



RESEARCH PAPER

Resource Provisions for Students with Deafness in Special Education Program: A Quantitative Analysis

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ABSTRACT

This research article investigates the provision of essential input resources within the Special Education Program for deaf students studying at primary school level in Punjab, Pakistan. Employing a quantitative approach, the study utilized a multistage random sampling technique to select heads of institutes from four distinct zones in Punjab. Data was collected through a precisely constructed self-developed questionnaire, exhibiting a commendable reliability coefficient of 0.91. The findings of the study include provisions for pick and drop facilities, monthly stipends, uniforms, books, and adequate furniture, contributing to an enhanced learning environment for these students. However, the study identified the lack of an adequate number of support staff and paraprofessionals, limited opportunities for in-service trainings, insufficiently equipped computer labs and libraries and exclusion of relevant curriculum content. So, it emphasizes the need for regular monitoring and assessment to device the program's progress and address any deficiencies that may arise.

KEYWORDS Deaf Students, Input Resources, Special Education Program

Introduction

The provision of adequate input resources in special education programs is crucial for fostering an inclusive and supportive learning environment for students with special needs. In the context of the Special Education Program for deaf students in Punjab, Pakistan, the availability and effectiveness of input resources play a pivotal role in shaping the quality of education and overall outcomes for these students. Addressing the unique requirements of deaf students demands meticulous attention to various aspects, including support staff, training opportunities, infrastructure, curriculum, and overall resource allocation.

Stufflebeam's CIPP model is a decision-making framework used to assess educational programs, taking into account four key components which are a. context, b. input, c. process and d. product. It offers a comprehensive perspective on the educational phenomenon under investigation. The input indicator of CIPP model entails assessment of the resources (financial, material & human) needed to purposeful implementation of the educational program. These resources may encompass personnel, curriculum, and other materials. Curriculum's caliber and pertinence, the qualifications, training capacities of the staff, as well as the adequacy of instructional materials are evaluated by the assessment process. The evaluation might center the factors like teachers; qualifications, curriculum alignment with student needs, and the sufficiency of instructional materials (Nouraey et al., 2020; Stufflebeam, 2000).

In Pakistan, schools face significant challenges due to ineffective pedagogical trends, inadequate classroom learning environments, insufficient learning materials, infrastructure limitations, and a shortage of qualified teachers (Bassachs et al., 2020). To achieve a quality education system, various aspects need to be reformed, including the reputation of educational institutions, available resources, the education process, content, output and outcomes, and value-added (Adams, 1993).

At the primary school level, there are four major areas of concern that require critical changes to ensure quality education: institutional, financial, curricular, and security (Bessingpas, 2009). Each of these aspects plays a crucial role in shaping the education system. The ultimate product of schools is the students they produce. However, the current education system often treats students as mere products of the system, neglecting their individual needs, strengths, potentials, and capacities (Kaila, 2005). This mismatch between the system's goals and the students' unique characteristics poses a significant challenge to achieving an effective and inclusive education system.

Promoting acceptance of human diversity requires the establishment of barrier-free institutions, environments, and societies that do not discriminate and ensure fair rights and equality for all (Haegele & Hodge, 2016). Embracing diversity should involve moving away from ancient misconceptions and fears that have led to social exclusion in the past. Diversity is a universal aspect that binds us all together, and it should be celebrated every day. To create an inclusive environment, classes must be physically accessible, and the curriculum and instruction should cater to the needs of all individuals, including those with disabilities. Teachers play a crucial role in this process by addressing their limitations and working towards effectively incorporating disabled populations in their classrooms (Shaddock et al., 2009).

However, in Pakistan, studies have shown that the provision of special education is inadequate. The state of special education in Pakistan is reported to be unsatisfactory, with less than 5% of the disabled population having access to special education facilities (Hafeez, 2019). Specialized facilities for individuals with disabilities are limited in the country (Parveen et al., 2020). This highlights the urgent need for improvement in the availability and quality of special education services in Pakistan.

The mission statement of the National Policy for PWDs (2002) focuses on enabling the optimal development of individuals having disabilities, allowing them for realizing their potential in full form throughout the various life aspects, including health, education, socio-economic, and vocational needs, both in the present and future (GOP, 2002). Similarly, in the context of special needs education, the emphasis is shifting away from disability categories towards enhancing the capacity of schools and providing necessary support services to cater to diverse needs (Khan, 2006). Additionally, the National Education Policy of 2017 has laid out specific goals, such as targeting a 50% participation rate of special children in the education system by 2025. The policy aims to establish included environments encouraging learning in existing institutions at all levels serving formal education (50%). To support these objectives, it proposes allocating budget for Special Education up to 5% of the education. The policy also highlights the importance of provision of resources for special education institutions in terms of modern technologies, teaching aids, transport facilities, and faculty development programs. Basic facilities and services will be provided to promote inclusive education, and general education teachers will be trained and sensitized on inclusive education (GOP, 2017).

Research indicates that deaf students face significant challenges in their academic performance, socialization, and inclusion due to a segregated educational system. Special education schools for students with hearing impairment tend to fall short

in providing rich-quality chances for the sake of integrated learning, grooming personality, and involvement in subjects (science/business/ICT) focusing on higher cognitive orders. Additionally, vocational transition plans are often lacking for these students (Bashir et al., 2021). Individuals with deafness are often stigmatized as an economic burden, a social liability, and even perceived as sources of depression, as indicated by their parents and the hearing community. Moreover, they are subject to criticism, mistreatment, and misunderstandings regarding their true potentials and capabilities (Batool & Shehbaz, 2008; Iftikhar & Yasmeen, 2009).

Material and Methods

Design

A quantitative research design was employed to investigate the provision of input resources in the Special Education Program for deaf students in Punjab, Pakistan. This design allowed for the collection of structured and quantifiable data, enabling a systematic analysis of the prevailing conditions.

Sampling Technique

A multistage random sampling technique was utilized to select the sample of 89 institutes out of (19 schools and 70 centers) from each of Punjab's four zones. This approach ensured representation from diverse geographical regions, contributing to the generalizability of the findings.

Participants

The participants in the study comprised heads of institutes responsible for overseeing the Special Education Program for deaf students. Their firsthand knowledge and insights into the resource allocation and implementation were crucial for the research objectives.

Data Collection Instrument

A self-developed questionnaire was the primary data collection instrument utilized in this study. The questionnaire was carefully designed to encompass key variables related to input resources. The questionnaire's content validity was ensured by subjecting it to expert review. To ascertain the reliability of the questionnaire, a reliability coefficient ($\alpha=0.91$) was obtained.

Data Collection Procedure

Prior to data collection, ethical considerations were upheld, ensuring the anonymity and confidentiality of the participants. Informed consent was obtained from the heads of the institutes before administering the questionnaire. Data collection took place in a structured manner, allowing participants sufficient time to provide thoughtful responses.

Data Analysis

The collected data were subjected to quantitative data analysis using appropriate statistical methods. Descriptive statistics (frequencies and percentages) were used to summarize the provision of input resources. Additionally, inferential statistics (independent sample t-test and ANOVA) have been employed to identify potential relationships or differences among different variables.

Table 1
Demographics of Heads of Special Education Institutions

Variables	Description	f	%
Institute	Special Education School	19	21.3
	Special education Centre	70	78.7
	Total	89	100.0
Districts from Each Zone	Zone I: Attock/Mianwali/Chakwal	15	16.9
	Zone II: Sheikhupura/Rawalpindi/Lahore/Sargodha, Jhelum/Gujranwala	31	34.8
	Zone III: D.G Khan/Bahawalpur/Multan/Rajanpur/Khanewal	21	23.6
	Zone IV: T.T Singh/Chiniot/ Sahiwal/Kasur/Faisalabad	22	24.7
	Total	89	100.0
Gender Identity	Male	42	47.2
	Female	47	52.8
	Total	89	100.0
Age of the Respondents in Years	(21 to 25)	-	-
	(26 to 30)	1	1.1
	(31 to 35)	20	22.5
	(36 to 40)	32	36.0
	>40 Years	36	40.4
Total	89	100.0	
Academic Qualification of the Respondents	M.A or M.SC	58	65.2
	M.Phil.	24	27.0
	PhD.	6	6.7
	Others	1	1.1
	Total	89	100.0
Professional Qualification of the Respondents	B.Ed.	19	21.3
	M.Ed.	46	51.7
	Others	19	21.3
	None	5	5.6
	Total	89	100.0
Experience of the respondents in Deaf Education	(0 to 5) Years	11	12.4
	(6 to 10) Years	25	28.1
	(11 to 15) Years	24	27.0
	(16 to 20) Years	26	29.2
	>20 years	3	3.4
Total	89	100.0	
Experience as Head	(0-5) Years	40	44.9
	(6-10) Years	34	38.2
	(11-15) Years	14	15.7
	(16-20) Years	1	1.1
	Above 20 years	-	-
Total	89	100.0	
Nature of Job	Permanent	86	96.6
	Contract	3	3.4
	Total	89	100.0
Nature of Post	Actual	67	75.3
	Additional	22	24.7
	Total	89	100.0
	HIC	48	53.9

Area of Specialization	VIC	14	15.7
	PD	13	14.6
	IDD	9	10.1
	Other	5	5.6
	Total	89	100.0
No. of Trainings Attended by Heads	Zero	16	18.0
	(1-3)	44	49.4
	(4-6)	23	25.8
	(7-9)	6	6.7
	10 or Above	-	-
	Total	89	100.0

Table 2
Percentages of Respondents about Provision of Resources

Input (Resources)	Agreed	Disagreed
Adequacy of support staff	30.4%	69.6%
Support staff is adequately trained	27.0%	73.0%
Availability of sufficient quantity of paraprofessionals	33.7%	66.3%
Equitable opportunities of in-service training	33.7%	66.3%
Workshops/seminars are organized for parental guidance	54.0%	46.0%
Co-curricular ventures are regularly planned	74.2%	25.8%
Provision of transportation facility	80.9%	19.1%
Students are provided monthly stipend	91.0%	0.9%
Appropriateness of the quality of uniforms	86.5%	13.5%
Provided books in accordance with their class level	68.5%	31.5%
Appropriate utilization of financial resources (budgets/funds)	58.5%	41.5%
Availability of a library equipped with proper and sufficient material	22.5%	77.5%
Conduct hearing assessment periodically for deaf students	46.0%	54.0%
Purposeful construction of the school building (sound-proofing)	45.0%	55.0%
Availability of a well-equipped computer lab	39.4%	60.6%
Furniture is sufficient to meet the needs of deaf students.	66.2%	33.8%
Appropriateness of the student-teacher ratio	22.4%	77.6%
Curriculum is adapted properly	18.0%	82.0%
Content is commonly presented in a simplified manner.	64.1%	35.9%
Teachers receive sufficient training to adapt the content	50.6%	49.4%

Findings

Major findings are:

1. A significant portion of respondents (69.6%) expressed concerns about the adequacy of support staff in the institutes.

2. A substantial majority of respondents (73%) disagreed with the notion that support staff is adequately trained to handle deaf students' needs.
3. A considerable majority of respondents (66.3%) disagreed about the availability of sufficient quantity of paraprofessionals in special education institutes for deaf students.
4. A significant majority (66.3%) communicated dissatisfaction about the provision of equitable opportunities of in-service training by the special education institutions.
5. Majority respondents (54%) acknowledged that workshops/seminars are organized to conduct for parental guidance.
6. Significant respondents (74.2%) agreed that co-curricular ventures are regularly planned by the SMC (school management committees) for deaf students in active manner.
7. An overwhelming majority of those surveyed (80.9%) indicated satisfaction with the provision of transportation facility for pick n drop to deaf students.
8. The vast majority of those surveyed (91%) confirmed that the deaf students are provided monthly stipend which is consistently disbursed.
9. A substantial majority of those surveyed (86.5%) agreed about the appropriateness of the quality of uniforms being provided to deaf students.
10. A significant majority of those surveyed (68.5%) concurred that deaf students are provided books in accordance with their class level.
11. A considerable majority of those surveyed (58.5%) agreed that the utilization of financial resources (budgets/funds) is appropriate in special education institutes.
12. A significant majority of those surveyed (77.5%) disagreed with the availability of a library equipped with proper and sufficient material to cater deaf students' learning.
13. A majority of respondents (54%) disagreed with the notion that the institutes conduct hearing assessments periodically for deaf students.
14. A significant majority of those surveyed (55%) conveyed reservations about the purposeful construction of the school building (sound-proofing).
15. A considerable majority of respondents (60.6%) disagreed with the availability of a well-equipped computer lab for deaf students.
16. A significant majority of respondents (66.2%) agreed that the existing furniture is sufficient to meet the needs of deaf students.
17. A considerable majority of respondents (77.6%) disagreed with the appropriateness of the student-teacher ratio.
18. A significant majority of those surveyed (82%) agreed with the fact that the curriculum implemented for deaf students is exclusionary. They highlighted that certain topics are missing or not appropriately tailored to match the

students' level of difficulty compared to the curriculum used in general education.

19. A majority of those surveyed (64.1%) agreed that content is commonly presented in a simplified manner.

20. A majority of those surveyed (50.6%) agreed that teachers receive sufficient training to adapt the content for deaf students.

Table 3
An Independent Samples T-test was conducted to analyze the responses of various heads surveyed through a questionnaire based on different variables

Variables	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Type of Institute	.06	.798	2.05	87	.043	.24214	.11785	.0078	.4763
			2.041	28.29	.051	.24214	.11865	-.0007	.4850
Gender	.001	.979	.022	87	.982	.00220	.09906	-.19468	.19909
			.022	86.302	.982	.00220	.09892	-.19444	.19885
Nature of Post	1.109	.295	-.974	87	.333	-.11109	.11401	-.33771	.11552
			-.904	31.934	.373	-.11109	.12285	-.36136	.13918
Nature of Job	.679	.412	1.178	87	.242	.32035	.27184	-.21996	.86066
			1.356	2.192	.298	.32035	.23630	-.61555	1.25624

The Independent Samples T-test results reveal that the type of institute variable had a statistically significant influence on the mean scores of the heads surveyed, while no significant differences were observed based on gender, nature of post, and nature of job variables.

Table 4
A One-Way Analysis of Variance (ANOVA) was performed to examine the responses of different heads surveyed through a questionnaire, considering various variables.

Variables		Sum of Squares	df	Mean Square	F	Sig.
Academic Qualification	Inter-Groups	.230	3	.077	.349	.790
	Intra-Groups	18.704	85	.220		
	Total	18.934	88			
Professional Qualification	Inter-Groups	.598	3	.199	.923	.433
	Intra-Groups	18.337	85	.216		
	Total	18.934	88			
Zone	Inter-Groups	1.146	3	.382	1.825	.149
	Intra-Groups	17.789	85	.209		
	Total	18.934	88			
Age	Inter-Groups	.686	3	.229	1.066	.368
	Intra-Groups	18.248	85	.215		
	Total	18.934	88			
Experience in Deaf Field	Inter-Groups	.963	4	.241	1.125	.350
	Intra-Groups	17.972	84	.214		
	Total	18.934	88			
Experience as Head	Inter-Groups	.841	3	.280	1.317	.274
	Intra-Groups	18.093	85	.213		
	Total	18.934	88			

Area of Specialization	Inter-Groups	1.180	4	.295	1.395	.243
	Intra-Groups	17.755	84	.211		
	Total	18.934	88			
No. of Trainings	Inter-Groups	.723	3	.241	1.125	.344
	Intra-Groups	18.211	85	.214		
	Total	18.934	88			

The results of One Way ANOVA indicate that non-significant statistical differences in the mean scores of the heads across various variables, including academic qualification, professional qualification, zone, age, experience in deaf field, experience as head, area of specialization, and no. of trainings they attended.

These findings provide valuable insights into the relatively consistent perceptions and opinions of the heads surveyed within the context of the Special Education Program for deaf students in Punjab, Pakistan.

Conclusions

In conclusion, this study explored the provision of input resources in the Special Education Program for deaf students in Punjab, Pakistan. Through a comprehensive analysis of survey responses from heads of institutes, valuable insights were gained regarding the strengths and weaknesses of the program. While the provision of certain resources, such as pick and drop facilities, stipends, and uniforms, appeared satisfactory, critical gaps were identified, particularly in the areas of support staff availability, in-service training opportunities and infrastructure. Similar finding was reported by Ahmed & Yousaf (2011), the rehabilitation services and educational opportunities for the persons with disabilities are not up to mark in the developing countries including Pakistan. Despite the facts that special education has been given importance in various educational policies of Pakistan, still it was not fully implemented due to different reasons. Lack of trained personnel's, administrative support, funds etc. were reported in various studies (Bashir, Wajihullah, Kanwal, Akram, & Haider ; 2021; Akram, & Bashir, 2012). Tassarwar & Khurshid (2019) conducted study on provision of facilities in schools of Pakistan and found that there is a lack of facilities in the centers, most of centers working in hired building hence, class sizes are not adequate, buildings are not disability friendly too (Zakar et al., 2020).

Naz & Sulman (2012) found almost identical situation in Special Schools of Karachi Region; in terms of facilities, only a few organizations (23%) have purpose-built buildings available. Students and staff at all institutes told that they have access to toilets, electricity, a sewage system and drinking water. Only 47 percent, offer a playground for physical activities. It is surprising to note that main twelve associations (20%) a provision of ramp for persons with disability. This is because the majority of these organizations operate out of rented space. Larger part of the associations (82%) has PCs for office use and 47 associations (78%) have the provisions of instructional materials.

To foster an inclusive learning environment, targeted interventions are recommended, including enhanced training for support staff, optimized student-teacher ratios, and curriculum modifications to cater to the specific needs of deaf students. By implementing evidence-based strategies and policy recommendations, this study seeks to pave the way for transformative advancements in the Special Education Program, ultimately empowering deaf students to achieve their fullest potential in education and beyond.

Recommendations

Following recommendations were given on the basis of conclusions:

1. **Strengthen the Support Staff:** Address the concerns raised by respondents regarding the availability and adequacy of support staff in institutes. Ensure sufficient support personnel are employed to cater the unique needs of deaf students, promoting a conducive learning environment.
2. **Enhance Training for Support Staff:** Implement comprehensive training programs to equip support staff with the necessary skills and knowledge to effectively engage and support students with special needs, fostering an inclusive educational experience.
3. **Optimize In-Service Training Opportunities:** Address the dissatisfaction expressed by respondents about the lack of fair chances for in-service trainings. Establish regular and accessible in-service training opportunities to empower educators in employing best practices for deaf students' education.
4. **Strengthen Infrastructure:** Improve the availability and accessibility of well-equipped computer labs and libraries, ensuring deaf students have access to essential resources that aid their academic progress.
5. **Address Student-Teacher Ratio:** Address the concerns raised by respondents regarding the appropriateness of the student-teacher ratio. Strive to maintain a balanced ratio to enable educators to provide individualized attention and support to deaf students.
6. **Enhance Curriculum Inclusivity:** Review and revise the curriculum to ensure it caters to the specific needs of deaf students. Eliminate exclusions and incorporate content that aligns with the academic and cognitive abilities of these students.
7. **Conduct Periodic Hearing Assessments:** Address the concern that periodic hearing assessments for deaf students are not consistently performed. Implement regular hearing assessments to identify and address any changes in students' hearing capabilities.
8. **Purpose-Built School Infrastructure:** Consider constructing purpose-built school buildings, incorporating soundproofing measures to create a conducive learning environment for deaf students.
9. **Ensure Budget Utilization:** Review and optimize the utilization of budgets and funds in institutes to ensure efficient allocation of resources for the benefit of deaf students.
10. **Foster Parental Involvement:** Continue conducting workshops and seminars for parents to provide guidance and support in their engagement with deaf students' education, promoting a collaborative approach to their learning journey.

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