A Study of Training Program Characteristics and Training Program Effectiveness among Organizations Receiving Training Services from External Training Providers

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The purpose of this study is to examine the impact of training program characteristics on training effectiveness among organizations receiving training services from external training providers. Two surveys were sent to HRD managers and senior managers per company. The results showed that the operational margin of the programs where private training providers were involved increased more and that senior managers perceived the entirely developed training program was more effective than the generic, standard programs.

Keywords: Outsourced Training, Customized Training, Training Needs Assessment

Rapid changes in the business environment and competitive market conditions have required business organizations to sustain their competitiveness through employee development (Jacobs, 2003). Business organizations have emphasized the significance of training and made great efforts to improve training quality in order to sustain competitiveness and improve performance (Jacobs & Washington, 2003). However, due to limited resources, business organizations have increasingly utilized external sources for identifying training needs, and for developing and implementing training programs (Knoke & Janowiec-Kurle, 1999).

Business organizations acquire training related services from external training providers such as training agencies, consultants, and educational institutions (Knoke, 1997; Sole 1999). Among outside training providers, community colleges have actively provided a range of training related services. The characteristic of partnership training between external training providers and client organizations has become one of the major factors that can influence the impact of training (Hardingham, 1996).

As outsourced training has become more common, the nature of the relationships among client organizations and external training providers, especially in partnership training, varies (Hawley et al., 2005). Some outsourced training programs with community colleges have formal contracts while others may not. Some participants in the partnership training complete the training program with or without academic credentials such as certificates, licenses, or degrees. External training providers' level of involvement and their history of the relationships might vary. In addition, different types of training providers add to the diversity of the relationship among client organizations and external training providers.

It is widely believed that outsourced training is beneficial to business organizations (Gold et al., 1998; Hall & Scott, 2001; Hardingham, 1996; Mavin & Bryans, 2000; Roever, 2000; Ryan & Heim, 1997). Business organizations often have outsourced training programs simply because of the need to develop a full range of training programs to meet organization's needs. Previous research on outsourced training has found that training programs serve various needs including organizational development and employee development. (Aslanian, 1988; Johnstone, 1994; Roever, 2000; Ryan & Heim, 1997)

As outsourced training has become more widespread, the training needs assessments vary. Business organizations have different training needs and resources and have their own training design process. At the same time, external training providers also have different resources and experience in training design process and implementation. Thus, some training design processes in partnership training programs heavily involve needs assessment while others may not. Therefore, partnership training is widely implemented with various quality of training needs assessment.

It is also believed that the outcomes of training for organizations are dependent not only on the quality of the training needs assessment and the nature of the training program such as the type of training and extent of customization, but also on the nature of the relationships with external training providers. Although the outsourced training provided by external training providers has unique characteristics in the nature of the relationship among

client organizations and external training providers, training needs assessment, and the nature of the training program, there is little information about whether those unique relationships, training needs assessment, and the nature of the training program relate to any outcomes of training. In other words, literature provides little information whether the training effectiveness differ if the nature of the provider-client relationships, training needs assessment, and the nature of the training programs differ in outsourced training.

Therefore, the purpose of this study is to examine the impact of training program characteristics on training effectiveness among organizations receiving training services from external training providers. It is to evaluate training effectiveness as a function of the nature of the relationships among client organizations and external training providers, the training needs assessment, and the nature of the training programs.

Theoretical Framework

The dependent variable in this study is training program effectiveness, which refers to whether training achieves its intended purpose or goal. Training effectiveness can be measured either by trainees or by supervisors at an individual level, thus the aggregated data are often reported as training effectiveness (Ahlstrand et al., 2003; Brinkerhoff & Gill, 1994; Kirkpatirck, 1996).

The outcomes of outsourced training for client organizations are dependent not only on the quality of training needs assessment and the nature of the training program, but on the nature of how business organizations have developed relationships with training providers. Partnerships between client organizations and external training providers contribute to the quality of the training through three main factors: the nature of the provider-client relationship, provider's training needs assessment, and the nature of the training program. Based on the literature review, the following hypotheses are developed to conduct this study.

Formal partnership contracts are hypothesized to create benefits for firms (Hawley, 2003; Kenis & Knoke, 2002). By having formal contracts, several training conditions including training programs, training content, expected outcomes, and trainers' or trainees' pre-requisites can be written more explicitly. In addition, a formal relationship represents management's level of involvement and commitment. Because many studies have proved that management's support is one of the strongest factors for success of training programs, formal relationships may be a critical factor to have successful implementation (O'Rear, 2002). It can be hypothesized that training programs with external training providers who have a formal contract and exchange a company's strategy are more relevant to training program effectiveness than with external providers without a formal relationship. In addition, if the external training providers are involved in more stages of training process, have more previous contracts, and initiate a follow-up contact, it is hypothesized that training effectiveness is higher.

While training needs assessment is significant and most training providers implement some form of training needs assessment, needs assessment does not automatically guarantee training effectiveness (Brown, 2002). The level of and quality of actual needs assessment might increase training effectiveness and its impact on organizational performance (Goldstein, 1993; Witkin & Altschuld, 1995). Thus, we can hypothesize that more levels of focus (among individual, work process, and function) of provider's training needs assessment increases perceptions of training effectiveness. In addition, it can be hypothesized that if a needs assessment identifies performance levels before and after training, the needs assessment results in greater perceptions of training program effectiveness and higher than when the needs assessment either identifies performance levels before training or after training.

The nature of the training program is also hypothesized to have a relationship with perceptions of training effectiveness (Clarke, 1984). It is believed that if training programs utilize the company's data, format, materials, and/or equipments for instructional materials, trainees can learn more and can easily apply this learning to their work place (Brown, 1999). Thus, we can hypothesize that the higher level of customization provided among partnership training programs, the more relevant they are to training program effectiveness (Moore, et al., 2003). The level of customization can be defined three ways: (1) generic/standard training program with little customization, (2) moderate level of revision, and (3) newly developed training programs. The areas to be customized are components of a lesson plan. They are training purpose, trainee's pre-requisites, content, delivery methods, and evaluation. Thus, it can be hypothesized that more customized training programs increase perceptions of training program effectiveness. In addition, the job-specific training programs are hypothesized to have higher perceptions of training effectiveness than the job-related training programs.

Research Questions

1. Does training program effectiveness differ based on types of training providers? Does the degree of training program effectiveness differ based on the nature of the relationship among client organizations and external training providers?

2. Does the degree of training program effectiveness differ based on the quality of provider's training needs assessment?
3. How do training programs vary in terms of the extent of customization, type of training, relationship to job, proportion of participants verses total employees, and expected outcome? How do these differences in the nature of the training program impact on training program effectiveness?

Methodology and Research Design

Research Sample

The research sample is all the companies that implemented and completed training programs funded by the Ohio Investment in Training Program (OITP) from January 2002 to June 2004. OITP was established to help businesses in Ohio enhance their organizational competitiveness and to increase their organization's performance through trainings. OITP companies who received training dollars were used for this study.

This study used primary data and secondary data for analysis. The primary data was gained through survey to the OITP fund recipient companies. The sampling frame was obtained from the current OITP database, which was updated the 1st of October, 2004. Since the OITP first provided their training fund for companies under the name of the OITP in 1999, 432 companies have participated and are currently listed in the OITP database. The secondary data was gained through an analysis of OITP database. The Economic Development Division, Ohio Department of Development maintains and updates the OITP database which contains generic information about OITP participant companies and their training programs. The analysis of the OITP database provided a sampling frame to draw a survey list and basic participant's demographic information as well as basic participant training information. It provided information such as the company's training coordinator's contact information either or both of phone number and email address, company name, company's geographic location, company size, industry sector with SIC code number, company ownership, the type of training, and training start and end dates.

Data Collection

The data was collected through web-based survey to HRD manager or training coordinators and through individualized web-based survey to matching senior managers.

The total number in the sample frame is 125. Fifty seven out of 125 companies replied to the first survey, the manager survey. Forty five companies out of fifty seven replied to the second survey, the senior manager survey. As a result, 45 companies out of 125 completed both surveys, resulting in a response rate of 36 percent.

No significant difference was found among the three groups—respondents, non-respondents, and not-in-sample frame companies—in terms of company location, size, and industry type. In addition, no significant differences were found when comparing the three groups in terms of the number of training participants and the average of base wage of training participants.

Data Analysis

After the data was collected, it was automatically coded and could be easily transferred to the spreadsheet database. The data from the secondary data sources was merged in one database and analyzed by using the Statistical Package for the Social Science (SPSS).

First, descriptive statistics was generated to summarize the proportion of different types of training providers in partnership training. Frequencies and percentages were calculated. One-way ANOVA was applied to examine group differences in the degree of perceived training effectiveness among different types of training providers. The F value was calculated to see the difference. Standard multiple regression analysis was performed to examine the relationship between perceived training effectiveness and the nature of the relationship. The correlation statistics were used to determine the relationship between perceived training effectiveness and the quality of training needs assessment. Descriptive statistics were generated to present how the nature of the program varies regarding the five sub variables. Frequencies, percentages, mean, median, range, and standard deviations were calculated. And then, standard multiple regression analysis was employed to examine the relationship between perceived training effectiveness and the nature of the program. The model regressed the degree of the perceived training effectiveness on a vector of five sub variables.

Results and Findings

Respondents

From this part, the researcher analyzed 45 completed cases from both manager and senior manager surveys. Most participant companies (73.3%) are classified as "Manufacturing" according to SIC code. The remaining companies represent the service and trade industry (Table 4.3). Seven participant companies (15.6%) are either

publicly owned or subsidies of publicly owned companies, and the majority (84.4%) are either privately owned or subsidies of privately owned companies. Participant companies are located throughout Ohio. Five companies (11.1%) are located in Cuyahoga county, and 4 companies (8.9%) are located in Summit county. The majority of companies are located throughout the state in 21 counties ranging from one, two, or three from each county. Figure 1 shows survey participant companies distribution in counties of Ohio.

Table 1 describes training program characteristics. Forty four percent of the training programs (20 programs) include technical training and managerial training. Awareness training makes up 20 percent of the programs. The length of training programs ranges from short to long with 33 percent being longer than 8 weeks, and 27 percent being shorter then 2 weeks. The length of training programs shape is bimodal. The mean training duration is 13.48 weeks (SD=18.40).

The number of participants in training ranges from 3 to 1,210 (M=99 people, SD=210). Less than 30 people participate in half of the training programs (53.3%). All levels of employees (frontline, supervisor, manager, and executive) participate in 5 training programs (11.1%). Only 12 training programs (26.7%) have one level of participant, and the remaining programs have more than one level of employee participating.

Table 1: *Demographic Information of the Training Programs* (Manager survey, n=45)

	n	%
Types of Training		
Technical	20	44.4
Managerial	10	22.2
Awareness	9	20.0
Missing	6	13.3
Duration		
0 – 2 weeks	12	26.7
3 – 4 weeks	3	6.7
5 – 8 weeks	5	11.1
More than 8 weeks	15	33.3
Missing	10	22.2
Number of Participants		
1 – 9 employees	7	15.6
10 – 19 employees	8	17.8
20 – 29 employees	4	8.9
30 – 39 employees	6	13.3
40 – 49 employees	4	8.9
50 – 99 employees	8	17.8
100 – 999 employees	7	15.6
Over 1,000 employees	1	2.2
Trainees' Employment Level in Company*		
Frontline employee	40	88.9
Supervisor	30	66.7
Manager	24	53.3
Executive	10	22.2
Number of Employment Level Participated in Training		
1 Level	12	26.7
2 Levels	12	26.7
3 Levels	16	35.6
4 Levels	5	11.1

* Companies can answer more than one category as their trainees' level in companies.

Training program effectiveness, types of training providers, and the relationship among client organizations and external training providers

Training programs were developed and delivered by various entities. The majority of training programs were developed (66.7%), and delivered by private companies (55.6%), however, some were developed and delivered by cooperation with in-house training staff within client companies. Compared to private companies, educational institution involvement in training development and delivery is relatively small (11.1%). Private training providers include private training vendors and equipment manufacturers. Educational institutions include two-year colleges, four-year universities, and vocational/training center.

One-way analysis of variance was applied to examine group differences among the degree of training effectiveness by different types of training providers. Table 2 presents group differences in the degree of perception on the specific training program effectiveness. Table 2 shows the value of F (2, 41) is .037 and is not significant (p>.10), which implies that there is no significant difference among training developer. Another value of F (2, 41) is .901 and is not significant (p>.10), which implies that there is no significant difference based on training deliverer.

Table 2. *One-way ANOVA on Type of Training Provider-Perception on Effectiveness of this Specific Program*

Source	Sum of Squares	Df	Mean Square	F	Sig.
Training developer	.031	2	.016	.037	.964
Error	17.230	41	.420		
Total	17.261	43			
Training deliverer	.088	2	.044	.901	.901
Error	17.173	41	.419		
Total	17.261	43			

(Manager survey and Senior manager survey, n=43)

Table 3 presents the results of independent samples t-test regarding private training provider involvement. The t value in terms of perception on this specific training program effectiveness is .052 and is not significant (p>.10). However, the t value in terms of increase in operational margin is 2.888 and is significant (p>.05). This implies that there is a statistical difference in the increase in operational margin between the two groups.

Thus, the results show that client organization's perceived training effectiveness does not differ based on the type of training providers. However, the results show that there is a statistical difference in the increase in operational margin between the training programs where private training providers were involved versus the programs that did not involved private training providers.

Table 3. *Independent Samples t-test on Private Training Providers and Training Program Effectiveness* (Manager survey and Senior manager survey)

Training Effectiveness	t	df	Sig.	Mean Difference	SE
Perception of this training program (n=43)	.052	42	.959	.011	.204

* p<.05

Standard multiple regression analysis was performed on both manager and senior manager surveys to examine the relationship between training program effectiveness and the nature of the relationship with external training providers. The model regressed the degree of the training program effectiveness on a vector of five independent variables: external training provider's level of involvement in training process, contract history with this particular training provider, whether the providers initiated a follow-up contact, the external training provider's knowledge and experience in client organization's business, and degree of formality of the contract.

Table 4 presents the results of standard multiple regression analysis. For perception of this specific training program effectiveness, none of the standardized coefficients (beta) of independent variables shows a significant relationship with this perception at an alpha level of .05 (Table 5). The squared multiple coefficient of correlation (Adjusted R square) is 0.

Table 4: *Standard Multiple Regression of Perception of the Specific Training Program Effectiveness on Selected Variables in the Relationship with External Training Providers* (n = 28) (Manager survey and Senior manager survey)

Variables	R^2	R^2 change	b	Beta
Provider's Level of Involvement	.017	.017	-.113	-.187
Contract History with Providers	.036	.019	.080	.315
Provider's Knowledge & Experience	.107	.071	-.664	-.676
Provider's Follow-up	.108	.000	-.035	-.020
Contract	.221	.113		
Contract I – neither written nor verbal			-1.839	-.513
Contract II– first written, later verbal			.157	.107
Contract III– written contract in every time			-.100	-.062
(Constant)			7.253	

Standard error = .678

Training program effectiveness and training needs assessment

The result of the t-test shows there is no significant difference between the two groups. The t value in terms of perception on this specific training program effectiveness is -.769 and is not significant (p>.10). The correlation coefficient between the perception of the specific training program effectiveness and the quality of training needs assessment is .175, and is not statistically significant (p<.10). Thus, the results show that training program effectiveness does not differ based on the quality of training needs assessment.

Training program effectiveness and the nature of the training program

First, descriptive statistics are presented in table 1 and table 5 to show how the training program varies regarding the five sub variables. As table 1 shows, the type of training varies from technical training (44.4%), to managerial training (22.2%) and awareness training (20%). The proportion of training participants among total employees also varies. Table 7 shows that 11 training programs (24.3%) have less than 10 percent of participants versus total employees, and that all employees participated in 13 training programs (28.9%). For the remaining 21 training programs participation varies between 10 and 99 percent. The average participants' proportion among total employees is 50 percent (SD=40.0 %).

Table 5 shows that most training programs are job-specific (n=32, 71.1%) rather than job-related (n=13, 28.9%). Almost half (44.4%) of the training program's intended goal is related to "to increase knowledge and skills", and the other half (42.2%) reported ones to be related to "increasing organizational performance" as the intended training program goal. Other specified training goals are "ISO certificate" and "to develop and sustain a positive culture."

In terms of customization, only one training program has never customized any part of the training program, and the other 44 training programs customized at least more than one item of the training program with client companies materials or to meet participant's needs. The average number of customized items per training program is 5.67 (SD=2.67) among 10 items. Among customized items, instructional materials are most frequently customized (n=39, 86.7%), and training objectives or trainees' prerequisites are customized next frequently (n=36, 80%). Table 4.22 shows that 35 training programs (77.8%) were developed with some level of customization.

Table 5: *Frequencies and Percentages on Intended Goal of Training, Level of Relationship to Job, and Level of Customization* (Manager survey, n=45)

	N	%
Intended Goal of Training		
Increase Knowledge & Skills	20	44.4
Change Behavior	4	8.9
Increase Organizational Performance	19	42.2
Other	2	4.4
Relationship to Job		
Job-specific	32	71.1
Job-related	13	28.9
Extent of Customization		
No customization	1	2.2
Customized	9	20.0
Entirely developed	35	77.8

Table 6 present the results of standard multiple regression analysis. For perception of this specific training program effectiveness, six standardized coefficients of independent variables shows statistically significant relationship with this perception at the alpha level of .05 (Table 4.25). First, the beta of portion of trainees among employees is -.344 (p<.05), which means that if the number of trainees among employees increases, perception of this specific training program effectiveness can be predicted to decrease. Second, the beta of intended goal to increase learning is -1.230 (p<.05), which means that if the intended goal is to increase learning, perception on this specific training program effectiveness can be predicted to decrease. The beta of intended goal to change behavior is -1.178 (p<.01), which also means that if the intended goal is to change behavior, perception of this specific training program effectiveness can be predicted to decrease. The beta of intended goal to increase organizational performance is -1.244 and is significant (p<.05). The beta of entirely development of the program is .469 (p<.01), which implies that if the training program is entirely developed, perception of this specific training program effectiveness is predicted to increase. However, the beta of extent to customization is -.393 (p<.05), which means that if the number of customized training parts increases, perception of this specific training program effectiveness is predicted to decrease. The squared multiple coefficient of correlation is .376, which means that the group of independent variables explains 37.6 percent of the total variance of the perception of this specific training program's effectiveness.

Table 6: *Standard Multiple Regression of Perception of the Specific Training Program Effectiveness on Selected Variables in Training Program Characteristics* (n = 37) (Manager survey and Senior manager survey)

Variables	R^2	R^2 change	b	Beta
Proportion of trainees among employees	.124	.124	-.592	-.344*
Job specific	.162	.038	.209	.143
Intended goal	.332	.170		
Intended goal I			-1.665	-1.230*
Intended goal II			-2.541	-1.178**
Intended goal III			-1.649	-1.244*
Entirely developed	.408	.076	.704	.469**
Level of customization	.525	.117	-.095	-.393*
Type of training	.527	.003		
Type of training I			-.084	-.063
Type of training II			-.117	-.075
(Constant)			6.782	

Standard error = .530

Conclusions and Recommendations

The result of this study identified a way to evaluate partnership training relationship, like training provider's level of involvement in training process and training provider's knowledge in client organization's business. Based on previous studies, it is not surprising that training provider's level of involvement and knowledge was positively correlated with training effectiveness. However, in contrast to previous studies (Kenis and Knoke, 2002), formal contracting was negatively correlated with training effectiveness. This result may be explained by the small number of case engaging with external training providers in the sample.

In addition, the result of this study showed that training needs assessment did not relate to training effectiveness of the companies that received training funds from the OITP, contrary to the results of previous research on needs assessment. Since the study represents one setting, it's difficult to generalize the results to other contexts.

Although the number of items customized was identified not to relate to training effectiveness, the result of the study showed that the training programs that were entirely developed showed a large increase in operational margin at client organizations. Because most training programs customized at least some instructional materials such as company data, format, materials, and equipment, the extent of customization may not be related to training effectiveness.

In terms of training duration, the distribution was bi-modal with the average of 13.48 weeks. Since the results of study do not provide any information regarding intensity of training program—how many hours per week—, the amount of training duration has limits to be tested for training effectiveness. Another limit is that the absolute number of case is too small in certain variables to apply statistical analysis. This study also cannot eliminate other training program's impact besides the OITP funded one.

This study also identified needs to further study in partnership training. This study identified business organizations frequently utilize private training providers. It needs to study further about why private training providers are preferred. It is also important to study these reasons are relate to organizational level of performance. It is essential to identify more variables that impact external training providers and, ultimately, impact training effectiveness to increase organizational performance. This study identified external training provider's level of involvement in training process and the provider's knowledge about client organization's business. However, the study failed to clearly identify how the contractual relationship between client organizations and external training providers impact on training effectiveness. If the contractual relationship might impact on training effectiveness, it is very critical to identify other contractual components. It might be more appropriate if qualitative analysis is emerged to investigate the relationship. In addition, this study attempted to examine the quantity of interaction with external training providers. A case study is recommended to study the quality of interaction in addition to the quantity of interaction, to more clearly understand the impact of the relationship between external training providers and training effectiveness.

In terms of training needs assessment, this study showed that implementing training needs assessment does not relate to training effectiveness. Thus, rather to identify whether training needs assessment is implemented or not, it might be more meaningful to study the quality of training needs assessment. Qualitative research methods can be used to identify determining factors of quality.

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