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Identification of best practices in transfer of training in teacher education as perceived by teacher educators

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Abstract

This paper is about investigating best teacher training practices as perceived by service providers (teacher educators). It is thought that it would be best to study the subject from point of view of practitioners in the field. An opinionnaire was developed and standardised which could be scored for preference on different training practices as perceived by the participants. Data was analysed by utilising cluster analysis to make group of items which were dubbed (named) after studying nature of items. These group of items formed factors running under the concept under investigation. Items in these groups are ranked ordered to understand nature and preference of practices. Also factors are ranked ordered on the basis of average score for the items and factors. On the basis of these rankings and t-test across attribute variables research questions were answered. It has been found that best practices for teacher training could be classified in terms of six (Training in content accuracy and its delivery, Training in relation management, Training in presentation, Training in psychological orientations, Teacher lead monitoring, and Training in technical skills), four (Student concern, Content concern, Tool concern, Technique concern) and finally two (Task & Relation) factors. Also it is found that preference for practices in teacher training do not differ significantly across attribute variables- Gender, Locality and Experience. Study revealed that teacher educator endorse practices in vogue as well as want to include new practices involving technology and techniques.

Keywords: teacher education, teaching practice, training, transfer of training, teacher educator

Introduction

Training in a profession is preparation to perform on job. It typically involves learning new knowledge, skills, attitudes or other characteristics in one environment (the training situation) that can be applied or used in another environment (the performance situation) (Goldstein and Ford, 2002) ^[9]. Presumably, what has been learned in training should be applied to performance on the job. Training may involve sale down exercises or even simulated ones for practice and providing safe environment before actual encounter. But it has been noticed that huge amount of learnt knowledge, skills and attitudes are either remain unused or are ineffective in work situations. Thus a huge of investment is lost between training and actual performance on job. Rackham and Ruff (1991) ^[21] in their study of sales training at Xerox, reported there was an 87% of loss of skills within one month of the completion of the training. Baldwin and Ford (1988) ^[1] note some estimates that suggest only 10% of training outcomes are transferred back to the job.

The issue of carry-over from training to the performance situation is referred to as the problem of the "transfer of training." Baldwin and Ford (1988) ^[1] define the positive transfer of training "as the degree to which trainees effectively apply the knowledge, skills and attitudes gained in a training context to the job". Training is actually mastering on a collection of "how to do" tools which could be applied in similar or different situations, immediately or in later career to accomplish the performance tasks. Given the stakes involved, it becomes very important to understand the dynamics of transfer in order to look for ways to minimize transfer losses while improving the yield from any training program. In teacher training courses also similar observations are endorsed. Teachers when placed on job usually report that what they have learnt during their training has rarely been applied in

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actual classroom situation. Question is why this loss of training takes place? It may be due to number of factors- skills taught in the training may be outdated, irrelevant, over-emphasised, under-emphasised, impractical, theoretical only and the like. Consistent with calls to address the research practice gap in the discipline of teacher education research is needed to ensure best practices are both practical and theoretically sound. There is a real problem with teaching as a profession it deals with humans rather than machines or objects. As humans are unique in themselves hugely varied in characteristics with contexts and situations, it is difficult to endorse a set of practices suitable for all times. The best method is to theorize the concept from perceptions of practitioners i.e. teacher educators. The current study hopes to offer new insights concerning effective practices in transfer of training. The proposed study draws on a constructivist perspective (Creswell, 2003) [6] in order to guide our interpretation of the qualitative data. Our goal is to capture and describe how teacher educators perceive transfer of training can be made effective which may endorse the present trend or highlight some new practices. Studies exploring transfer of training have commonly focused only on theoretical aspects and based on experts' opinions like educationists or even policy makers. We are trying here to study the subject from the point of view of the service providers who are important stakeholders in the venture. Ultimately the purpose is to propose a refined model of training transfer that unifies emergent categories we may find in our data. These thoughts in mind lead to the selection of proposed study.

Objectives

The proposed investigation has been conducted to attain the following objectives.

- To construct and standardise opinion measure to assess the best practices in teacher training using perceptions of teacher educators.
- To find out the best practices as perceived by teacher educators.
- To study the variations within group across some attribute variables.
- To synthesise the findings in terms of an emphasis model for training of teachers.

Research Questions

- What are different 'best practices' for transfer of training in teaching as perceived by teacher educators?
- Do these best practices vary with respect to some attribute variables?

Research Design & Methodology

The investigator constructed an opinionnaire using perceptions of teacher educators. This scale making exercise served dual purpose, firstly it revealed the relative preferences of the group for best practices in transfer training in teaching, and secondly the underlying factors/dimensions of the subject under investigation. The scale so developed have been used for comparative analysis for practices preference across the attribute variables- Gender, Locality and Experience.

Sample of the Study

Fifty teacher educators constituted participants for the study. The sample was a snowball type in which indirect

purposiveness is used to preserve the randomness character of the. In snowball sampling we select a convenient sample of two subjects and then they name two persons each who might be interested to be the participants in the study. In this way a progressive chaining mechanism is used which automatically makes the sample a random one.

Developing an Opinionnaire

Development of opinionnaire involve following steps

- Theoretical constructs for the concept
- Framing of items
- Selection of items
- Organization of items
- Try out of the measure

Inter-item Correlation (Item Analysis)

Inter-item matrix (33X33) was developed from raw data. Significant correlations were retained for the purpose of development of group of items. This analysis resulted in formation of six groups which has significant correlations among the group members.

Table 1: Detail of groups of items

Group	Items	No. of items
Group 1	17, 10, 7, 6, 3, 4, 11, 27	8
Group 2	8, 13, 12, 5	4
Group 3	2, 25, 16, 18	4
Group 4	21, 19, 26, 14, 20	5
Group 5	30, 24, 22, 1, 29, 31	6
Group 6	23, 32, 15, 33	4
All Groups		Total items = 31

Group of items so formed revealed the following findings.

- Thirty one items could be included in at least one or other group of items, meaning there by two items (item No. 9 & 28) could not be include in any of the group, which need to be deleted from the measure.
- Groups of items are nothing but factors (constructs) of the concept under investigation.
- Score in respect of items in a group are summed up and averaged, the placed in rank order to understand relative ranking of items by the group.
- Groups so obtained are dubbed for name according to the nature of items it contains. Tables 2 to 7 describe groups of items (factors) of the measure.

Table 2: Factor I: Training in technical skills

Item No.	Item Score	Items
17	5.24	Training in evaluation skills
10	5.16	Training in use of technological aids
7	4.92	Training in time management
6	4.78	Training in preparation of teaching aids
3	4.76	Peer feedback
4	4.44	Perfecting in lesson planning
11	4.42	Perfecting in black board writing
27	4.10	Perfecting in record maintenance
Factor Average Score	4.73	

Table 3: Factor II: Training in content accuracy and its delivery

Item No.	Item Score	Items
8	5.50	Training in content accuracy
13	5.48	Ensuring best use of voice
12	5.38	Perfecting use of language
5	5.02	Teacher educator's demonstration
Factor Average Score	5.35	

Table 4: Factor III: Teacher led monitoring

Item No.	Item Score	Items
2	5.32	Reliable observation by the teacher
25	5.00	Perfecting in lecturing
16	4.76	Continuous monitoring
18	4.76	Continuous evaluation
Factor Average Score	4.96	

Table 5: Factor IV: Training in relation management

Item No.	Item Score	Items
21	5.72	Ensuring interaction
19	5.48	Ensuring students participation
26	5.14	Training in innovation
14	4.86	Training in classroom management
20	4.82	Ensuring relation building
Factor Average Score	5.20	

Table 6: Factor V: Training in psychological dimensions

Item No.	Item Score	Items
30	5.44	Sensitization about learner's needs
24	5.28	Training in psychological orientation
22	5.24	Training in teaching behaviours
1	5.06	Skill training
29	4.94	Perfecting in teaching temperament
31	4.44	Recording teaching electronically
Factor Average Score	5.07	

Table 7: Factor VI: Training in presentation

Item No.	Item Score	Item
23	5.40	Perfecting in self presentation
32	5.32	Discussing strengths and weaknesses
15	5.04	Training in teaching methods
33	4.90	Evaluation of pupil teacher by students
Factor Average Score	5.17	

In this way factors obtained for scale obtained for teacher educators are given in table 8.

Table 8: Factors Obtained for Teacher Educators in Rank Order

Sr. No.	Factor	Item
1	II	Training in content accuracy and its delivery
2	IV	Training in relation management
3	VI	Training in presentation
4	V	Training in psychological orientations
5	III	Teacher lead monitoring
6	I	Training in technical skills

Standardisation of Opinion Measure

Validity of the Scale

As in the previous section we could find that six factors could be discovered conveniently. This can be taken as construct validity of the measure. As a crude test for validity a group of ten subjects were interviewed and asked the response for particular items and found that good amount of agreement (89%) existed between what they responded and what they expressed orally.

Internal Consistency of the Measure

Reliability of the measure was calculated by using part whole correlation method to ensure the internal consistency of the scale. The values for part whole correlations range from 0.66 to 0.28. Thus it is concluded that developed measure has sufficient internal consistency.

Also test-retest reliability was computed for constituent measures as well as for whole of the scale.

Table 9: Reliability values of the sub measures and the whole measure

Factor	Half length reliability (r)	Full length reliability (R)
Factor I	.59	.74
Factor II	.79	.88
Factor III	.63	.77
Factor IV	.76	.86
Factor V	.65	.78
Factor VI	.68	.80
Whole scale	.69	.82

Assessment of Normality of the Sample

Normality of the sample has been assessed by using K-S test and value for $|Cp_o - Cp_e|_{max}$ has been found to be much lesser than expected value, which implied sample was normal and we could apply parametric tests for data analysis.

Table 10: Summary of comparing means for Gender variation for teacher educators in respect of constituent factors and whole measure

Variable	Group	N	M	S. D	SEd	t-ratio
Factor I	Male	24	27.71	7.09	2.06	0.35
	Female	26	26.98	7.46		
Factor II	Male	24	21.00	4.33	1.29	1.31
	Female	26	22.69	4.78		
Factor III	Male	24	19.36	4.74	1.28	0.45
	Female	26	18.79	4.26		
Factor IV	Male	24	27.06	5.39	1.47	0.29
	Female	26	26.64	4.98		
Factor V	Male	24	30.67	6.12	1.70	0.46
	Female	26	29.88	5.89		
Factor VI	Male	24	20.68	4.23	1.24	0.47
	Female	26	20.09	4.56		
Whole scale	Male	24	128.09	23.09	6.48	0.14
	Female	26	127.20	22.67		

None of the t-ratio has been found to be significant.

Table 11: Summary of comparing means for Locality variation for teacher educators in respect of constituent factors and whole measure

Variable	Group	N	M	S. D	S Ed	t-ratio
Factor I	Urban	23	26.69	6.9	2.00	0.29
	Rural	27	27.27	7.25		
Factor II	Urban	23	22.00	4.26	1.24	0.39
	Rural	27	22.48	4.49		
Factor III	Urban	23	19.19	4.09	1.22	0.41
	Rural	27	18.69	4.53		
Factor IV	Urban	23	27.06	5.21	1.36	0.51
	Rural	27	26.37	4.33		
Factor V	Urban	23	29.75	6.44	1.75	0.74
	Rural	27	28.46	5.89		
Factor VI	Urban	23	20.45	4.85	1.30	0.49
	Rural	27	21.09	4.33		
Whole scale	Urban	23	125.20	19.90	5.79	0.29
	Rural	27	126.85	20.98		

None of the t-ratio has been found to be significant.

Table 12: Summary of comparing means for Experience variation for teacher educators in respect of constituent factors and whole measure

Variable	Group	N	M	S. D	S Ed	t-ratio
Factor I	Experienced	25	26.84	6.1	1.84	0.60
	In experienced	25	27.94	6.94		
Factor II	Experienced	25	21.98	4.56	1.32	0.46
	In experienced	25	21.38	4.76		
Factor III	Experienced	25	18.76	4.32	1.29	0.44
	In experienced	25	19.32	4.78		
Factor IV	Experienced	25	27.12	5.87	1.44	0.94
	In experienced	25	25.76	4.09		
Factor V	Experienced	25	28.11	5.69	1.64	0.70
	In experienced	25	26.97	5.88		
Factor VI	Experienced	25	20.33	4.81	1.31	0.71
	In experienced	25	21.26	4.42		
Whole scale	Experienced	25	123.97	19.65	5.85	0.14
	In experienced	25	124.78	21.66		

Answers to the Research Questions

Research Question 1: What are different ‘best practices’ for transfer of training in teaching as perceived by teacher educators?

As far as best practices are concerned it can be understood in more than one ways as follows.

In terms of absolute score ranking

Teacher educators give best average score to following ten practices

- Ensuring interaction (5.72)
- Training in content accuracy (5.50)
- Ensuring best use of voice (5.48)
- Ensuring students participation (5.44)
- Sensitization about learner’s needs (5.40)
- Perfecting in self presentation (5.38)
- Perfecting use of language (5.32)
- Reliable observation by the teacher (5.28)
- Discussing strengths and weaknesses (5.24)
- Training in psychological orientation (5.24)

These items could be combined to form following categories.

1. Ensuring interaction + Sensitization about learner’s needs + Training in psychological orientation = STUDENT CONCERN (R)
2. Training in content accuracy = CONTENT CONCERN (Ts)
3. Perfecting use of language = TOOL CONCERN (Tm)
4. Reliable observation by the teacher = TECHNIQUE CONCERN (Tm)

It seems teacher educators are more concerned about self-improvement needs for teacher trainees. The emphasis model could be presented as shown in figure 1.

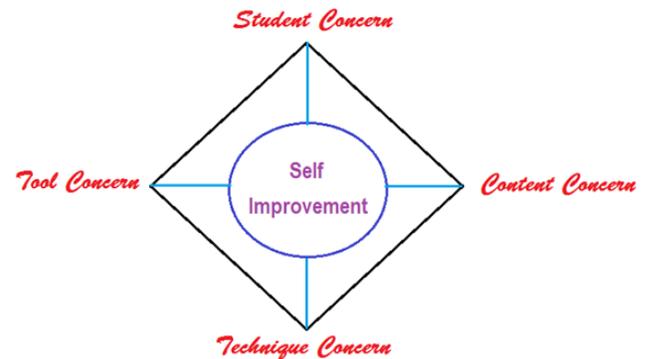


Figure1: Teacher Educators Preferred Practices

In terms of factor wise ranking

Correlation analysis revealed six underlying factors for teacher educators. Taking first two items from each of the factors we can get most approved ten practices by teacher educators as a group. These twelve items are as follows.

- Training in evaluation skills (5.50)
- Training in use of technological aids (5.48)
- Training in content accuracy (5.32)
- Ensuring best use of voice (5.00)
- Reliable observation by the teacher
- Perfecting in lecturing (5.72)
- Ensuring interaction (5.48)
- Ensuring students participation (5.44)
- Sensitization about learner’s needs (5.28)
- Training in psychological orientation (5.40)
- Perfecting in self presentation (5.32)
- Discussing strengths and weaknesses (5.00)

In terms of factors/dimensions (repertoire of practices)

If we consider practices to be included as cluster of practices to cover the whole domain of the subject we can study in terms of factors obtained for teacher educators. The six practices/ dimensions are given below in order of preference.

- Training in content accuracy and its delivery (Ts)
- Training in relation management (R)
- Training in presentation (Tm)
- Training in psychological dimensions (R)
- Teacher lead monitoring (Tm)
- Training in technical skills (Tm)

If we see all the outcomes in different ways, all could be included under two categories Task and Relation. Task may further be divided in to Subject Mastery (Ts) and Methodology (Tm). On combining these we get following picture.

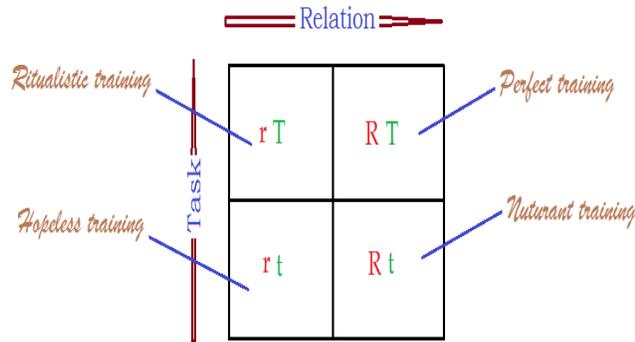


Figure 2: Task-Relation interaction

In conclusion we can answer the research question as follows.

- Teacher educators endorse training practices which involves- student concern (R), tool concern (Tm), technique concern (Tm), content concern (Ts)
- Training must involve accomplishing the task and building relation with learners. Any training activity which does not attend the task or relation should not be included in the training program.

Research Question 2: Do these best practices vary with respect to some attribute variables?

This question is answered by comparing the means across the groups.

The t-ratios show that none of the value has been found to be significant, for any of the factor as well as for whole measures across any of the attribute variation- Gender, Locality and Experience. This implies that gender, locality and experience have no influence on preference of teaching practices in any sense. This makes things easier for framing uniform teaching training program without any consideration of attribute variables.

Educational Implications of the Study

Although the study has been conducted on a small sample but still some significant implications could be taken home. The subject of the study has great potential of research and can be used to perfect the training programmes for teacher education. The study clearly established that teacher educators has quite a good amount of agreement on the preferred practices for transfer of training, at the same time some of the concerns varied with the group. The final result obtained in the study is almost similar to the Kerlinger's (1967) study of educational attitudes which classified people (teacher) as- Person oriented and Task oriented. As mentioned before the outcome of the study has dual implication. Study approves the already practices in vogue but could also bring out some new emerging practices (like technology oriented practices) in teacher training.

Suggestions for further Research

Many directions are emerging from the present piece of research work, which can be listed as follows

- The tool could be made more comprehensive and refined using refined statistical tools like factor analysis etc.
- This study could be extended in terms of conditions for utilizing best practices, personal and organizational characteristics for implementing best practices.

- Best practices obtained could be put to test for approval of established literature and other stakeholders in the venture.
- Best practices can be compared in respect of different levels of teaching and other variables like- age group, academic stream, personality orientation and the like.
- Best practices for transfer of training can also be studied for teacher trainees.
- Comparison of perceptions of teacher educators and trainees can be another interesting proposal for investigation.

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