

COMMUNICATION

A Concept Design for Strengthening Learning Support

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Abstract: The author describes types and functions of student contact points in distance education; proposes a contouring and catchment method, and applies the method to IGNOU for strengthening its learner support system further.

Introduction

While looking for ways and means to popularise education and improve literacy level in society, various options were examined. A shift from one system to the other and to yet another is a continuous process leading to new and innovative educational reforms and pedagogic methodologies. Success of a method in a social environment may be failure in the other environment and will demand the need of search and research (Khare et. al., 1998).

Distance Education (DE) is one of the recently tried pedagogic approaches in the present societal structure. Today, in the information society, with dense population and zeal to know more, DE has become a tool to reach the maximum learners to fulfil their educational needs. It is an approach of imparting education to strengthen the educational base and to cope up with the present pace of fast moving societal changes.

The conventional system of education with its limited objectives and goals is rapidly failing to cater to the needs of the masses with their growing aspirations to know and learn more. Today's knowledge society demands instant flow of information, which probably is not available with the classroom system. The basic theory of pedagogy has shifted considerably from teacher-centered to student-centered and with the change; DE has emerged as a powerful tool to cater to the educational needs of knowledge society.

Components of Distance Education

DE encompasses various components that are bound to be networked and shared to reach every learner effectively. Apart from the human resources components (teacher and taught), DE in its present form has the following five major components (Khare et. al. 1998) :

1. Study Materials
 - Self Instructional Print Material (SIM)
 - Audio Video Material (AVM)
 - Electronic Material (CD-ROMS, HTML format etc.)
2. Students Registration
3. Support Services
 - Counselling on Support Services
 - Contact Classes
 - Laboratory Classes
 - Library
4. Study Material Production & Distribution
5. Evaluation and Certification

While dealing with the third component the question that naturally crops up is 'What is support services ?'

Functions of Contact Points

"All education - more so DE - should be learner-oriented. In DE, the study center (SC) of the university remains the closest point of contact, which ignites the whole process : the quality and nature of the inspiration, the guidance and support provided here goes a long way. The interest of the student in his course of choice waxes and wanes according to the impact left upon his mind by the functionaries of the study center" (IGNOU-UNESCO, 1988).

All distance learners, because of their peculiar situation and characteristics, experience a variety of problems at different stages from pre-entry to passing out. In order to install self-confidence in them, to help them to cope with the freedom of open learning and improve their study habits, student support services is instituted by open universities world over. The student support services, in other words, help people to develop as learners (IGNOU, 1992).

Thus, it becomes important to establish a network of contact points for the learners in the vicinity of their residence or within approachable distance. These contact points provide the following services :

1. **Academic Counselling :** The learners get the opportunity for face-to-face interaction with the teacher/counsellors to get clarifications on the doubts in the learning process. The counselling is also provided to prospective learners and helping them to select a programme of study based on their interest, qualification, etc.
2. **Library Services:** The study centres have a small library with relevant course material, reference books, and audio-visual aids integrated with course material. The learners can avail these facilities to strengthen their learning.

3. **Assignments Handling:** The DE system has a major component of continuous evaluation which gives feedback to the learners about their progress and suggest improvement in the learning skills. Study centres play a role of a manager and organiser for assignment collection, evaluation and feedback.
4. **Examination Centres:** Study centers also serve as examination centres for term-end examinations and entrance tests in specific academic programmes.
5. **Orientation Programmes:** Besides services to students, study centres also serve a nodal point for the orientation of new counsellors, who in turn, assist the students in their learning.
6. **Information Centres:** Study centres also function as information centres that provide all academic information to the community where they are located.

Types of Contact Points

The contact points, which perform the above mentioned tasks are named differently based on the intensity of the work they perform in the region. In IGNOU, various nomenclature used are :

- a) **Regional Centres:** "Regional Centre" means a centre established by the University for the purpose of coordinating and supervising work of the study centres in any region and for performing such other functions as may be conferred on such centres by Board of Management (IGNOU Act, 1985). The facilities of library, course material, audio-video cassettes, computers, telex/fax, TV/VCR have been provided at regional centres. The staff at the RCs are IGNOU's permanent staff (IGNOU, 1992).
- b) **Regular Study Centres:** Contact points, which are located in the existing educational institutes, colleges, libraries, etc. (host institutes), and approached by IGNOU to serve as contact points for IGNOU's students on permanent basis, are IGNOU's regular study centres. They function in the evenings, on the holidays and during vacations without disturbing the normal functions of the host institution. The host institute provides rent-free accommodation and IGNOU bears all expenditure. The facilities available to students are library, course material, audio-video cassettes, computers, TV/VCR. The staff at regular study centres are local part-time staff hired on contract basis (IGNOU, 1992).
- c) **Recognised Study Centres:** To widen the student support services, IGNOU recognises certain contact points as recognised study centres which run with the support of government undertaking, voluntary organisations and other institutions interested in promoting open learning system. Under the plan, capital support is provided by the sponsor while academic control remains with IGNOU (IGNOU, 1992).
- d) **Sub-Study Centres:** Though not a normal feature, a sub-study centre is sometimes established within the area of a regular study centre with a view to provide academic support to the learners who may not conveniently avail of such facilities at the regular SC. The sub-centres remain attached to regular study centres and function as a part of them (IGNOU, 1992).

- e) **Programme Study Centres:** For the counselling of specific academic programmes, these contact points are established to perform the task of regular/recognised SC.
- f) **Work Centres:** These are identified contact points where learners can perform practical training. Normally, the work-centres are attached with a regular/recognised study-centre. These contact points are activated only for the period of practical training.

Some other contact points, which are self-explanatory, are :

- g) Partner institutes/partners in advanced learning/collaborating institutes
- h) Internet access points
- i) Multi-media learning centres/tele-learning centers
- j) Distance learning facilitators
- k) Mobile study centers

All these contact points facilitate learners, in one or other way in their studies. These contact points are established to provide additional learning support to the distance learner. It becomes, thus, important to scientifically establish the contact points so that maximum learners in the vicinity get opportunity to strengthen their studies.

The method, “contouring and catchment identification”, gives a visualisation of student concentration in an area and solidifies the location for the establishment of a study centre. The method also identifies the motivation of a community towards an academic programme, University’s/institution’s spread over the area, and details the strategy for establishment of sub-study centers, mobile study centers or appointment of a learning facilitator.

Contouring and Catchment Method

The method has been developed to find out the concentration of registered students, prospective candidates for a given academic programme and potential of an area for a particular academic programme.

One may be interested in finding out the learner concentrations in a given area, i) for prospective learners, and, ii) for registered students of the academic institute.

Database for Prospective Learners

For finding out the prospective learner concentration in a defined area, a feedback study will be required based on the academic programmes going to be launched, population of the area, literacy percentage, societal educational needs, etc. Based on the study, a database can be created under the following heads for a given academic programme :

1. City/ Town
2. Population of the township
3. Literacy percentage
4. Educational Infrastructures in the town
5. Percentage of learners fulfilling the pre-requisites of the academic programme

6. Learners' feedback on the academic programme
 - a) They would like to pursue the programme for academic qualifications?
 - b) They would like to pursue the programme for continuing education?
 - c) They would like to pursue the programme for latest updates/general awareness?

After the collection of data, one has to manage it for the point of mapping. The data will reveal the number of prospective students in a given township.

Database for Registered Students

Preparation of database for the registered students is based on the admission data for a given programme for a given academic year. The data are to be arranged location-wise and by counting the registered students in a particular town/city. The total number of locations will be either based on district headquarters or major townships in the given area where minimum academic facilities are available to establish learners' contact point.

The admission data, after arranging in a uniform way, are sorted on the basis of the name of town/city. Then the arranged and sorted data are condensed to find out the total locations and number of students in each location. In the test case, the exercise was performed on Microsoft Excel to obtain desired outputs.

The Mapping

After compiling the desired data in the format, plotting of data is done on the political map of a state or area, in which the contact points to be established. This becomes the basis for using the three point contouring method. The boundaries of a districts, cities and small townships are well defined in the political map.

Contour lines are imaginary lines joining the equal heights (Worcester, 1961). In case of the method, contours are defined as imaginary lines of equal student population. After putting the numbers on map at appropriate locations, triangles are made between the locations (Fig. 1).

On the basis of contour interval (distance between the two adjacent contour lines), and the value assigned at the locations, the lines of a triangle are divided in parts. Suppose, an interval is decided as 25, and two end (two locations) are having values 100 and 200, then the line will be divided into four parts to get intermediate values of 125, 150 and 175. Similarly, if a location has student concentration of 40 and adjoining location has 125, the line will be divided in such a fashion to get intermediate values of 50, 75 and 100.

The points of equal concentrations are joined together by smooth curved lines (Fig. 2). These lines are shown by dashes and their values are written on them. These contour lines will show area of high concentration around a location and less in other.

Analysis

The mapping of the area can be done for prospective learners for different academic programmes and a number of maps can be obtained. For registered students, the maps can be obtained for different academic programmes and for past two or three years of admissions. After completion of contour map of the location, following analysis can be done on the basis of concentration map.

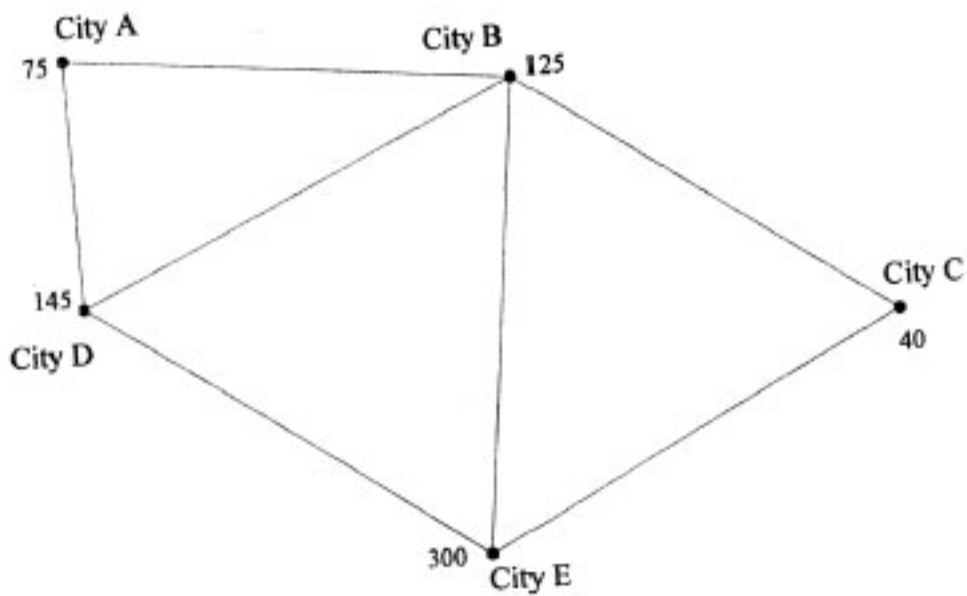


Fig. 1 : Construction of triangles between locations

1. *Locations of high concentration of learners* : The location can be taken for establishment of a regular study centre based on the survey of other facilities available in the area.

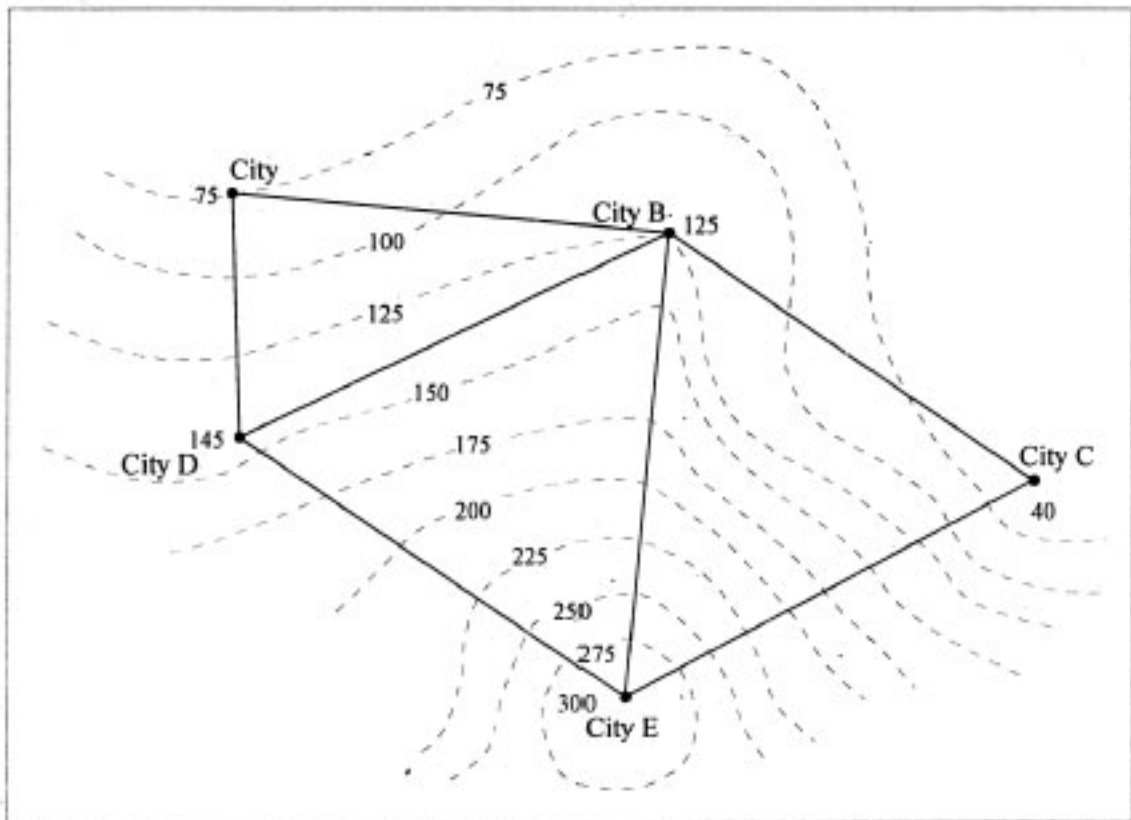


Fig. 2 : Student concentration contours

2. *The catchment* : The catchment of the identified high concentration locations can be analysed and distance to be travelled by a group of learners can be calculated.
3. *Common locations* : After comparing maps of different academic programmes, a single location can be identified for providing contact facilities for different programmes.

4. *Interest* : The community interest towards a particular academic programme will be visible by comparing year-wise and academic programme-wise maps.
5. *Shift* : The comparison of year-wise maps will define the shift of student concentrations from one location to other and thus, inform about the weakness of the establishment.
6. *Monitoring* : Total area monitoring can be performed on the basis of concentration maps. Loss or gain in the strength of learners will be clearly visible while comparing the year-wise and programme-wise maps.
7. *Sub-establishments* : There may be locations where number of learners is not sufficient for establishment of a regular contact point, but appropriate for establishment of a sub-centre. There may be locations where a mobile study center can be sent at regular intervals or appointment of a distance learning facilitator.

Validation of the Method on IGNOU'S Management Programme

Indira Gandhi National Open University (IGNOU), India was established in 1985. Over the period of 14 years, the University has emerged as an institution providing nationwide academic programmes through the distance mode of education, serving as a national resource centre for the distance education institutes in India and catering to the needs of continuing education for those who missed the opportunity.

The Management Programme is one of the initial academic programmes launched by IGNOU. Till date, IGNOU has certified 71,626 students. The details of level of certification is as follows :

**Table 1 : Certification of management students in IGNOU (1989-1998)
(convocation reports)**

MBA	DMM	DFM	DHRM	DOM	DIM	PGDIM
5741	8629	6482	7688	2920	27565	12601

MBA : Master of Business Administration
Management

DFM : Diploma/PG Diploma in Financial
Management

DOM : Diploma/PO Diploma in Operations
Management

PGDIM : Post Graduate Diploma in Management

DMM : Diploma/PO Diploma in Materials

DHRM : Diploma/PO Diploma in Human Resources
Management

DIM : Diploma in Financial Management

For validation of the Contour and Catchment Method, 1999 admission data of Management students of one Indian State, Uttar Pradesh, is taken for analysis. Uttar Pradesh (total area 2,94,411 sq. km.) is a highly populated state of India with a total population of 13,91,12,000 (as per 1991 Indian Census) having density of 473 persons per sq. km. The literacy rate is 41.60%.

The registration data, after arranging and sorting, was compiled as per the towns/cities and the regular SCs of Uttar Pradesh. For the validation of the method, the following database was considered for analysis :

1. The total number of 2,524 students of Uttar Pradesh registered for January, 1999 academic session, were taken as the sample.
2. Out of total the sample taken, only 2,471 students' data was found to be useful for mapping. 38 students were from army/forces and gave post-bag addresses. 15 records were found to be error records due to incomplete address. 78 students were from outside Uttar Pradesh but from adjoining states.
3. A total of 112 locations were selected for making contours. Out of these 112 locations, 17 locations were selected from adjoining states (Madhya Pradesh, Rajasthan, Haryana & Delhi).
4. Total number of study centres activated for the management programme in Uttar Pradesh by IGNOU were 19 out of which 4 wererecognised study centres (2722, 2723, 2724 & 2730). The list is as under

2701: Lucknow	2702 : Agra	2703 : Allahabad
2704 : Bareilly	2705 : Dehradun	2706 : Kanpur
2707 : Modi Nagar	2708 : Varanasi	2709 : Gorakhpur
2712 : Jhansi	2713 : Aligarh	2714 : Moradabad
2718 : Gaziabad	2720 : Lucknow	2722 : Shaktinagar
2723 : Azamgarh	2724 : Mankapur	2728 : Meerut
2730 : Gaziabad		

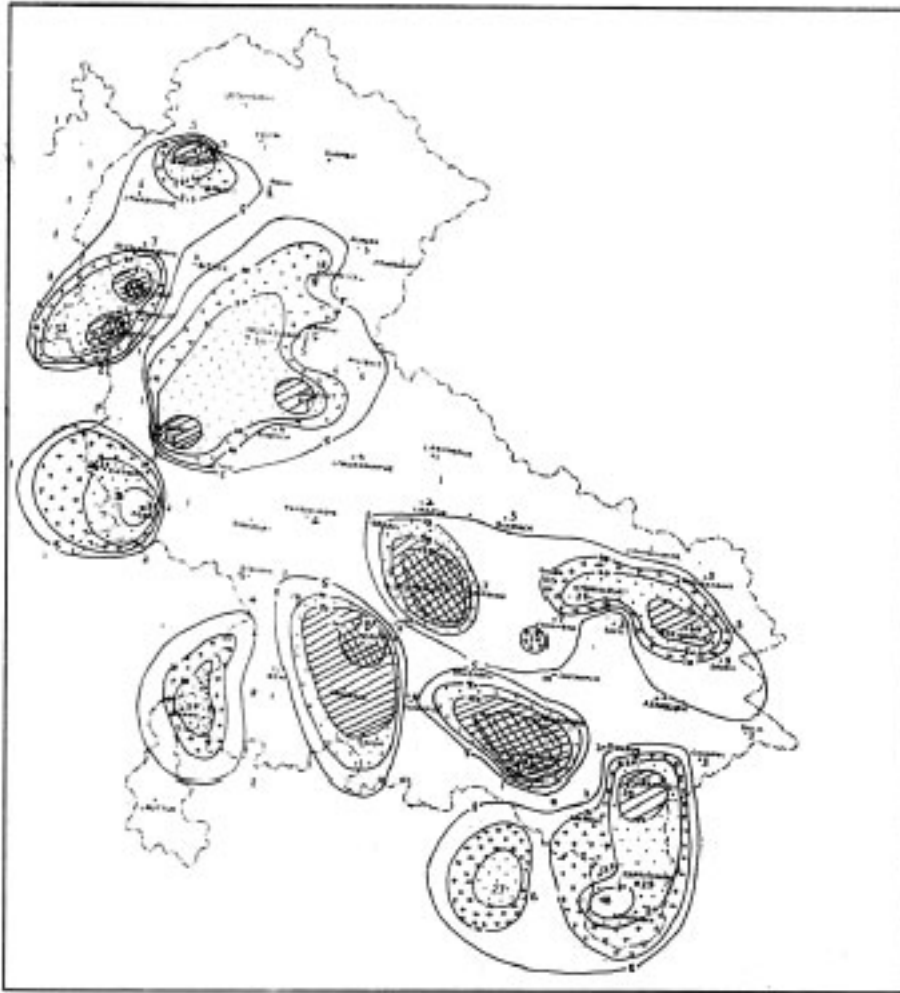
5. The student registration in various study centers is as follows :

Table 2 : Study centre-wise student registration in Uttar Pradesh

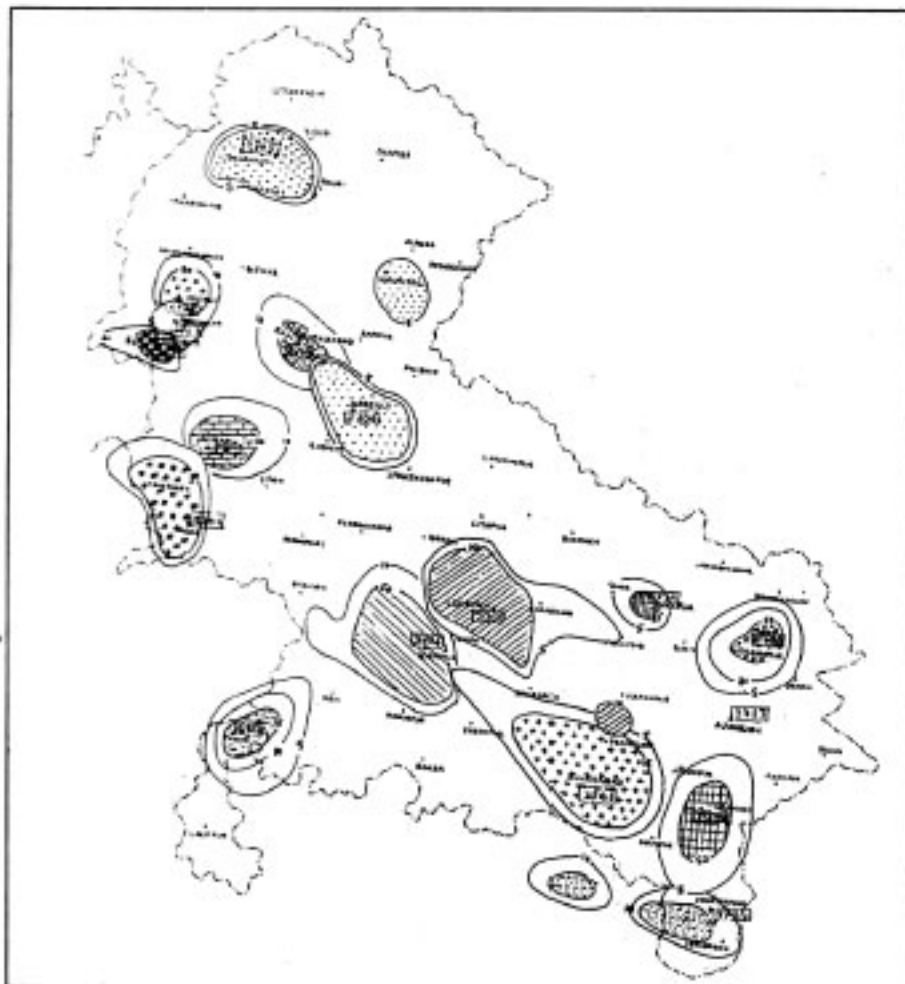
Study Center	2701	2702	2703	2704	2705	2706	2707	2708	2709	2712	2713	2714	2718	2720	2722	2723	2724	2728	2730	Total
Total	369	118	217	131	154	325	25	105	83	29	57	46	212	274	124	0	32	161	9	2471

On the basis of data collected and collated, two maps were drawn using the "Contour and Catchment Method". Map 1 shows the concentration contours of management student population in Uttar Pradesh and Map 2 shows coverage of student population by the existing SCs of IGNOU.

1. The analysis of database and maps reveals the following :
The concentration of students is very uneven:
No. of study centers with less than 30 students: 3 (15.79%)
No. of study centers with 31 to 50 students: 3 (15.79%)
No. of study centers with 51 to 100 students: 2 (10.53%)
No. of study centers with 101 to 150 students: 4 (21.05%)
No. of study centers with more than 151 students: 7 (36.84%)
2. Out of the total 19 SCs, 37% have unmanageable student strength. These centers are located in big cities. To give adequate facilities to the students in these centers is very difficult even having more than 3 sections.
3. Approximately 21% SCs can manage with the student strength by having established sufficient facilities. 3 SCs in Uttar Pradesh are model SCs. Remaining 3 SCs (one without single student) should be closely monitored for its activities and if possible, should be converted into a sub-center.
4. The following table reveals the number of locations within a study centre where range of number of students is 10-14, 15-20, 21-30, and above 30.



Map 1 : Student Population Concentrations in Uttar Pradesh, India



Map 2 : Coverage of Student Population in Uttar Pradesh by IGNOU's Study Centres.

Table 3 : Number of locations within SCs with varied student populations

Study Center No. of Students	2701	2702	2703	2704	2705	2706	2707	2708	2709	2712	2713	2714	2718	2720	2722	2723	2724	2728	2730	Total
10 to 14	1	2	1	1	1	2	1	1	1	1	1	1	3	1	5	0	1	1	0	25
15 to 20	1	2	1	1	1	1	0	1	1	1	1	1	2	1	4	0	1	1	0	21
21 to 29 students	1	2	1	1	1	1	0	1	1	1	1	1	2	1	2	0	0	1	0	18
30 & above students	1	1	1	1	1	1	0	1	1	0	1	0	1	1	1	0	0	1	0	13

- There are 3 locations within 3 SCs, no. 2702, 2718, and 2722, where possibility of establishing a sub-study center can be explored.
- There are 5 locations within 3 study centres, no. 2702, 2718, and 2722, where facility of mobile study centers/tele-learning centers may be provided.

There are 8 locations within 3 study centres, no. 2702, 2718, and 2722, where at least a distance learning facilitator can be appointed for the benefit of students.

- A broad calculation on the average distance travelled by students reveals that approximately 27% students travel above 50 km to reach the study centres. 73 percent students travel within city limits. Approximately 13.3 percent reside more than 100 km away from the concerned SCs. It is quite possible that these 27 percent students may fail in obtaining regular counselling and remain poor in attendance. A major portion of this group may turn out to be dropouts from the programme.

Conclusion

The location of a contact point plays an important role in strengthening self-motivation and self-study. Lack of proper and timely guidance may demotivate a self-inspired learner. The scientific approach for provision of student support service will definitely build a better structure and inspire the learners. The design construct on the basis of "Contouring and Catchment Method" may serve as a tool in the process of service provision.

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