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Access of Electronic Information Resources among Selected Academic College Libraries: An Evaluative Study

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Abstract:

The technology for electronic transfer of information has advanced so rapidly that it is now possible to publish, store, process and deliver information via electronic mode. Arts, Commerce, Science, Education, Physical Education and Law Colleges impart traditional education whereas Engineering, Architecture and Pharmacy Colleges cater to professional and technological education. Majority of the colleges offering traditional education are financially supported by the state government. On the other hand, professional colleges are largely self-financed. Considering this point of distinction, the present paper makes an attempt to study their college libraries with a view to compare the use of electronic information resources. A survey has been conducted in the colleges affiliated to Savitribai Phule Pune University scattered in Pune, Ahmednagar and Nashik districts. Using appropriate statistical tools, comparative study is carried out to investigate the status of the college libraries in these two groups; viz. traditional and professional colleges in the context of use of e-resources. The study highlights the important findings. Various practical recommendations to overcome the problems in progress are also mentioned in the paper.

Keywords: Electronic resources, Electronic database, Academic libraries, Services, Library users

Introduction:

Information technology has radically changed all aspects of modern life. The technological revolution and information explosion has led to the emergence of electronic information era. This technology has become an integral part of the education system in India. The transformation of education sector is not possible without the use of information technology. Innovative educational perception has emerged, latest forms of electronic resources are made available and new relationship between learners and educators are accomplished. Electronic information environment makes possible enlargement in the speed of service, number of users served, the exhaustiveness of information provided (Bavakutty and Varghese). Development of information and communication technology has made vital impact on library and information services. It has majorly changed the shape of information management and information services in the libraries. Library is the catalyst of educational institutes to fulfill their mission of supporting curriculum which includes teaching, learning and research have to acquire and maintain relevant books, journals and other collections.

In the present era of information technology different information and knowledge areas are emerging out. Due to lot of specialization, continuous research, high expectation from users, increasing price of print and electronic resources and fast growing communication technology it is a new challenge to efficient administration of information sources, almost in all libraries. As Sukula has rightly pointed out, e-resources in the library and information centers are doing great in context of connectivity, range and compactness. The web is the electronic resource having the most significant impact on library services and operations. The high-tech data accessing, processing techniques, advancement in storage device and latest telecommunication system have made enormous impact on the library services. Most of the libraries are taking steps to switch over from their traditional roles into advanced technology enabled service centered roles. Therefore it is necessary to study the use of electronic information resources among the academic community in Arts, Commerce, Science, Education, Physical education, Law, Engineering, Architecture and Pharmacy college libraries.

Review of Literature:

Worldwide different studies have been conducted in the usage of electronic information resources in academic libraries.

Kaur (2006) analyzed in her study the use of electronic resources by teachers and researchers of the science and engineering and technology branches in the Guru Nanak Dev University. This survey discusses information about the category of e- resources used, reasons for which e- resources are used, difficulties tackled by the users while using e-resources, advantages of e- resources and visions with respect to features of e-resources. E-journals were largely utilized by users and most users rather than e-resources in accomplishment required information. Various suggestions are made to promote the use of electronic information resources e.g. human resource training programmes, hardware, funds and online catalogue of e-resources leading for maximum utilization of e-resources.

Hadagali (2011) attempted to evaluate the use of electronic resources by faculty members and research scholars of universities of Karnataka. He studied the intensity of use and various reasons of using e- resources and its impact on the academic fraternity. Maximum academic staff and research scholars were quite satisfied with using e-resources. The study concludes that the future of the library and information services in college libraries depends upon foremost issues like availability of adequate staff and provision for constant upgrading of ICT skills. Finally, important implications were made to help the effective use of the e-resources.

Tella et al. (2016) point out that students' capacity to search and retrieve information efficiently is an adaptable skill useful for their future life as well as enabling the constructive and victorious use of academic electronic information resources. The skill to investigate the digital atmosphere is a necessity for academic success today. Students are ever more likely to use electronic information resources at the university. To facilitate the rising range of electronic resources, students have to obtain and practice the skills essential to develop them.

Ability scholarship is fundamental in a technology focused situation and it can be improved through the use of modern wisdom strategies.

Moghaddam and Talawar (2008) highlighted the use of e-journals at the Indian Institute of Science. They considered many users' opinions, vigilance, use, purpose and pleasured pattern about electronic journals. The result of this study exhibited a growing interest in e-journals among the academic staff and other users. E- journals were abundantly used for research purpose. This study recommended 24X7 free access to electronic information resources at the user's computer and use of knowledgeable electronic journals.

Swain and Panda (2009) focused on use of electronic resources on business school libraries. The study investigated the expansion stage of electronic information services provided to users of business school libraries and emphasized difficulties faced by information experts. The study indicates that web- based electronic resources and popular search engines were most extensively used. It indicated few important suggestions for the development of the policy of electronic resources and services.

Madhusudan (2010) evaluated the use of electronic information resources by research scholars of Kurukshetra University to pledge the use of electronic resources and technological skills. It reveals that research scholars were using various types of e-resources. It also appraises the level of student's pleasure regarding e-collection, timings and library staff support in finding the information. This study also points out that increased availability of computer hardware and speed of web may reform the use of e-resources effectively. He concludes that e-resources have become an important part of the information needs of research scholars.

Modepalli (2010) conducted a study information use patterns of post-graduate students of P. B. Siddhartha College of Arts and Sciences. This study examines information use systems of postgraduate students at Siddhartha College of Arts and Sciences, Vijayawada, Andhra Pradesh, India. It concentrates on the types of academic information required by postgraduate students, even what electronic information resources they need, their procedure for indicating information, their uniform satisfaction of the library collection, services and convenience. He suggested that the emergence of the computer and telecommunication technology has enabled potential for college libraries to provide a variety of technology based information services to users with an extensive variety of interests.

Jotwani (2014) examined the trends in acquisition of e-resources in comparison with their print equivalents. He identified the e-resources being subscribed by Indian Institute of Technology libraries and also collects a union list of all e-resources accessible at IIT Libraries.

Das (2013) attempted to study the issues of electronic information resources access, awareness and use by science research scholars of Berhampur University. The study revealed focused on the research scholars to electronic information resources and it aimed to highlight

the problems faced by the users and recommendation various corrective determines for its development.

Kaur and Varma (2009) indicated in their study issues like use of electronic information resources, its impact on the collection of print and electronic journals its awareness among the users, and the places where the users are accessing these resources at Thapar University. They pointed out that users from all these types were accessing e-resources; the alertness about e-resources promotes users to use such resources greatest quantity.

Malarvizhi and Sarangpani (2016) measured the usage of electronic information resources by the faculty members of Karunya University, Coimbatore. The reason of the study is to accomplish the scholarly needs of the faculty members and the usage of electronic information resources namely web, E-Journals, databases, CD ROM and electronic resources. They explained the problems faced by faculty while using the electronic information resources and services.

Parmar & Patel (2013) studied the necessity and usage of e-resources by the undergraduate, postgraduate students and faculty members undertaking the S.K College of Engineering, Visnagar, Gujarat. They discussed the use of e-resources, its impact on the collection of electronic information resources its awareness between the users, and accessing these resources. The present study makes suggestions of the sphere of uses of e-resources by Engineering undergraduate, postgraduate students and faculty members.

Objectives:

The main objectives of the study are:

- To find out the use of various electronic information resources to the academic staff, research scholars, students and other users.

- To make a comparative study of the use of electronic information resources by the users in traditional and professional college libraries.

- To examine the different types of users' overall ability in using the electronic information resources.

Scope and Limitation of the Study:

The Savitribai Phule Pune University area includes three districts viz; Pune, Ahmednagar and Nashik. In these districts various types of colleges including multi-faculty colleges are scattered in urban and rural area. This study gives focus on college libraries of traditional colleges such as Arts, Commerce, Science, Education, Physical education, Law and professional colleges like Engineering, Pharmacy and Architecture. This study is limited

to examining the usage of electronic information resources by users of college libraries. However, management institute are not considered in the study.

Methodology:

The present study is based on scientific principles of research methodology. The survey method was adopted for this study to investigate the facts useful for the comparison regarding electronic information resources in traditional and professional college libraries. There are 448 traditional and 189 professional colleges in the jurisdiction of Savitribai Phule Pune University. Out of these for the above study 147 (32.81%) traditional colleges and 72(38.09%) professional colleges are selected using purposely random sampling method. The primary data was collected through structured and scientific questionnaire from various college libraries. The collected data was analyzed using Minitab software. Most of the findings were expressed in percentage. The chi-square test was also applied to study the association. Some of the important facts are also presented graphically.

Result and Discussion:

In this paper the data of 147 traditional colleges and 72 professional college libraries in the jurisdiction of Savitribai Phule Pune University was collected. The statistical analysis of the survey data was carried out as overall percentage analysis. The cross tables were derived and the Chi-square test was applied to investigate the association between two categorical characteristics in appropriate cases. The hypotheses were tested at 5% level of significance.

The response received from the various college libraries is presented in Table 1.

Table 1. Distribution of Selected and Respondent college libraries

Sr. No.	Colleges	Total No. of College Libraries in the University Jurisdiction	No. of college Libraries selected and Responded	Percentage of college libraries
1	Arts, Commerce & Science	313	103	32.90
2	Engineering	112	38	33.92
3	Law	23	08	34.78
4	Pharmacy	57	25	43.85
5	Physical Education	03	02	66.66
6	Architecture	20	09	45.00
7	Education	109	34	31.19
	Total	637	219	34.38

For the study overall 34.38 percent colleges are selected. Further maximum 103 colleges are selected from the category of Arts Commerce and Science followed by 38 from

Engineering and 34 from Education colleges. As there are very few colleges of Physical Education the 66.66 percent colleges are selected for the study. The data in Table 1 is also presented graphically using Vertical Bar Diagram and presented in figure 1.

Figure 1. Distribution of Selected and Respondent College Libraries
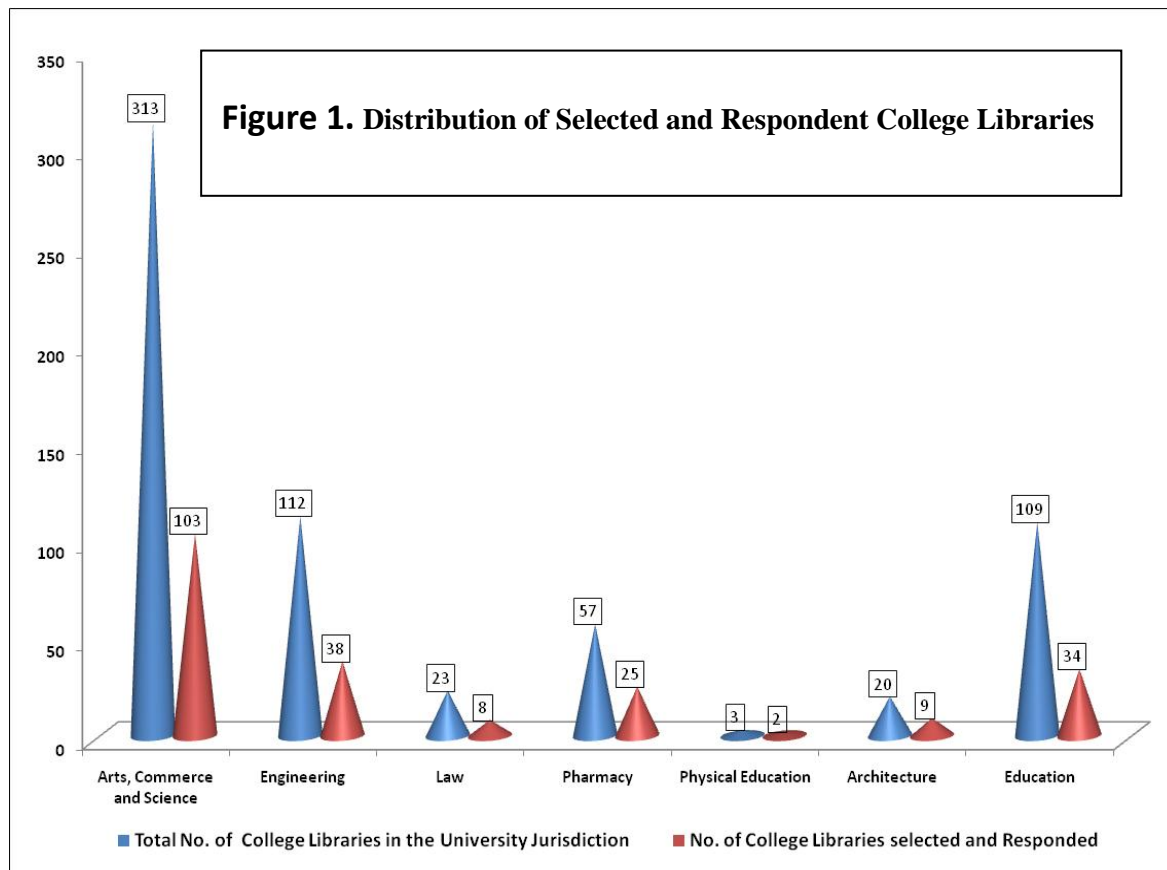
The information received on use of various electronic information resources by the academic staff, research scholar, students and other users is presented in Table 2.

Table 2. Distribution of college libraries according to the use of electronic information resources

Sr. No.	Library users	Below 25%	25 to 50%	Above 50%	Total
1	Academic Staff	37 (16.89)	138 (63.01)	44 (20.09)	219 (100)
2	Research Scholars	31 (14.15)	127 (57.99)	61 (27.85)	219 (100)
3	Students	47 (21.46)	149 (68.03)	23 (10.50)	219 (100)
4	Other users	29 (13.24)	185 (84.47)	5 (02.28)	219 (100)

Chi-square = 71.92, D.F.=6, P-value < 0.05 Significant at 5% level of significance.
 (Figures in the parenthesis are percentages)

From table 2 it is observed that 27.85 percent Research scholars use electronic information resources more than 50 percent that is maximum. 68.03 percent students use electronic information resources between 25 to 50 percent which is maximum among all. Whereas, the 21.46 percent students use electronic information resources below 25 percent this is maximum.

The results of Chi-square analysis shows that the use electronic information resources varies according to the type of uses.

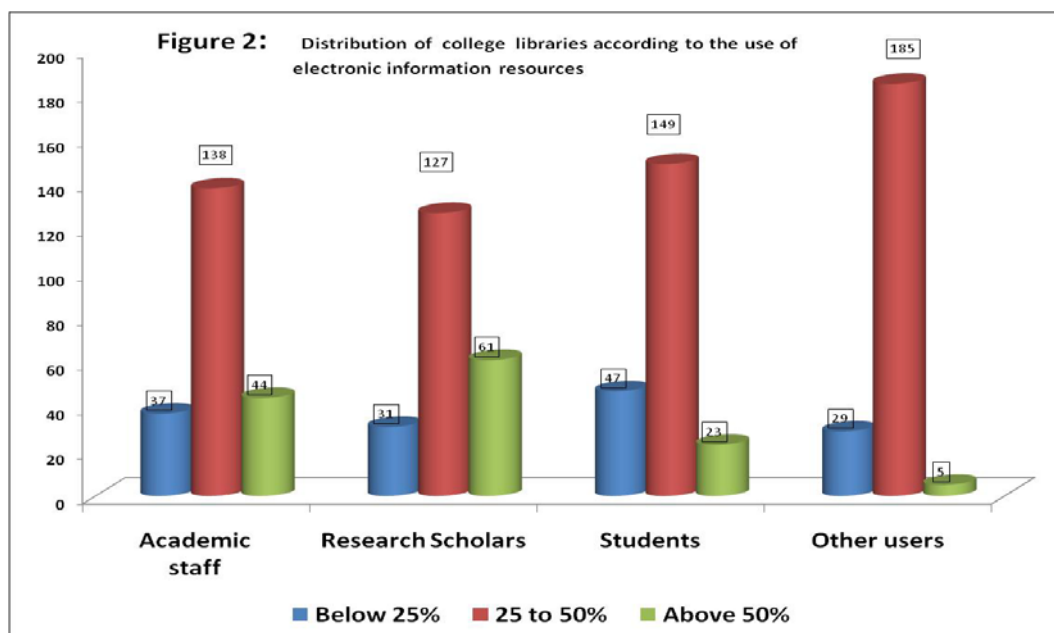The data in table 2 is presented graphically using multiple Bar Diagram and presented in figure 2.

Figure 2:   Distribution of college libraries according to the use of electronic information resources

Table 3. Distribution of college libraries according to the use of electronic information resources by academic staff

Sr. No.	Colleges	Below 25%	25 to 50%	Above 50%	Total
1	Arts, Commerce and Science	18 (17.48)	65 (63.11)	20 (19.41)	103 (100)
2	Engineering	05 (13.16)	22 (57.90)	11 (28.94)	38 (100)
3	Law	01 (12.00)	05 (63.00)	02 (25.00)	08 (100)
4	Pharmacy	04 (16.00)	16 (64.00)	05 (20.00)	25 (100)
5	Physical Education	01 (50.00)	01 (50.00)	00 (00.00)	02 (100)
6	Architecture	03 (33.33)	04 (44.44)	02 (22.23)	09 (100)
7	Education	05 (14.71)	22 (64.71)	07 (20.58)	34 (100)

Chi-square = 5.65, D.F.=12, P-value < 0.05 Significant at 5% level of significance.
(Figures in the parenthesis are percentages)

From table 3 it is observed that the 28.94 percent Engineering staff use electronic information resources more than 50 percent which is maximum among all the colleges. 64.71 and 64.00 percent staff of Education and Pharmacy colleges respectively uses electronic information resources between 25 to 50 percent. Whereas, 50.00 percent staff of Physical Education colleges use electronic information resources below 25 percent.

The result of Chi-square analysis shows that the use electronic information resources by the academic staff varies significantly according to the type of colleges.

Table 4. Distribution of college libraries according to the use of electronic information resources by Research scholars

Sr. No.	Colleges	Below 25%	25 to 50%	Above 50%	Total
1	Arts, Commerce and Science	17 (16.50)	67 (65.05)	19 (18.45)	103 (100)
2	Engineering	04 (10.52)	24 (63.16)	10 (26.32)	38 (100)
3	Law	02 (25.00)	05 (62.50)	01 (12.50)	08 (100)
4	Pharmacy	02 (08.00)	18 (72.00)	05 (20.00)	25 (100)
5	Physical Education	00 (0.00)	01 (50.00)	01 (50.00)	02 (100)
6	Architecture	02 (22.22)	04 (44.44)	03 (33.34)	09 (100)
7	Education	06 (17.66)	21 (61.76)	07 (20.58)	34 (100)

Chi-square = 6.425, D.F.=12, P-value < 0.05 Significant at 5% level of significance.
(Figures in the parenthesis are percentages)

From table 4 it is observed that the 50 percent Physical Education research scholars and 26.32 percent Engineering research scholars   use electronic information resources more than 50 percent. The 72.00   percent Pharmacy research scholars use electronic information resources between 25 to 50 percent which is maximum among all the colleges. Whereas, 25.00 percent Law research scholars use electronic information resources below 25 percent. The result of Chi-square analysis shows that the use electronic information resources by the research scholars depends on the type of colleges.

Table 5. Distribution of college libraries according to the use of electronic information resources by students

Sr. No.	Colleges	Below 25%	25 to 50%	Above 50%	Total
1	Arts, Commerce and Science	13 (12.62)	72 (69.91)	18 (17.47)	103 (100)
2	Engineering	03 (07.89)	17 (44.74)	18 (47.37)	38 (100)
3	Law	02 (25.00)	02 (25.00)	04 (50.00)	08 (100)
4	Pharmacy	03 (12.00)	16 (64.00)	06 (24.00)	25 (100)
5	Physical Education	00 (00.00)	01 (50.00)	01 (50.00)	02 (100)
6	Architecture	02 (22.22)	03 (33.33)	04 (44.45)	09 (100)
7	Education	02 (5.89)	21 (61.76)	11 (32.35)	34 (100)

Chi-square = 21.84, D.F.=12, P-value < 0.05 Significant at 5%   level of significance.
(Figures in the parenthesis are percentages)

From table 5 it is observed that the 50 percent of the Physical Education and Law college student use electronic information resources more than 50 percent. 69.91 percent Arts Commerce and Science college students use electronic information resources between 25 to 50 percent which is maximum among all the colleges. 25.00 percent Law college students use electronic information resources below 25 percent.

The result of Chi-square analysis shows that the use electronic information resources by the students depend on the type of colleges.

Table 6. Distribution of college libraries according to the use of electronic information resources by other users

Sr. No.	Colleges	Below 25%	25 to 50%	Above 50%	Total
1	Arts, Commerce and Science	10 (09.71)	69 (66.99)	24 (23.30)	103 (100)
2	Engineering	02 (05.26)	19 (50.00)	17 (44.74)	38 (100)
3	Law	01 (12.50)	04 (50.00)	03 (37.50)	08 (100)
4	Pharmacy	03 (12.00)	16 (64.00)	06 (24.00)	25 (100)
5	Physical Education	00 (0.00)	01 (50.00)	01 (50.00)	02 (100)
6	Architecture	02 (22.22)	05 (55.56)	02 (22.22)	09 (100)
7	Education	04 (11.76)	21 (61.76)	09 (26.48)	34 (100)

Chi-square = 9.68, D.F.=12, P-value < 0.05 Significant at 5% level of significance.
(Figures in the parenthesis are percentages)

From table 6 it is observed that the 50 percent of the Physical Education college student use electronic information resources more than 50 percent. 66.99 percent Arts Commerce and Science college students use electronic information resources between 25 to 50 percent which is maximum among all the colleges. 22.22 percent Architecture college students use electronic information resources below 25 percent.

The result of Chi-square analysis shows that the use electronic information resources by the other users depends on the type of colleges.

Findings:

The major findings of the study are as follows:

- 27.85 percent Research scholars access electronic information resources more than 50 percent which is highest along with all. The 68.03 percent Students, 63.01 percent academic staff access electronic information resources between 25 to 50 percent which is most among all.

- The 64.71, 64.00 and 63.00 percent staff of Education, Pharmacy and Law colleges respectively access electronic information resources between 25 to 50 percent.

- The 26.32 percent Engineering research scholars use electronic information resources more than 50 percent. The 72.00 percent Pharmacy, 65.05 percent Arts, Commerce and Science, 63.16 percent Engineering research scholars access electronic

information resources between 25 to 50 percent which is maximum with all the colleges.

- From table 5 it is examined that the 69.91 percent Arts Commerce and Science, Pharmacy, Education college students access electronic information resources between 25 to 50 percent which is highest among all the colleges.
- From table 6 it is observed that the 44.74 percent of the Engineering college other user access electronic information resources more than 50 percent. 66.99 percent Arts Commerce and Science college students access electronic information resources among 25 to 50 percent which is maximum among all the colleges.

- The college libraries facing various problems during use of electronic information resources like unavailability battery backup, 24x7 internet connection, skilled manpower etc.

Conclusions:

This study provides the different views on the use of electronic information resources in the academic college libraries. E-resources are appropriate and significant tools these days as they are more advanced and can be accessed anywhere crossing the environmental restrictions. At present different types of electronic databases are available in the market. Still, they are too costly. The traditional colleges do not have sufficient funds to purchase these databases. However, it was observed that the traditional college libraries were getting access through INFLIBNET and DELNET and spending some amount on e-resources. Further, it was observed that the several electronic databases were subscribed by the professional college libraries. The engineering, architecture and pharmacy college libraries should develop a good collection of electronic information resources, so that they can serve the academic staff and students more effectively. They have to provide more E-Vidya, Springer, Pearson, Elsevier, Institute of Engineering and Technology CD/ DVD databases, bibliographic databases, electronic journals etc. to satisfy the needs of the engineering, architecture and pharmacy students. Due to e-resources the libraries and their users are benefited in the form of usability and accessibility. The study conclude that with the advent of information and telecommunication technologies web provide a prosperity of information such as online e-books, e-journals, indexes, e-databases etc these enormous e-resources can be accessed by the libraries and can be provided to the users.

Recommendations:

On the basis of findings of this study the following recommendation have been made for maximum utilization of e-resources in the college libraries;

a) Traditional college libraries should accept the membership of some of the library network. In this way the use of electronic information resources should be encouraged.

b) UGC should make a necessary budgetary provision to support the libraries so as to make it as knowledge resource centre.

c) The technological skills can be developed among the library staff through various training program. Further, the awareness regarding 'use of e-resources' should be created among the students.

d) Traditional college libraries must improve its infrastructural facilities.

e) Wi-Fi provision should be made accessible in all colleges, so that it will be convenient to academic staff, students, research scholars and other users during their day to day working hours.

f) The professional college libraries shall procure the various databases to satisfy the needs of their students.

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