analysis, TR= Training Reaction, MTL=Motivation to Learn. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two tailed)

Discussion and Conclusion

Prior research found that there is a positive effect of training needs analysis on MTL (Kodwani & Prashar, 2019) and the present study is in line with the finding of Kodwani and Prashar (2019). From the above mentioned empirical evidence, it can be said that organizational, job, and individual assessment before training, in turn, leads to motivation learn.

Tellis (2004) mentioned that training motivation leads to training reaction, which is aligned with the finding of this study. Previous empirical evidence consider training reaction as a moderator (Kodwani & Prashar, 2019) and a mediator. However, rare research has been considering training reaction as a dependent variable. In this study, the finding shows that MTL leads to positive training reaction and the researcher assumes that positive training reaction and better performance go hand in hand. Hence, training reaction is considered as outcome variable.

The present study found that training needs analysis positively affects training reaction. Rare research has been done to examine the impact of training needs analysis on training reaction. Therefore, the finding of this study helps the future researcher(s) to test in different context and can generalize the finding.

Previous study found that MTL mediates the relationship between training factors and training outcomes (Chiaburu & Marinova, 2005; El-Said et al., 2020; Mathieu et al., 1992). This study is in line with the study of above mentioned authors. The gist of the discussion is mentioned in the following table.

Table 8. Summary of Theorization

Previous studies and their conclusions		Conclusions of this study
Authors	Conclusions	
Kodwani and Prashar (2019)	Training needs analysis leads to motivation to learn	Consistent result
Tellis (2004)	Training motivation leads to training reaction	Consistent result. MTL leads to training reaction.
van der Locht, van Dam, and Chiaburu (2013)	Motivation to transfer fully mediates the relationship between MTL and Training transfer.	Similar result. MTL mediates the relationship between training needs analysis and training reaction.
Gautam and Basnet (2020)	Motivation to training transfer partially mediates the dimensions of organizational culture and TT.	Partially similar result. MTL mediates the relationship between training needs analysis and training reaction.
New on this study		
Tellis (2004)	Training reaction play the role of mediator or the moderator.	Training reaction play the role of dependent variable.
El-Said et al. (2020); Gautam and Basnet (2020); Reinhold, Gegenfurtner, and Lewalter (2018)	MTL leads to training effectiveness (Training transfer, training maintenance, and training generalization	Motivation to learn leads to training reaction.
No research as per researcher knowledge	Rare study has been done.	Training needs analysis leads to positive training reaction.
Mathieu et al. (1992); Chiaburu and Marinova (2005); El-Said et al. (2020)	MTL mediates the relationship between Training factors and training transfer.	MTL mediates the relationship between training needs analysis and training reaction

Critique of the Study

This study was conducted only in insurance companies. Thus, the finding of this study could not be generalized. Hence, to validate the finding, the further research could do the similar research in other sectors. Training reaction is considered as dependent variable in this study, however, some research suggested to incorporate training reaction as predictor, mediator, or moderation rather than dependent variable (Alliger & Janak, 1989; Holton III, 1996). Hence, the further research incorporates the training reaction as predictor, mediator, or moderator. This present study is the one shot study, but, it is suggested to collect predictor and mediator before the training and training reaction after the training for better and accurate perceptual data. This also helps to reduce the risk of common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Future researcher could consider Training Needs Analysis and predictor, MTL as first mediator, Motivation to Transfer as second mediator, and Training outcomes (Training Transfer, Training Maintenance, Training Generalization) as an outcome variables and carried out serial mediation analysis.

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