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Service design for inclusion and accessibility at higher education institutes

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Abstract

Design for care and support is slowly taking shape in developing nations. Disability support services are yet to find their place in Indian universities. Residential higher education provides a cohesive ecosystem of holistic growth. Students with disabilities have been devoid of these growth opportunities due to the absence of an equitable environment. This paper presents a model to establish inclusion and accessibility services for students with disabilities in residential higher education institutes. The service model results from participatory research and design thinking led co-creation with the students with disabilities at a pioneer residential university.

The service design approach considers both the student and Institute viewpoints orchestrating the backstage and frontstage of the service. It presents the idea of bottom-up initiatives to build a larger disability support ecosystem in the Institute. The paper attempts to highlight the impact of service design in creating equitable and accessible systems for institutes and students.

Keywords: Service Design, Inclusive Design, Support Services, Higher education

Introduction

Accessibility and inclusion in the higher educational institutes in India are at a very nascent stage. A handful of the most prestigious institutes have taken their first step toward establishing disability support services. Students with disabilities often do not feel welcome and supported in the postsecondary institutional climate (Wilson, Getzel, and Brown, 2000). The presence of a disability is traditionally viewed as a limitation for the individual with a self-identified disability (Barnes, 2006;Dudley-Marling, 2004; Quick, Lehmann & Deniston, 2003; Wax, 2014). The educational environment poses

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many challenges for students to progress in the system. As of June 2022, the number of universities in India stood at 1,047. In FY20, Gross Enrolment Ratio (GER) in Indian higher education was 27.1% (India Brand Equity Foundation (IBEF). (2022, Feb). The residential higher education institutes are places full of young energy, collaboration, competition, learning, and growth. Enrollment and participation in higher education continue to increase for individuals with disabilities (Lovett & Lewandowski, 2006; Raue & Lewis, 2011). Despite the growing presence in higher education, students with disabilities face additional challenges that other college students without disabilities may not encounter (Brockelman, Chadsey, & Loeb, 2006; Hadley, 2011; Hergenrather & Rhodes, 2007; May & Stone, 2010; Shackelford, 2009).

When it comes to accessibility and inclusion in the residential education environment, it goes beyond the classroom and learning. It is grounded in every aspect of the institute: the built environment, processes, people, and educational tools. Higher education institutions should allocate sufficient time and resources for, for example, the accessibility of the new e-learning environments to be tested appropriately. (Markku Karhu, 2014). The awareness has certainly grown among institutes to address the needs of students with disabilities. Many institutes extend disability support by providing assistive devices (like wheelchairs, crutches, and canes), extensions in exams/assignments, and flexible schedules. The problem lies in the offering of such assistance.

Students with disabilities find it challenging to ask for every single accommodation. Limited social opportunities and underutilization of accommodations and support services contribute to a large percentage of students with disabilities not completing degree requirements and leaving college early (Quick, D., Lehmann, J., & Deniston, T. 2003). The absence of a central agency makes it difficult for students to seek support. The services provided by educational institutions should ideally be inclusive in every aspect. Like other forms of diversity have been integrated and accepted within the postsecondary educational environment, student disability needs to be re-conceptualized as a form of student diversity rather than as impairment and a medical limitation. (Katherine C. Aquino, 2016). The accessibility of education and related services entirely depends on how they are delivered and not on students' ability. The current services in the institutes take a symptomatic approach to remove barriers.

According to the All India Survey on higher education 2019-20-

- Total enrolment in higher education has been estimated to be 38.5 million
- There are 92,831 PWD students enrolled in higher education. Out of which 47,830 are male, and 45,001 are female students.

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The education system assumes that the end beneficiary of this system is an "able-bodied" student and expects them to participate in the desired manner. This mindset creates a gap between the system's expectations and the performance abilities of students with disabilities. The institutes are responsible for providing an equitable playfield where every student can grow, irrespective of their physical abilities. When a student feels accepted and integrated, he or she has a more significant opportunity to understand the disability as another component of one's identity and, therefore, blends more seamlessly with other diverse characteristics. (Katherine C. Aquino, 2016). Higher education institutes are a place to nurture and find the capabilities, competencies, and direction to move ahead in life. The experience of being in a learning environment shapes students' perspectives on life in both professional and personal ways. The educational ecosystem must be welcoming to students with diverse needs. Persons with disabilities require reasonable accommodations in various aspects of the education setting. The institutes offer a lot more than academics. It is a place for housing, dining, recreation, socializing, and many other activities for the period of study in a student's life.

Aims and objectives

This paper aims to develop a framework for establishing inclusion and accessibility services in higher education institutes using a service design approach.

- To understand the diverse needs and accommodations required in a living-learning environment.
- To understand the infrastructure and services provided by the institute for a holistic student-life experience.
- To build a framework for student-centric disability support services on campus.

Context

The study was initiated at an anonymous (for review) institute to establish their disability support and inclusion office. Only a handful of universities in India have a well-established office for disability support. The inquiry began with a larger goal of understanding the residential higher education landscape, and then it got further refined to address challenges at the institute.

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The project took shape by generative research while identifying the challenges students face during their course and connecting the dots of accessibility for various services/ facilities provided by the institute. It started with a broad understanding of disability & inclusion and led to strategic directions to achieve inclusion.

Methodology

The research approach was conducting a qualitative study with a diagnostic perspective. The intent was to gain insights into the people, processes, systems, and policies around disability and higher education. A contextual understanding of the system was achieved by secondary research and then a focused study on students' experience at the institute by primary research.

- Case studies of disability support services at 15 universities across the globe through desk research and secondary research for the ecosystem in India provided a fair understanding of accessibility and inclusion services, leading to the assessment of best practices. It also informed the direction and flow of user interviews for primary research.
- A service design approach encompassed all touchpoints in the journey of students with disabilities. Also, it aligned the institute and student goals to define a holistic service experience.

Primary research was challenging during the COVID-19 pandemic as it limited field exposure. The aim was to conduct digital ethnographic interviews/data sessions, get rich insights into the campus life of students with disabilities and connect with other stakeholders to gain a broader perspective on the system. The interviews were scheduled and conducted using online video conferencing, recording and transcription.

Primary research helped to-

- Gain a student perspective of the end-to-end experience of the journey from admission to convocation.
- Dig deep into the everyday tasks, activities, interactions, and related challenges with these.
- See the institute's facilities and offerings from a student perspective.
- Understand the goals, motivations, and priorities of students with disabilities.

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Research analysis

The primary and secondary research insights translate into actionable design directions. Design research tools like affinity mapping (Kawakita, J.,1982) for emerging themes from research and how might we (Parnes, S. J.,1967) creative ideation of service concepts. A team exercise of "How might we" helped generate an extensive collection of ideas. The team approached the insights in the direction of the student experience from admission to graduation. Every stage allowed the exploration of ideas to address the "how might we" questions. The intent was to bring forth ideas with quick and long-term execution.

Many aspects of student life on campus emerged from the research analysis as impactful directions. There are many interaction points between students and the institute—these interactions impact learning, daily life, and, eventually, the holistic growth of an individual.

Results

The research has uncovered areas that primarily affect student life on campus. There are two entities in the disability support ecosystem, i.e., the student and the institute. One stream of experience is the facilities availed by students, i.e., information, infrastructure, and services. The second stream is how the institute provides these facilities, i.e., academics, administration, and campus living. All the facilities would fall at the intersection of these two streams.

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Figure 1. Campus Accessibility Matrix

The intersection of facilities and components of the institute at any given point gives the key areas of intervention. The three verticals to achieve complete accessibility in a residential learning environment are Information, Infrastructure, and Campus Services. The road to these three areas is through Academics, Administration, and Campus living. There are many intersections among these points, but this matrix provides a holistic picture of the nuanced aspects of accessibility at residential and educational institutions.

Information

Information covers a significant part of student life. There is a large amount of information floating in different formats and there are multiple channels to convey the same. It can be understood as everything students need to know during their stay on campus. Everything is one form of information, like navigation routes, lectures, schedules, and notices. The accessibility to the information is one step closer to an independent life on campus.

Infrastructure

Physical access to an environment is the initial level of accessibility in the institute. It involves both the indoor and outdoor infrastructure of the campus. An infrastructural ecosystem on campus serves different purposes like residential, learning, and

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socializing. The built environment shapes the daily life experience of the students on campus. Physical access to the places encourages community participation and belonging.

Services

A residential-educational program consists of many services being offered to the students. These services tie the infrastructure and information together by involving people and defining processes. The services cater to every aspect of living and learning in the institute. All the facilities provided by the institute can be easily understood as services. Lectures, training & placement, residence, dining, and similar facilities are all examples of services provided by the institute.

Academics

The academics in an institution would constitute everything related to learning and pedagogy. The primary reason for students to join the institute is to learn. Academic activities involve lectures, tutorials, experiments, collaborative industry projects, and other similar engagements. These activities require holistic student engagement with the infrastructure, information, and services.

Administration

The institute is tied together with a well-established administration to manage the functioning of different processes. The administration is responsible for the management of different parts of the institute. It involves all the different offices working for internal as well as external affairs of the institute. The students often come across these processes and accessibility at this level would help run everything smoothly.

Campus living

Residential education programs provide a comprehensive living and learning environment. There are a lot of other activities going on beyond the classroom and curriculum. The students have a personal and social life that involves everything from daily essentials to recreational and social activities. The institute is responsible for nurturing students in the best possible environment and ensuring holistic development.

These key themes give a direction to lead disability support initiatives at the institute. The intent is to Extrapolate the themes to propose a model that finds utility across various institutes in India—proposing a more holistic and comprehensive model to be implemented in different institutes irrespective of educational domains. It would highlight the various areas that require consideration of disability support. It would also

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enlighten the policy/ decision-makers to think beyond building ramps and providing wheelchairs to fulfill accessibility requirements. Once all the possible areas are identified, the institute can adopt the service design model to address the challenges.

Proposed service model

The disability support service aims to bridge the gap between students with disabilities and the institute. Inclusion and Accessibility Services (IAS) would be a one-stop center for students and various institute bodies to meet all the accessibility requirements. The aim is to design cross-channel services; arranging, planning and systematizing people, communication, material components and the infrastructure of a service. The discipline focuses on what channels and solutions are best suited both to the needs of the customer and the service provider (Blue, O. L., 2017). There are three components to the Disability support service model- the students, the disability support office, and the institute. The three components sync to deliver students an accessible and inclusive experience. Introducing a nodal agency like this smoothen the exchange between the institute and the students with disabilities. It also offers a disability support representation at the institute level.

The 'Functions of the Institute' from campus accessibility matrix become a foundation for the institute and IAS to collaborate. The 'facilities at the institute' become the output of this collaboration towards better student experience on campus.

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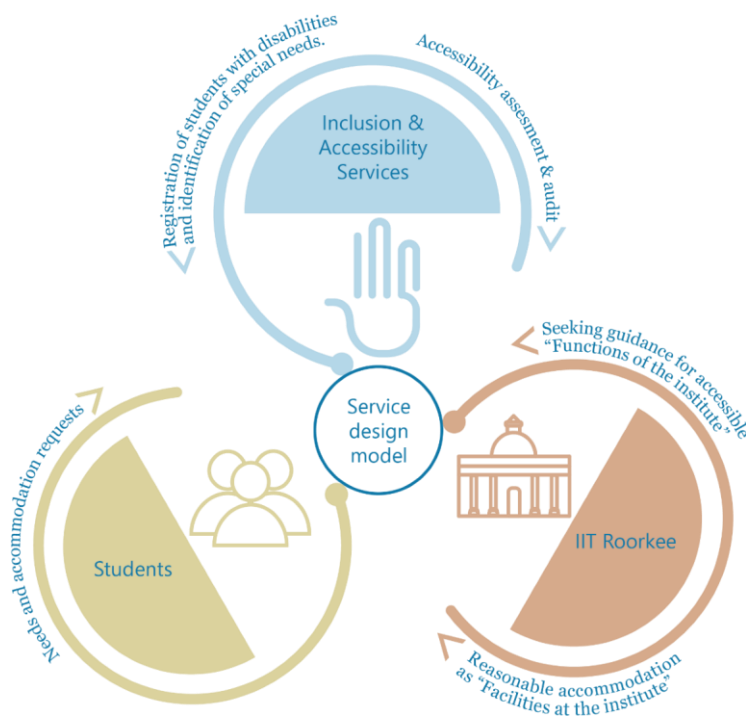Livework

Figure 2. Inclusion and accessibility service design model for higher education institutes

Student- Inclusion & Accessibility Services

The support services become the face of disability support to the students, giving them a single point of contact for all accessibility issues. It also manages detailed documentation of students' needs and functional limitations. The better it gets documented, the easier it is for the institute to take reasonable actions.

Inclusion & Accessibility Services- Institute

IAS would gradually enable the institute's processes and functions to adapt to accessible practices. It will also put forward the voice of students to the authorities. The institute relies on the expertise offered by IAS in its functioning in the areas of academics, administration, and campus living. Their collaboration results in looking at every aspect of the institute through a lens of accessibility and taking meaningful actions for a smooth student experience.

Student - Institute

The institute, well informed by the IAS, offers reasonable accommodations and accessible student services. It also ensures best accessibility practices across the facilities in the form of infrastructure, information, and services like companies visiting for job placements, academic conferences, and various campus festivals. The student-

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institute relationship becomes meaningful and transparent with the presence of IAS as a facilitator.

The way forward

The service model gives a higher-level view of establishing a service and the campus accessibility matrix highlights all the potential areas of accessibility intervention. The model provides enough flexibility to plan and implement disability support services with their contextual challenges and resources. The intent is to build a support system of people, places, and processes that empower persons with disabilities towards independent living. Inclusive service design then does not project inclusivity on the design of single objects, but on clusters of resources that in different combinations can achieve the value creation in an inclusive manner (Huan, Y., Arvola, M., & Holmlid, S., 2020). Establishing disability support services may seem a huge task, but the institutes can always roll out the services phase-wise.

With the flexibility of planning and implementation, Institutes at all levels can do a phase-wise implementation.

Levels of Implementation

1. Acknowledgment and awareness level

The implementation of support services at the Institute begins with a shared understanding of the challenges and their acknowledgment. Awareness of the various disability support requirements to a larger community ensures a healthy inclusive environment. Right representation plays a crucial role in bringing a sense of belonging. The initial set of actions can be (but is not limited to)-

- Auditing the information, infrastructure, and services
- Formation of the student volunteer team
- Research on available Assistive tech resources
- Defining the vision of IAS
- Creating a service model and integration in the current system
- Student involvement through awareness activities.

2. Actions and active participation level

The planning ahead is to train and sensitize the people in multiple phases. It will build a culture of accessible practices and inclusive community in the Institute. Digital education has become an integral part of the curriculum enabling assistive technology

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to ensure the equitable use of available resources to students. The new age technologies and devices need to be embedded in the conventional methods of teaching and learning for an inclusive education environment. The educators and learners need a straightforward methodology to adapt to the technology solutions.

- Registering PWD students with IAS
- Initiating web accessibility practices
- Creating a database for reasonable accommodation
- Changes in the built environment
- Streamlining the processes within the Institute for PWD students
- Taking requests from students for reasonable accommodation
- Bringing accessible practices in learning for students.

3. Advance practices and collaboration level

A higher level of inclusive practices would have advanced assistive tech integration in daily tasks for students. The Institute can become an epitome of inclusion and guide others towards an inclusive future. Active collaboration with employers, study material providers, events, catering, and all allied services for living-learning requirements.

- Training teachers for accessible practices
- Collaborative work with other institutes (their respective disability support services) to share resources and build a common repository.
- Revise the curriculum of all programs by following universal design principles for learning.
- Create a library of accessible study material and resources.
- Provision of mobility solutions for students in and around the campus.

Conclusion

The functional limitations of the students come from their own experience, and the challenges may change over time. They must be addressed and documented regularly to create awareness of challenges faced by people with disabilities and encourage the provision of reasonable accommodations. The institutes are responsible for providing an equitable playfield where every student can grow, irrespective of their physical abilities. The facilities in the Institute are fragmented. The offerings are siloed in various departments, offices, and administrative processes. It is crucial to leverage the

opportunities at a higher organizational level so it slowly trickles down to all the subsidiaries.

The strategic framework focuses on higher education institutes, resulting from the Anonymous (for review) Institute as a test subject. A similar approach can help other Universities set up their office for disability support. It is an adaptive model for institutes of various levels and scales to implement in their context. The proposed framework is the initial milestone in achieving an accessible campus. It becomes a strong tool to drive the disability support initiatives and channelize the organizational efforts in the right direction. The recommendations are not exhaustive, and they can grow further. The services may evolve to a greater extent in the future.

Design research shows a humane approach to identifying latent gaps at the grassroots level, and service design allows us to take the opportunities and design at the strategic level. Design research helps in empathizing with the people involved in the ecosystem, considering different perspectives, and identifying the latent needs of students with disabilities. It is crucial to have a representation of accessibility challenges at the decision-making levels of the Institute. Service design ensures due consideration of various stakeholders in the higher education ecosystem in this case. A service design solution integrates the involved touchpoints seamlessly, has a strategic vision, and helps in the phase-wise implementation of the ideas.

The mindset of accessibility does not come naturally in most decision-making processes. It needs sincere efforts at every level of decision-making. A service design approach to establishing disability support targets this decision-making process in the organization and makes it a win-win for the students and the Institute.

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