

DISCIPLINE SPECIFIC RESOURCE CENTERS IN SECONDARY TEACHERS' PRE-SERVICE TRAINING PROGRAMME OF HIMACHAL PRADESH: AVAILABILITY AND UTILIZATION

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ABSTRACT

This paper presents the results a survey on the availability and utilization of various disciplinary areas specific resource centres viz. Physical Sciences, Life Sciences, Mathematics, Social Sciences, English Language and Hindi Language in secondary teachers' pre-service training programme of Himachal Pradesh in India. The information was gathered by using separate questionnaire for each of the resource centre. After careful analysis of information gathered, it was found that all the resource centers were available in most of the colleges of education. Some of the colleges have in the form of separate units and some of them have in the form of multi-purpose units. The maintenance and utilization of the resource centers was not up to the mark as it should be. Some of the teacher educators were found making good use of the resource center but not the majority, though most of them opined resource centers to be useful in the training programme. Suggestions were also made to strengthen the use of resource centers to the maximum.

Keywords: *Disciplinary Areas, English Language Resource Centre, Secondary Teachers' Training Programme.*

Introduction

Today's education, demands well qualified and well prepared teachers with higher order academic and professional competencies along with earnest sense of responsibility and commitment to strive constantly to raise level of learning, capacity and achievement of learners so as to make them increasingly autonomous and self-actualizing persons (Sharma, 2013). The responsibility of preparing such teacher lies with present day teacher education programmes. Teacher education in India today is the outcome of past efforts since independence. A number of recommendations have been made by various commissions and committees on education viz. University Education Commission (1948-49), Secondary Education Commission (1952-53), Education Commission (1964-66), National Policy on Education (1986), National Knowledge Commission (2007), Justice J. S. Verma Commission (2012) etc. since independence for raising the quality and standards of teacher education. The developments in teacher education since independence have accorded it a stature of an independent area of specialization. Teacher education not only has developed in to a full-fledged professional programme, but also widened its scope to cover the entire spectrum of education (Sharma, 2013).

There are mainly three types of agencies in India that carry out programmes of teacher education namely: i) Central and State Universities, which impart pre-service and in-service training through their departments of teacher education and affiliated teacher training colleges; ii) state governments, which have created state level training facilities in the form of State Institutes of Teacher Education and State Councils of Educational Research and Training (SCERTs) and; iii) Autonomous and Government bodies like NCERT, NUEPA, CBSE, KVS, IASEs etc. which conduct in-service and pre-service training programmes at national level.

For primary level of elementary education, a comprehensive training, generally of two years' duration, is organized, which leads to the award of a Diploma or Certificate in teacher education. For

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upper primary level of elementary education and the secondary school stage, training programmes are offered by the university departments of education or by colleges of education, which lead to the award of Bachelor of Elementary Education (B.El.Ed.) or Bachelor of Education (B.Ed.) degree. The professional development of teachers in higher education is relatively a new phenomenon. Basically, teacher education is the process of providing teachers and potential teachers, the skills and knowledge necessary to teach effectively inside or outside the classroom environment. It is the professional preparation, in pedagogy, of those who want to enter the profession of teaching (Mangla, 2001, p. 3).

As per NCTE regulations, Bachelor of Education Programme (B.Ed.) is a professional course that prepare teachers for upper primary or middle level (classes VI-VIII), secondary level (classes IX-X) or senior secondary level (classes XI-XII). The design of the programme is such that it enables students so called prospective teachers to specialize in one disciplinary area, viz. Science, Social Science, Mathematics, Languages and a subject area from the same discipline, at one/two levels of school (NCTE Regulations). The specialization in these disciplinary areas demands expertise of prospective teachers in theory as well as practical related to particular discipline or subject. A prospective teacher must be an expert in organization, maintenance and utilization of laboratories in his/her discipline related subject for the welfare of students whom he/she teaches after completion of professional course. This further demands, availability, establishment and maintenance of resource centers or so called laboratories, in these disciplinary areas in teacher training programme.

National Curriculum Framework for Teacher Education (2009) have suggested that a teacher needs to be prepared in relation to the needs and demands arising in the school context, to engage with questions of school knowledge, the learner and the learning process. The study of any discipline or disciplinary area is not possible without a laboratory or resource center. Laboratory or resource center refers to a large room where practicals, projects or experiments are conducted. Various types of materials and equipments are kept in the resource centre. A teacher can provide opportunity to observe facts and to carry out experiments or projects or group activities to his/her students there so that they may obtain proper and complete knowledge of the subject. The prospective teachers can work in the laboratory themselves, observe and experiment, and on that basis generalize facts and reach to conclusion. Their use can develop the sense of co-operation and spirit of competition among prospective teachers and help in specializing subject knowledge among prospective teachers.

The investigator himself has taught in the secondary teachers' pre-service training colleges since 2006 and felt that the availability, maintenance and utilization of discipline or disciplinary area related resource centers is not up to the that level as it should be. Though, a number of research studies have been conducted in different areas of teacher education, except discipline specific resource centers, so. However, in the present scenario, it was thought worthwhile to make an attempt in this area as well. In view of the importance of teacher education from the view point of the schools and importance of specialization of prospective teachers in their disciplinary area specific subjects, the present research is of immense use to the educational administrators, curriculum framers, teacher educators, school teachers, student teachers, parents and community.

Objective of the Present Study

To study the availability and utilization of various resource centers viz. Physical Sciences, Life Sciences, Mathematics, Social Sciences, English Language and Hindi Language in secondary teachers' pre-service training programme of Himachal Pradesh.

Method

The descriptive survey method was used to gather relevant information.

Sample

Multistage sampling technique was utilized to achieve the stated objective of investigation. The total sample consisted of 23 Physical Sciences, 23 Life Sciences, 22 Mathematics, 24 Social Sciences, 22 English Language and 22 Hindi language teacher educators, teaching in different colleges of education, with 3 or more than 3 years of teaching experience, from across 24 colleges of teacher education.

Instrumentation

To achieve the objective of the present investigation and to gather relevant information six questionnaires, one for each, on the availability and utilization of resource centre, was developed by the investigator himself. Open ended and close ended type of items comprised the each questionnaire.

Statistical Technique Used

Frequencies counts and percentages were used to analyze the collected information.

Results

Availability of Resource Centers

The frequencies and percentages of the responses of the teacher educators on the availability of various resource centers viz. Physical Sciences, Life Sciences, Mathematics, Social Sciences, English Language and Hindi Language resource centers are presented in Table 1.

Table 1: Responses of Teacher Educators on the Availability of Resource Centers

Response		Physical Sciences Resource Centre	Life Sciences Resource Centre	Mathematics Resource Centre	Social Sciences Resource Centre	Language Resource Centre	
						English	Hindi
Yes	F	22	23	19	20	19	18
	%	95.65	100	86.36	83.33	86.36	81.82
No	F	01	---	03	04	03	04
	%	4.35	---	13.64	16.67	13.64	18.18
Total		23	23	22	24	22	22

From Table 1, it can be seen that in most of the colleges disciplinary areas specific resource centers were available and the availability of various resource centers in the colleges of education is in the order of: i) Life Sciences; ii) Physical Sciences; iii) English Language and Mathematics; iv) Social Sciences and; v) Hindi Language.

Type of Resource Centre

The frequencies and percentages of the responses of the teacher educators about the type of resource centers, which were available in the colleges of education, are presented in Table 2.

Table 2: Responses of Teacher Educators about the Type of Resource Centre

Response		Physical Sciences Resource Centre	Life Sciences Resource Centre	Mathematics Resource Centre	Social Sciences Resource Centre	Language Resource Centre	
						English	Hindi
Separate	F	12	13	04	16	14	14
	%	54.55	56.52	21.05	80.00	73.68	77.78
Multi-purpose	F	10	10	15	04	05	04
	%	45.45	43.48	78.95	20.00	26.32	22.22
Total		22	23	19	20	19	18

From Table 2, it can be seen that Social Sciences, Hindi Language and English Language resource centers exists as separate unit in most of the colleges; Physical Sciences resource centre as a separate unit in a little more than half of the colleges of education. On the other hand Mathematics resource centre exists as a multipurpose unit in most of the colleges, whereas Life Sciences resource centre exists as multipurpose unit in a little more than half of the colleges.

Adequacy of Materials and Equipments in Various Resource Centers

The frequencies and percentages of the responses of the teacher educators on the adequacy of materials and equipments in Physical Sciences, Life Sciences, Mathematics, Social Sciences, English Language and Hindi Language Resource Centers are presented in Table 3.

Table 3: Responses of Teacher Educators on the Adequacy of Materials and Equipments in Various Resource Centers

Response		Physical Sciences Resource Centre	Life Sciences Resource Centre	Mathematics Resource Centre	Social Sciences Resource Centre	Language Resource Centre	
						English	Hindi
Yes	F	16	17	11	14	16	13
	%	72.73	73.91	57.89	70.00	84.21	72.22
No	F	06	06	08	06	03	05
	%	27.27	26.09	42.11	30.00	15.79	27.78
Total		22	23	19	20	19	18

From Table 3, it can be seen that adequacy of materials and equipments in various resource centers is in the order of: English Language; Life Sciences; Physical Sciences; Hindi Language; Social Sciences and; Mathematics resource centre.

Addition of New Materials and Latest Equipments

The frequencies and percentages of the responses of the teacher educators for the addition of new materials and latest equipments in the various resource centers are presented in Table 4.

Table 4: Responses of Teacher Educators for the Addition of New Materials and Latest Equipments in the Various Resource Centers

Response		Physical Sciences Resource Centre	Life Sciences Resource Centre	Mathematics Resource Centre	Social Sciences Resource Centre	Language Resource Centre	
						English	Hindi
Yes	F	05	05	04	04	03	05
	%	22.73	21.74	21.05	20.00	15.79	27.78
No	F	17	18	15	16	16	13
	%	77.27	78.26	78.95	80.00	84.21	72.22
Total		22	23	19	20	19	18

Table 4 shows that the new materials and latest equipments are not added yearly in Physical Sciences, Life Sciences, Mathematics, Social Sciences, English Language and Hindi Language resource centers in majority of the colleges. Only few of the colleges ranging from 15.79 to 27.78 percent add new materials and latest equipments in various resource centers annually.

Use of Various Resource Centers for Conducting Experiments or Carrying Out Activities

The frequencies and percentages of the responses of the teacher educators on the use of various resource centers for getting experiments conducted or carrying out activities by the prospective teachers are presented in Table 5.

Table 5: Responses of Teacher Educators on the use of Various Resource Centers for getting Experiments conducted or Carrying out Activities by the Prospective Teachers

Response		Physical Sciences Resource Centre	Life Sciences Resource Centre	Mathematics Resource Centre	Social Sciences Resource Centre	Language Resource Centre	
						English	Hindi
Yes	F	12	13	07	08	11	03
	%	54.55	56.52	36.84	40.00	57.89	16.67
No	F	10	10	12	12	08	15
	%	45.45	43.48	63.16	60.00	42.11	83.33
Total		22	23	19	20	19	18

Table 5 shows that for conducting experiments or carrying out activities by the prospective teachers: Physical Sciences, Life Sciences and English Language resource centers are used by more than half of the teacher educators. On the other hand, for conducting experiments or carrying out activities by the prospective teachers, Hindi Language resource center is not used by majority of the teacher educators, whereas Mathematics and Social Sciences resource centers are not used by more than half of the teacher educators.

Number of Experiments Conducted or Activities Carried Out by the Prospective Teachers

Those teacher educators who make prospective teachers to conduct experiments or carry out activities in various resource centers, the frequencies and percentages of their responses on the number of experiments or activities are presented in Table 6.

Table 6: Number of Experiments Conducted or Activities carried out by the Prospective Teachers in Various Resource Centers

Response		Physical Sciences Resource Centre	Life Sciences Resource Centre	Mathematics Resource Centre	Social Sciences Resource Centre	Language Resource Centre	
						English	Hindi
1-5	F	7	03	03	04	05	02
	%	58.33	23.08	42.86	50.00	45.45	66.67
6-10	F	05	10	04	04	06	01
	%	41.67	76.92	57.14	50.00	54.55	33.33
Total		12	13	07	08	11	03

Table 6 indicates that in case of Hindi Language and Physical Sciences resource centers more than of the teacher educators make prospective teachers to carry out or conduct 1-5 number of experiments or activities, whereas in case of Life Sciences majority of teacher educators; in case of Mathematics and English language resource centers more than half of the teacher educators make prospective teachers to conduct or carry out 6-10 number experiments or activities.

Teaching the Art of Making Good Use of Resource Centers in Real Situations

The frequencies and percentages of the responses of the teacher educators on teaching prospective teachers the art of making good use of resource center in real situations are presented in Table 7.

Table 7: Responses of the Teacher Educators on Teaching Prospective Teachers the Art of making Good Use of Resource Center in Real Conditions

Response		Physical Sciences Resource Centre	Life Sciences Resource Centre	Mathematics Resource Centre	Social Sciences Resource Centre	Language Resource Centre	
						English	Hindi
Yes	F	07	08	06	05	06	04
	%	31.82	34.78	31.58	25.00	31.58	22.22
No	F	15	15	13	15	13	14
	%	68.18	65.22	68.42	75.00	68.42	77.78
Total		22	23	19	20	19	18

From Table 7, it can be seen that most of the teacher educators expressed that they do not teach prospective teachers the art of making good use of Hindi Language, Social Sciences, Physical Sciences, English Language, Mathematics and Life Sciences resource centers in real situations.

Reasons for not teaching Prospective Teachers the Art of Making Good Use of Resource Centre in Real Situations

Further, the teacher educators who do not teach prospective teachers the art of making good use of resource centers in real situations pointed out the following reasons: i) Lack of proper training/orientation of teacher educators on the use of resource centre; ii) lack of time to visit resource centers properly; iii) absence of experiments or activities in the syllabus or curriculum and; iv) visit resource centers occasionally.

Usefulness of the Various Resource Centers in the Training Programme

The frequencies and percentages of the responses of the teacher educators about the usefulness of the various resource centers in the secondary teachers' pre-service training programme are presented in Table 8.

Table 8: Responses of Teacher Educators about the Usefulness of the Various Resource Centers in the Secondary Teachers' Pre-service Training Programme

Response		Physical Sciences Resource Centre	Life Sciences Resource Centre	Mathematics Resource Centre	Social Sciences Resource Centre	Language Resource Centre	
						English	Hindi
Yes	F	13	13	13	15	13	09
	%	57.58	58.06	68.18	74.07	68.97	50.00
No	F	09	10	06	05	06	09
	%	42.42	41.94	31.82	25.93	31.03	50.00
Total		22	23	19	20	19	18

From Table 8, it can be seen that in case of Social Sciences, English language and Mathematics resource centers, majority of teacher educators; in case of Physical Sciences, Life Sciences more than half of the teacher educators and; in case of Hindi language resource center half of the teacher educators found resource centers useful in the secondary teachers' pre-service training programme.

Reasons for Non-usefulness of the Resource Centre in the Training Programme

Further, the teacher educators who expressed that they do not find the resource centers useful in the training programme pointed out the following reasons: i) Lack of time to visit these and; ii) No specific guidelines on the use resource centers in the curriculum.

Suggestions for the Effective Utilization of the Resource Centers

The responses of the teacher educators for the effective utilization of the resource centers are presented in the Table 9.

Table 9: Suggestions of the Teacher Educators for the Effective Utilization of the Resource Centers (N=136)

S. No.	Suggestions	F	%
1	Orientation programmes for the effective utilization of the resource centers to be organized by the university.	35	25.74
2	Manuals for the utilization of Resource Centers to be provided by the affiliating university.	67	49.26
3	List of experiments or activities to be carried out by the prospective teachers to be specified in the curriculum or syllabus.	89	65.44
4	Resource centers to be properly maintained in the institutions.	55	40.44
5	Proper supervision and inspection of the resource centers to be made by the affiliating university.	27	19.85

It is evident from Table 9 that majority the teacher educators suggested that list of experiments or activities to be carried out by the prospective teachers should be specified in the curriculum or syllabus. A little less than half of them suggested that manuals for the utilization of resource centers should be provided by the affiliating university. Less than half of teacher educators suggested that resource centers should be properly maintained in the institutions. One fourth teacher educators suggested percent suggested that orientation programmes for the effective utilization of the resource centers should be organized by the university and some of them suggested that proper supervision and inspection of the resource centers should be done by the affiliating university.

Discussion

From the results, it is evident that in most of the colleges of education of secondary teachers' pre-service training programme, the disciplinary area specific centers viz. Physical Sciences, Life Sciences, Mathematics, Social Sciences, English Language and Hindi Language were available. Although some colleges have as separate unit and some has in the form of multi-purpose units. The results also indicate that in some cases the resource centers have adequate availability of various resources like materials and equipments in the order English Language; Life Sciences; Physical Sciences; Hindi Language; Social Sciences and; Mathematics resource centre. But it is strange that all these resource centers are not updated or equipped every year regularly with latest and new resources. Only few of the colleges ranging from 15.79 to 27.78 percent add new materials and latest equipments in various resource centers annually. Mostly utilized resource were Physical Sciences, Life Sciences and English Language resource centers. On the other hand Hindi Language resource center was not used by majority of the Hindi language teacher educators, whereas Mathematics and Social Sciences resource centers are not used by more than half of the teacher educators. A number of activities or experiments or projects ranging from 1-5 to 6-10 were being carried out in few of the resource centers by prospective teachers. Most of the teacher educators were not able to teach the art of making good use these resource centers in real situations because they feel: i) Lack of proper training/orientation on the use of resource centre; ii) lack of time to visit resource centers properly; iii) absence of experiments or activities in the syllabus or curriculum and; iv) visit resource centers occasionally. Though most of the teacher educators found these resource centers useful, but on utilization part these were not fully utilized to the maximum.

Suggestions

To raise the professional competence of prospective teachers there is urgent need to strengthen the use of available resource centers in the teacher training programme. The efforts are needed on the part of teacher educators, concerned teacher education institute and the affiliating body. Where, teacher educators must visualize and execute the optimum utilization of available resources in the resource centers. Teacher educators should make proper demands for procurement of relevant and appropriate resources for equipping the resource centers before concerned management of the institute. The concerned institute's management also needs to make efforts to provide latest and updated resource materials for the use of prospective teachers to make them specialized, effective and competent teachers in their disciplinary areas. On the part of affiliating body/university, it is suggested that they should try to incorporate some guidelines in the prescribed syllabus/curriculum. The University should also make provisions, with the help of specialized subject experts for orienting teacher educators, on effective utilization of discipline specific subject areas. The university may also organize workshops in collaboration with NCERT/NCTE for effective utilization of resource centers. The joint efforts of all can make this happen and achieve the set goal of preparing specialized teachers.

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